Swedish housing finance and the euro

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One of the ideas behind European Monetary Union (EMU) is to create a more efficient market for goods and services that features growing competition and gives consumers better products at lower prices. This article discusses how the introduction of EMU and the euro may impact on the Swedish mortgage market and its funding. One important conclusion is that competition is in all likelihood set to intensify, so promoting the emergence of new and more cost-effective forms of distribution and new forms of funding that make more efficient use of the institutions equity capital.

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The last decade has brought a radical transformation of the environment in which the Swedish mortgage institutions operate: competition has increased, customer needs and wishes have come into the spotlight in a new way, and products have improved. A whole host of factors underlies these changes: housing policy has changed, the credit market has been deregulated, currency controls have been lifted, the property market and financial services sector have had to ride out a major crisis, international capital adequacy rules have been introduced for both banks and mortgage institutions, and the Swedish regulatory framework has been harmonised with EU rules.

Today the mortgage institutions find themselves in a market featuring open competition and rapidly more price-conscious customers.

The pressure for internal change at the mortgage institutions has been considerable. 15 years ago they operated under a protective umbrella of special regulations, and customers were simply grateful for whatever scraps of credit they might be given. The mortgage institutions funded their operations by selling bonds to Sweden's insurance companies and the state pension funds (AP funds), which had limited alternative investment options in the prevailing regulatory climate. Today the mortgage institutions find themselves in a market featuring open competition and rapidly more price-conscious customers. They are also being forced to turn increasingly to the international capital markets as a source of funding.

Competition for customers

EMU is generally expected to result in greater competition. When it comes to the market for residential mortgage loans, this should mean that borrowers can expect a broader range of products and suppliers coupled with lower rates of interest.

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As a standardised and relatively simple financial product, mortgages should export well. However, there has been limited cross-border activity to date. One reason is probably that the mortgage market focuses primarily on household customers, who are difficult to reach without a local distribution network. The mortgage market is also stockaded with national rules and idiosyncrasies that are difficult for foreign players to get to grips with and prove a hurdle when they look to export their products. Differences include the ways in which property mortgages work and the availability of tax relief on borrowers' mortgage interest payments.

For borrowers, the single currency means that the interest rates offered by lenders in different countries are directly comparable. The single currency quite simply makes it easier to assess which institution in the euro area is offering the best terms. This can reasonably be expected to have implications for competition and cross-border activity in the longer term.

However, Sweden is not currently participating in EMU, and so, for the time being, any player wishing to move into the Swedish market will probably need to offer loans denominated in kronor. Borrowers would have little reason to take out euro-denominated mortgages because they would then be exposed to fluctuations in exchange rates. This limits international competition to players who really actively want to sell their products in Sweden. It would be quite another matter if Sweden were to participate in EMU: Swedish consumers and businesses would then be able to borrow in euro without any exchange rate exposure, and so the number of potential lenders would increase substantially.

Whether the mortgage institutions are operating within or outside the euro area, contact with prospective customers is the key to success, and so access to a

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local distribution network remains a must. What impact the Internet may have in this context remains to be seen, but mortgages are undeniably a standardised product that is well suited to sales over the Internet. It is clear that the new technology has the potential to help increase transparency and competition even in the traditionally slow-moving household market. It is already possible to use the Internet to find the cheapest mortgages available, and increased use of services like this will further stimulate competition. Special websites are now under construction where consumers can find out within minutes just how much they can borrow against a property and be offered alternative financing from a variety of institutions around Europe. This type of marketing can reasonably be expected to prove significantly cheaper than traditional personnel-intensive branch-based sales, and in the longer term it is doubtful whether mortgage customers will be willing to pay for branch-based distribution networks.

Thus customers stand to gain considerably from a combination of new Internet technology and access to competing products across a large currency union.

However, competition is not just pushing down distribution costs. Given that funding costs are the dominant item of expenditure in their profit and loss accounts, mortgage institutions must find efficient ways of borrowing.

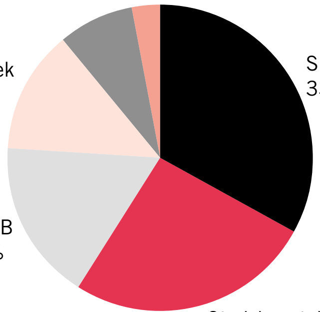
Traditional mortgage funding

Sweden's mortgage institutions fund their operations primarily through the issue of bonds and money market instruments. In December 1999 the total outstanding stock of these securities totalled SEK 823 billion, of which SEK 137 billion was denominated in foreign currencies.[1] The market is dominated by five companies that together account for 97 per cent of borrowing (see Figure 1); four are subsidiaries of banks, while the fifth, SBAB, is government-owned.

Until the end of the 1980s the mortgage institutions' funding options were restricted by currency controls that made it difficult, if not impossible, to borrow abroad. At the same time, mortgage institution funding was favoured by a special prioritisation system whereby the banks and insurance companies were forced to invest some of their assets in mortgage bonds. Since the currency controls and pri-

[1] Of this SEK 137 billion, EU currencies accounted for SEK 56 billion and other currencies, primarily the US dollar and Japanese yen, for the rest.

Figure 1. Swedish mortgage institutions' borrowings in the securities market (bonds and money market instruments), percentage breakdown 1999



Source: Sveriges Riksbank

oritisation system were abolished, the mortgage institutions have effectively been in the same position as any other type of business when it comes to finding a market for their bonds: they have to compete for capital against all the other borrowers in the market.

Until the end of the 1980s the mortgage institutions' funding options were restricted by currency controls that made it difficult, if not impossible, to borrow abroad.

Since the end of the 1980s the insurance companies and the AP state pension funds have scaled down their holdings of mortgage bonds.[2] During this period, an increasing proportion of these bonds were being held abroad. Foreign investors are currently estimated to account for around 20 per cent of the Swedish mortgage institutions' bond loans.[3] Some international borrowing has taken place in Europe, primarily London, but the bulk of the money is put up by investors in the USA and Japan. Some of this credit is denominated in kronor, but by far the most part is borrowed in foreign currencies and converted into kronor through currency swaps.[4]

Does the single European currency mean that investors in continental Europe will show more interest in Swedish mortgage bonds? It is difficult to see why: Swedish bonds are unlikely to become more attractive simply because they are being issued in

[2] The AP funds held around 21 per cent of the total stock of mortgage bonds in December 1999, compared with 35 per cent at the end of 1989. Over the same period the insurance companies reduced their holdings from 27 to 24 per cent.

[3] This estimate assumes that most bonds issued by the mortgage institutions in foreign currencies are held by foreign investors.

[4] Foreign investors' holdings of bonds denominated in kronor account for around 7 per cent of the outstanding bond stock.

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euro rather than French francs or German marks. Of course there is an advantage for the Swedish institutions in being able to issue bonds in a currency that is the domestic currency of all the different countries participating in EMU, since this increases the size of the potential market for each loan. But this advantage is limited in scope, and the cost of swaps cannot be budgeted out of the equation for as long as Swedes continue to want to borrow in kronor; only when Sweden joins the euro area will these costs disappear.

The ability to borrow in the European market in competition with other companies naturally demands good creditworthiness in the form of a high credit rating, but also requires an extensive network of contacts.

The ability to borrow in the European market in competition with other companies naturally demands good creditworthiness in the form of a high credit rating, but also requires an extensive network of contacts – a base of institutional investors who are familiar with the borrower and can assess his performance. Gaining the confidence of an investor base of this kind is a painstaking and long-term process: each new lender needs to be acquainted with the borrower's name, business, history and risk profile. In practice, this often means that relevant portfolio managers at the lender meet representatives of the borrower for a presentation of its operations. These meetings may then lead to the portfolio managers requesting authority from above to open a position. In a worst-case scenario the managers may then encounter some rule stipulating that investments may be made only in certain European countries or subject to some other restriction. Only when these obstacles have been overcome can the investor begin to buy the bonds issued by the borrower.

It is easy to understand that this process takes time and will not be any different just because a large currency union has been created, regardless of whether Sweden is participating or not. As mentioned above, the bulk of the Swedish mortgage institutions' foreign borrowing has been outside Europe, and so they have not focused on building up an investor base in the euro area in the same way as in other parts of the world.

The volume of corporate bonds issued in Europe has increased since the introduction of the euro 18 months ago, even if this development has been facilitated by the reduced availability of government bonds, forcing investors to hunt around for alternatives. It is interesting to note that Swedish companies that have issued bonds denominated in euro – including Ericsson, Volvo and Birka Energi – have succeeded in their intentions and found a market for their bonds in parts of Europe where few investors had previously shown an interest for Swedish bonds.

Funding costs and balance sheet structure

The starting point for any discussion of the value of different sources of funding tends to be the Modigliani-Miller theorem which states that a company's chosen method of financing has no bearing on its market value.[5] According to the assumptions underlying this theorem, changes in the way a company is financed amount to no more than transfers of risk between its financiers: any decrease in one financier's risk exposure and so his required rate of return will be matched by an increase in other financiers' risk exposure and required rate of return. This would suggest that a mortgage institution can neither increase its value nor reduce its funding costs simply by changing the way it funds its operations.

However, in practice Modigliani & Miller's model of a perfect and frictionless corporate finance market has its shortcomings. For example, the picture changes once the impact of corporate taxation is taken into account.[6] In tax terms, equity capital is a relatively expensive source of financing since dividends are paid from taxed earnings, while the interest charges payable on debt can be deducted from taxable income. A company that can reduce its level of equity capital relative to debt therefore has an opportunity to increase its value. This would suggest that a mortgage institution should be able to cut its overall funding costs by using means of financing that lead to a reduction in the level of equity required by investors.[7]

The Modigliani-Miller theorem can also be affected if new forms of financing enable a company to reach new investors or secure more favourable pricing of its debt instruments for some other reason, such as greater transparency.

The Swedish mortgage institutions have traditionally borrowed directly against their own balance sheet, that is to say loans are secured against their overall assets rather than specific assets. Solid balance sheets coupled with good transparency and self-imposed exposure limits have enabled them to convince rating bodies and lenders of their creditworthiness.

Borrowing directly against their own assets allows the mortgage institutions greater flexibility in the practical management of their financial structure. Furthermore, they can issue larger loans and this way make it easier to ensure regular trading and good liquidity for each loan. This has, for example, been the case

[5] See Modigliani, F. & M. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment", American Economic Review, June 1958.
[6] See Modigliani , F. & M. Miller, "Corporate Income Taxes and the Cost of Capital", American Economic Review, June 1963.
[7] However, there comes a point when the substitution of equity capital with debt financing no longer reduces the company's funding costs, since lenders will begin to demand higher risk premiums once the proportion of debt reaches a certain level. This is because overly low levels of equity capital increase the risk of the company failing, which can be a costly business.

with the “benchmark” bonds issued in the Swedish market. Substantial volumes and good pricing for domestic loans have helped the mortgage institutions to compete successfully in the international bond market.

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However, this traditional form of borrowing requires a not insignificant level of equity capital or some form of guarantee from the institution’s owners/shareholders. The institutions that currently borrow directly in the international capital markets have capital ratios well above the statutory minimum of 8 per cent (see Table 1). Tier 1 ratios are also high, reflecting investors’ demands for ”genuine” equity capital. Only SEB Bolån, which does not itself borrow in foreign currencies, has a capital ratio approaching the statutory minimum.

Table 1. Swedish mortgage institutions’ capital ratios, 1999

	Total	Tier 1
Nordbanken Hypotek	11.4 %	10.0 %
SBAB	9.5 %	6.5 %
SEB Bolån	8.4 %	4.7 %
Spintab	16.0 %	11.4 %
Stadshypotek	12.0 %	12.0 %

Source: Mortgage institutions’ annual reports

Mortgage institutions in other countries make widespread use of other types of debt instruments. The following looks at two such instruments and the impact they can have on a mortgage institution’s capital/assets ratio and funding costs. One interesting issue is of course whether these forms of funding have features that make investors willing to accept lower levels of equity capital than is the case with the traditional Swedish form of mortgage funding.

Securitisation[8]

One form of mortgage funding that has its origins in the US market is securitisation. This involves separating a given loan stock and the associated collateral from an institution’s other assets and transferring them to a separate company known as a special-purpose vehicle (SPV) whose activities are effectively limited to managing the assets acquired. The transfer is financed through the issue of

[8] Securitisation is a term that can have different meanings in different contexts and be used for a number of different phenomena in the financial markets. For a more detailed review of the various kinds of securitisation, see, for example, Blåvarg, M. & P. Lilja, “Securitisation – A Future Form of Financing?”, Sveriges Riksbank Quarterly Review, 3/1998.

bonds. In many cases the original lender will continue to service the loans in that the original lender will collect interest payments and effecting coupon payments, but this can in principle be performed by another party.

The purity of the SPV's assets greatly assists prospective investors in assessing the quality of its mortgage stock. Their risk assessment is also facilitated by the way that the SPV's operations are limited to the passive management of the assets it acquires. Reinforcing the link between investors' loans and the underlying assets' credit risk in this way decreases the uncertainty about the level of risk exposure assumed, which means that investors require that the SPV hold less equity capital than the original mortgage institution. It may be enough for the SPV to have equity capital of a few per cent of assets, compared with the 10 per cent capital ratio that the Swedish mortgage institutions consider to be the minimum needed when borrowing directly in the international capital markets. The risk buffer can instead be provided by, say, taking out credit insurance cover or giving the SPV a larger mortgage stock than it actually paid for. Given that the SPV has a clearly defined risk profile and does not have any activities beyond holding these specific loans, it is also reasonable for the company to be exempted from the statutory capital adequacy requirements that apply to the mortgage institutions themselves.

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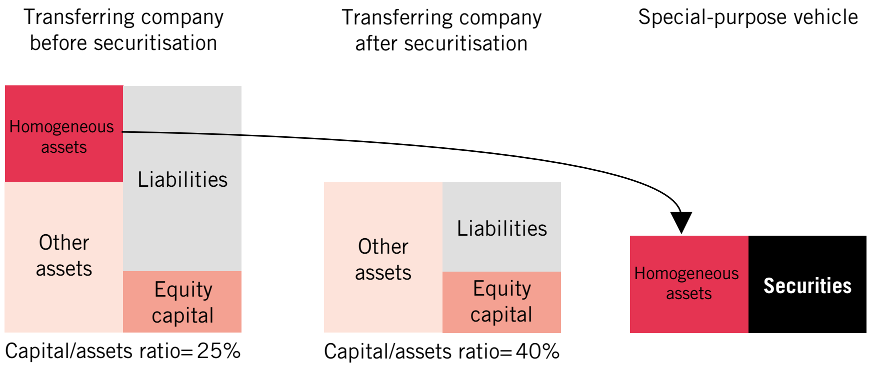
The impact of securitisation on the need for equity capital is illustrated in the simplified balance sheets shown in Figure 2. For the transferring company, the transaction brings an increase in its capital/assets ratio – it has the same amount of equity capital as before but fewer assets – and so it should now be in a position to reduce its equity capital.[9] If this happens, the proportion of debt relative to the total asset stock – including both the assets retained and the assets sold to the SPV – will be higher than before the securitisation process. This in turn means that the total asset stock can be funded more cheaply, since debt financing is taxed less heavily than equity capital. Thus increased use of securitisation as a means of funding allows mortgage institutions to reduce their overall buffer of equity capital and so also increase their return on equity.

Overall funding costs may also fall as a result of the improved transparency prompting investors to accept a lower risk premium on the securitised bonds than on traditional mortgage bonds.

[9] How far it can be reduced depends, among other things, on the risk associated with its remaining assets. However, whether this risk is higher or lower than the assets sold to the SPV, the risk borne by its equity capital will still be less than before these assets were transferred.

Figure 2. Illustration of the impact of securitisation on the balance sheet



If the securitisation process is to have real credibility, the legal structure must assure investors that the SPV will not subsequently change the nature of its operations or in some other way change its risk profile. In principle this structure can be achieved by a separate regulation of SPVs, but it is most common for investors to be protected under civil law, primarily through the SPV's memorandum and articles of association and the terms of the bond contract. In many countries investors are given added protection through the appointment of a trustee to look after their interests and represent them in various legal contexts. In the USA government guarantees are also available for the credit risk associated with mortgage loans.

Securitisation of mortgages has not taken off in Sweden to date.

However, the securitisation of mortgages has not taken off in Sweden to date. One reason is that Swedish SPVs come under the same legislation and so the same capital adequacy rules as the mortgage institutions themselves. This means that the regulatory structure requires a larger capital base than investors. Instead the mortgage institutions have used SPVs registered outside Sweden and so not covered by the statutory capital ratio requirements.

Another reason is that securitisation often involves extensive administrative and legal work that makes it relatively costly to set up an SPV. Nor have the mortgage institutions been able to issue bonds with as low coupons as hoped. This in turn may be attributable to the market being immature, the issues being small in both number and size, and the bonds therefore being relatively illiquid. Another explanation may be found in the regulatory framework: financial institutions investing in securitised bonds face tougher capital adequacy requirements than they would with normal mortgage bonds, so making the banks and other financial institutions that would be expected to make a market in these bonds reluctant to include them in their portfolios.

Securitisation may be one way for Sweden's mortgage institutions to streamline their expensive equity capital and so help to lower their overall funding costs.

In 1998 the Ministry of Finance published a report proposing a number of changes in the Swedish regulatory framework in a bid to facilitate securitisation.[10] The proposed legislation would exempt SPVs from both the statutory capital adequacy requirements and government supervision. No regulation of SPVs whatsoever is recommended, which means that they could in principle engage in any business they wished.[11] As in many other countries, protection for investors would instead be built into the contracts between the SPV and its bondholders. According to the Ministry, the final bill can be expected during the course of this year.

Thus securitisation may be one way for Sweden's mortgage institutions to streamline their expensive equity capital and so help to lower their overall funding costs. If EMU brings stiffer competition in the mortgage market as expected, the need to fund mortgages cheaply will probably become more acute and so it would not be unreasonable to expect interest in securitisation to increase.

In the USA the rise of securitisation has come not only as a consequence of higher required rates of return on equity but also because the various parts of the mortgage lending process can be separated and managed more efficiently. This process will normally involve several different elements, including preparing the loan, running credit checks, setting the terms of the loan, funding the loan, servicing the loan (collecting interest and repayments), managing credit risks and risk-taking. With traditional mortgage lending, the whole process is handled by the lender; with securitisation, the different elements can be separated out and handled by different institutions, providing scope for specialisation. For example, customer contact has traditionally been in the hands of a network of local branches, but the administration of interest and repayments can be handled more efficiently and cheaply by larger units. The different companies involved in the lending process can therefore concentrate on the things they do best and assume the level of risk that best suits their particular portfolios, which is an efficient set-up in terms of both cost and risk.

As discussed above, stiffer competition may result in a growing market for securitisation. However, the causal link could be the other way round, with better

[10] See "Bättre förutsättningar för värdepapperisering" [Better Conditions for Securitisation], Government Office Report Series, Ds 1998:71.

[11] However, the SPV must be operated as a limited liability company or incorporated association.

As discussed above, stiffer competition may result in a growing market for securitisation.

access to securitisation leading to fiercer competition. This has been the case in Australia, where the mortgage market was deregulated in the 1990s. Legislation to facilitate securitisation lowered the market's previously high entry barriers, paved the way for new players and brought down the cost of mortgages to homeowners by as much as 2 percentage points.

Gilt-edged mortgage bonds

Mortgage institutions in Denmark and Germany finance their operations primarily through bonds that have been made particularly safe investments by special regulations. Among other things, the protection conferred means that holders of these bonds have priority rights to certain loans and the associated collateral if the institution fails.[12] Rather than having to compete with other creditors, these bondholders have preferential rights to the cash flows generated by the earmarked mortgages and associated collateral.

Regulations on the quality of the collateral and government supervision also play a major role with these special bonds, called *Realkreditobligationer* in Denmark and *Hypotheken Pfandbriefe* in Germany. The regulations also impose some restrictions on the activities in which the issuing institutions may engage.[13]

Gilt-edged mortgage bonds can be viewed as a form of conditional securitisation.

These mortgage bonds can be viewed as a form of conditional securitisation. Under normal circumstances the mortgage institution handles every stage in the mortgage lending process, the bondholder receives a return reflecting interest and repayments on the bonds on the same basis as other financiers, and there is no direct link between the bonds and the cash flows generated by specific assets. However,

[12] In Denmark bondholders have special preferential rights to clearly defined series of assets with the associated mortgages. In Germany bondholders have preferential rights to a registered pool of mortgages whose contents may vary over time.

[13] The history of both forms of funding dates back to the end of the 18th century, with the need to create an efficient capital market being the key to their emergence in both countries. In Germany these bonds are the result of a gradual process of development that began with an Order in Council of Frederick William the Second of Prussia in 1767, while the Danish bonds have their origins in a specific event – the Great Fire of Copenhagen in 1795. The blaze destroyed much of the city and triggered a demand for capital that was difficult to meet because most of the companies insuring the properties affected went under. The solution to this surge in demand for capital was instead a system of investment in real property where the mortgage institutions came to form the link between those with an excess of capital and those with a shortage of capital. The foundations of this system remain in place to this day, for example in the way that the Danish mortgage banks are specialist institutions that are governed by special legislation and boast the exclusive right to issue *Realkreditobligationer*. See Ladekarl, J., "Basic Safeguard Measures in a Bond-financed Mortgage Credit System", Danmarks Nationalbank, June 1996.

if the institution fails, certain loans and the associated collateral are removed from the balance sheet and handled as part of a separate scheme, so establishing a direct link between the credit risk associated with the underlying assets and the risk associated with the bonds themselves.[14]

The Dano-German model for mortgage funding has attracted more and more attention in recent years, largely because the bonds are given special treatment in the EU's directives. Among other things, this special status means that member states may exempt holdings of these bonds by insurance companies and managed funds from normal diversification requirements. Member states may also apply a lower risk weighting to these bonds when calculating capital adequacy – 10 per cent rather than the normal 20 per cent for bonds issued by credit institutions.[15] More precisely, these exemptions apply to bond loans issued by credit institutions if:[16]

1. Bondholders have preferential rights in the event of the issuer's failure.
2. Funds raised through the issue of the bonds are invested in assets that are able to cover the claims associated with the bonds throughout the life of the bonds (in other words invested in line with specific rules known in advance).
3. The issuer is subject to *special* public supervision designed to protect bondholders.

Bonds meeting these three criteria have come to be known as "gilt-edged" mortgage bonds in Sweden. Besides Denmark and Germany, where these bonds are long established, Austria, Finland, France, Luxembourg and Spain have introduced legislation that allows some institutions to exploit this special form of funding.

The introduction of gilt-edged mortgage bonds has been discussed in Sweden too and the government has commissioned a report on how equivalent legislation might be formulated.[17] The resulting draft bill, which was published in August 1997 but has not yet resulted in any new legislation, requires that this type

[14] Any surplus on the earmarked assets will fall to the other creditors. Similarly, the holders of these special bonds will have a claim against the bank's other assets if the cash flows from the earmarked assets prove insufficient.

[15] However, the basis for exemption is contradictory: Article 11(2) of Directive 89/647/EEC on a solvency ratio for credit institutions first sets a five-year time limit for the reduced risk weighting and then allows member states to maintain this weighting "for credit institutions when and if they consider it necessary, to avoid grave disturbances in the operation of their markets. Such exceptions shall be reported to the Commission."

[16] The exemption criteria are set out in Article 22(4) of Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS), as amended by Directive 88/220/EEC.

[17] See "Särskilda regler för vissa kreditmarknadsbolag" [Special Rules for Certain Credit Market Companies], Committee Terms of Reference, dir 1996:42.

of bond should carry preferential rights, that clear limits should be set for the loan-to-value ratio (no more than 75 per cent for residential properties) and that the properties held as collateral should be specified in a special register monitored by the Financial Supervisory Authority.[18]

Benefits for issuers and investors

When the debate about gilt-edged mortgage bonds got under way in Sweden in the early 1990s, it was against a background of fears about the new investment rules planned for the insurance companies. These rules required greater diversification than before and so limited the amount that the insurance companies could invest in mortgage bonds. Where then would the mortgage institutions sell their bonds? If the bonds were gilt-edged after the Dano-German model, they would to some extent be exempt from the new diversification requirements and allow the mortgage institutions to continue selling their bonds to Sweden's insurance companies.

However, these fears proved unfounded and the introduction of the new investment rules for the insurance companies passed without drama, partly because the mortgage institutions had already begun to borrow increasingly abroad. This argument in favour of the introduction of gilt-edged mortgage bonds could therefore be dismissed.

The mortgage institutions' interest in gilt-edged mortgage bonds has a natural basis in the fact that their competitors in Europe are able to issue these bonds, which are well established in some markets.

The mortgage institutions' interest in gilt-edged mortgage bonds has a natural basis in the fact that their competitors in Europe are able to issue these bonds, which are well established in some markets. Gilt-edged mortgage bonds should therefore be easier to sell to investors, command greater liquidity and require lower coupons than traditional Swedish mortgage bonds. This in turn would ease the funding situation for the mortgage institutions and, with luck, result in lower interest rates for consumers.

Gilt-edged mortgage bonds undeniably have some benefits for investors.

Gilt-edged mortgage bonds undeniably have some benefits for investors. If the mortgage institution that issued a bond becomes insolvent, investors know exactly which collateral they have preferential rights to, and the supervisory authority has ensured that

[18] For a more detailed presentation of the draft bill, see "Säkrare obligationer?" [Safer Bonds?], Swedish Government Official Reports, SOU 1997:110.

this collateral is intact. Investors would therefore be in a better position than if forced to fight other creditors for a slice of the company's assets, whose value is uncertain.

Would investors be willing to pay for this added security by buying gilt-edged mortgage bonds with a lower coupon than traditional mortgage bonds? And would investors accept a lower buffer of equity capital at the issuer? It does not seem unreasonable to assume that this would be the case.[19] Firstly, the credibility lent by special legislation and supervision would reduce uncertainty about the level of risk inherent in the bonds, a feature much prized by investors and credit rating bodies. Unlike traditional mortgage bonds, the risk to the investor would be tied directly to the credit risk associated with specific high-quality underlying assets, and the supervisory authority would ensure that the quality of the collateral does not deteriorate over the life of the bond.[20] Secondly, it is possible that the involvement of the government might be taken as an implicit government guarantee. In this case the risk associated with the bonds would be perceived as lower than would otherwise have been the case and so a lower risk premium will apply than to traditional mortgage bonds.

The investor base would probably also expand, partly because the bonds would have the potential to attract investors who may/dare not invest in standard mortgage bonds, and partly because insurance companies and managed funds in some European countries are allowed to invest more in gilt-edged mortgage bonds than in their traditional counterparts.

Market development

The players in the Swedish market have concluded that gilt-edged mortgage bonds could be sold with coupons around 10 basis points below those of traditional mortgage bonds. This, however, does not necessarily mean that overall funding costs will be reduced to the same extent, since there are also factors pulling in the opposite direction. If the mortgage institutions' current loan-to-value ratios are more generous than the maximum set for eligibility as collateral for gilt-edged mortgage bonds, some loans (such as second mortgages) could reasonably be expected to prove more expensive to fund since gilt-edged bonds may only be backed by a certain percentage of collateral value. The division of bor-

[19] Nevertheless, in practice there is less scope for the issuer to reduce its equity capital than with securitisation since the issuer is still covered by the statutory capital adequacy requirements in respect of the assets underlying the bonds.

[20] With securitisation, the same thing is achieved by setting up the SPV and effectively limiting its activities to passively managing the assets transferred.

rowing into several different types of bond could also undermine liquidity, which might have a negative impact on the cost of the loans. Gilt-edged mortgage bonds also require special supervision, the cost of which would probably have to be borne by the issuers.

It is still too early to draw any conclusions about how the market for gilt-edged mortgage bonds will turn out.

It could also be claimed that it is still too early to draw any conclusions about how the market for gilt-edged mortgage bonds will turn out. In this respect these bonds are similar to those issued by the SPVs resulting from securitisation. Here too Europe lacks an established market other than the UK, which is admittedly an important one.

Although the German mortgage banks have enjoyed great success, most of the bonds they have sold in the international market have been *Öffentliche Pfandbriefe*, which are secured against loans to the public sector. These bonds are considered to offer good liquidity, because they are issued in the form of *Jumbo Pfandbriefe*, which are standardised bonds issued in blocks of at least EUR 500 million. The bonds that are relevant for comparison in this context, *Hypotheken Pfandbriefe*, feature limited liquidity and are largely traded in the domestic market. Although recent issues of *Obligations Foncières* and *Cédulas Hipotecarias* by the French and Spanish mortgage banks have been well received in the European market, these came during the first year of EMU when many investors were busy reallocating their portfolios. The real issue is what will happen in the longer term, especially-when considering that these are not homogeneous instruments. The EU directives allow vastly different regulatory systems to be developed, which is exactly what has happened in practice. Legislation in other relevant areas, such as business failures, also varies from country to country. As a result, investors will not be able to avoid making separate assessments of each national market. Furthermore, it is not easy to create large homogeneous pools of loans secured against real property and so it will probably be difficult to achieve the same level of liquidity as enjoyed by Germany's *Öffentliche Pfandbriefe*. Even if gilt-edged mortgage bonds come to be prized as low-risk instruments, this does not necessarily make for a uniform, large and liquid market.

Objections to this form of funding

Moreover, a number of objections can be raised to gilt-edged mortgage bonds as a form of funding, some of them quite serious. The Riksbank has highlighted the dubious role assumed by the government supervisory authority in accepting responsibility for ensuring that the collateral underlying the loans is intact. What happens if the mortgage institution becomes insolvent and this collateral proves inadequate? Is it the supervisory authority that gets the blame? Does the legislation effectively constitute some kind of implicit government guarantee? Investors might claim that it was specifically the element of government supervision that encouraged them to invest in the failed institution's bonds, and experience from other areas shows that investors do tend to view government involvement in exactly this way.[21] Furthermore, special legislation on gilt-edged mortgage bonds would mean a partial re-regulation of the market, once again giving the mortgage institutions special status in the capital markets. Is it fair to introduce special legislation to reduce the funding costs of a particular category of company? After all, in principle the mortgage institutions could themselves create bonds with properties equivalent to gilt-edged mortgage bonds using special clauses in their loan contracts and their memoranda and articles of association or through securitisation.

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One key feature of gilt-edged mortgage bonds is that they carry preferential rights in the event of the issuer's failure, since this helps to reduce uncertainty about the degree of risk associated with the bonds. In practice these preferential rights cannot be brought about in any other way than through legislation. When it comes to supervision, which is the most problematic issue when it comes to the implicit government guarantee, the situation may be rather different. Here the mortgage institutions themselves could in principle bring in internationally respected external auditors or the equivalent to assure bondholders that the collateral is intact and of the stipulated quality. Investors might well accept a solution of this kind, with the independent supervisory function undertaken by a non-governmental organisation: this is already the case with securitisation where investors are protected without the SPV being subject to any special regulation. Unfortunately the EU directives explicitly require public supervision for the bonds to be considered gilt-edged.

[21] One way of dealing with this implicit guarantee might be to make it explicit and charge for it, for example by making a special fee payable by the issuer to the supervisory authority.

Summary and conclusions

There is every indication that competition will continue to grow in the Swedish mortgage market.

There is every indication that competition will continue to grow in the Swedish mortgage market. New forms of funding, new technology and possible future participation in EMU are the driving forces that will together lower the entry barriers and so increase competition. Since mortgages are standardised products, price is the primary competitive parameter and so funding issues will be the focus of attention.

The traditional Swedish form of mortgage funding where all of the institution's assets serve as collateral has many advantages, but investors' need for security in the form of equity capital may gradually make this form of funding too expensive. Greater use of securitisation may be one way of tackling this problem. It allows an institution to reduce its capital/assets ratio and so its overall funding costs, since equity capital is a more expensive source of funding than debt financing. Another advantage of securitisation is the efficiency gains to be had from specialisation in the different parts of the lending process. From an economic perspective, increased use of securitisation could have positive effects on the stability of the financial system because credit risks can be transferred from institutions subject to regulation to players that are less sensitive to heavy credit losses.[22]

Cutting funding costs through a reduction in equity capital currently requires an SPV to be set up abroad. Securitisation within Sweden will require the assistance of the legislature in the form of continued deregulation in line with the international model.

In a market where equity capital is becoming an increasingly scarce resource, securitisation is likely to grow in importance because it makes more efficient use of the company's equity capital than both traditional and gilt-edged mortgage bonds.

Gilt-edged mortgage bonds may also be a way of reducing overall funding costs. In this case the main mechanism is not a reduction in the institution's capital/assets ratio but the way that the special legislation and supervision involved enables the institution to reach more investors and lowers the required risk premium on the bonds. Gilt-edged mortgage bonds would also require the blessing of the legislature in the form of special legislation in line with the European model. From an economic perspective, the disadvantage is that the special legislation and supervision could be viewed as an implicit government guarantee.

[22] See Blåvarg, M. & P. Lilja, "Securitisation – A Future Form of Financing?", Sveriges Riksbank Quarterly Review, 3/1998.

One general reflection is that financial innovations in a new market develop best when governed by the wishes of investors and issuers. It is impossible to predict exactly what their future wishes will be. However, in a market where equity capital is becoming an increasingly scarce resource, securitisation is likely to grow in importance because it makes more efficient use of the company's equity capital than both traditional and gilt-edged mortgage bonds.