Market Insight

Investing in residential real estate debt - but which type?

London 19 January 2015, by Arjan van Bussel and Steve Curry

With interest rates at historically low levels, fixed income investors are on the hunt for investment opportunities with attractive risk/return profiles. Residential real estate debt appears to be one such opportunity in Europe. Risks are modest and returns are alluring. But what type of residential real estate debt instrument to invest in? Loan format, bond format or securitised format? In this Market Insight we compare and contrast the alternative investment opportunities that fixed income investors have when investing in residential real estate debt in Germany, the Netherlands or the United Kingdom.

Residential real estate debt

Prime residential mortgage loans have proven to be a low risk investment. Cumulative losses during the recent credit crunch have been limited to 10 to 20 basis points in Germany, the Netherlands and the United Kingdom.[1] Fixed income investors looking for low risk opportunities in today's low interest rate environment might therefore be attracted to the residential mortgage market. However, the options available to investors looking for an attractive return while investing in residential real estate debt are not limited to residential mortgages. As shown in Exhibit 1, investors have the option to invest in a variety of different formats. They may seek to invest in the owner-occupied segment via whole loans or RMBS. Alternatively, they may invest in the residential rental segment via direct loans or multi-family CMBS, or they may opt to lend to residential real estate investment funds in loan or bond format. In this Market Insight we will be comparing these investment opportunities from an institutional investors' perspective.[2]

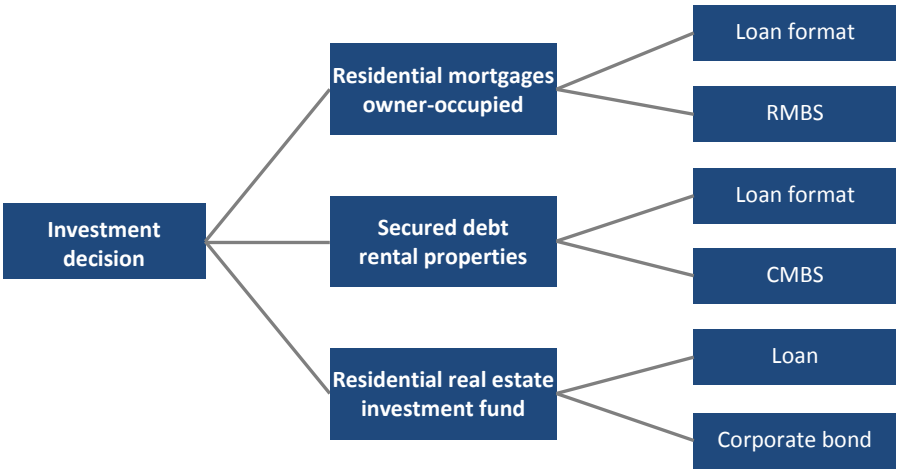
Current pricing of owner-occupied real estate debt

In line with broader credit markets, residential mortgage rates in Germany, the Netherlands and the UK have fallen since the outset of the credit crunch. However, as illustrated in Exhibit 2, the

[1] Source: Moody's. For Germany, Moody's reports a cumulative loss of 9 basis points for low to medium LTV loans (whereas this increases to 300 basis points for high LTV loans) during the first 10 years of their existence. For the UK, Moody's reports an average cumulative loss of 20 basis points (excluding mortgages collateralising the Granite transactions) for the first 10 year since origination.

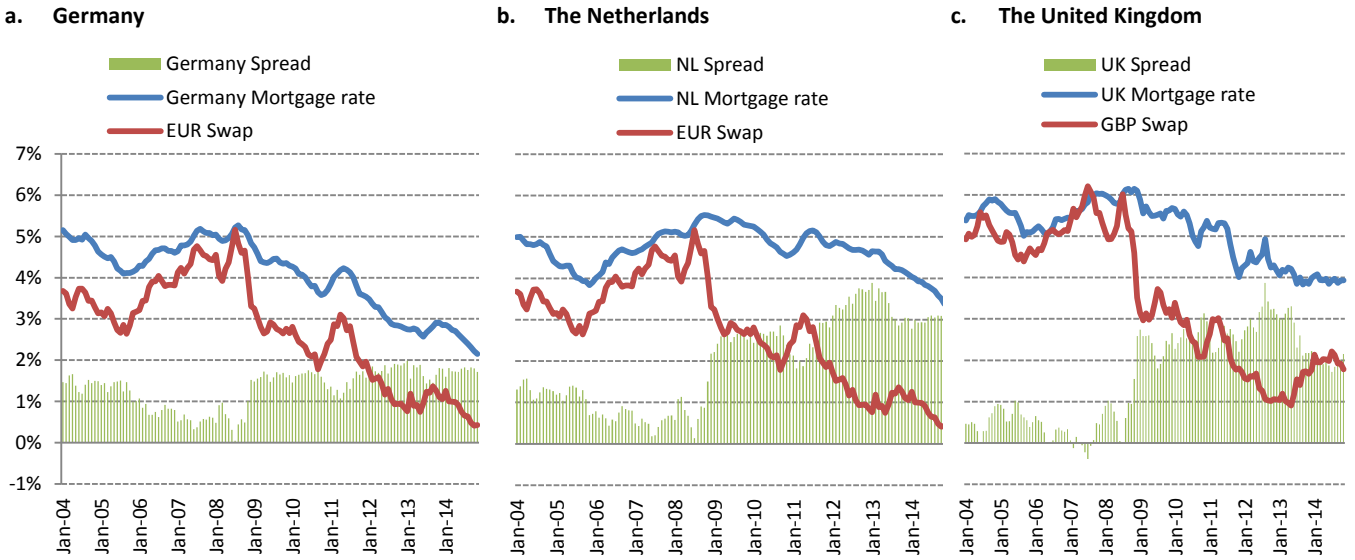
[2] We have excluded the following asset types from the analysis: covered bonds (which do use residential mortgages loans as collateral but are essentially a bank exposure), buy-to-let loans (as the market only really exists in the UK) and loans to social housing associations (as they operate in highly regulated markets, whereby the regulations, and support received, differ significantly between the various countries).

Exhibit 1: Investment Opportunities



decrease has been much less pronounced than the fall in swap rates, making residential mortgage loans a relatively attractive investment proposition on the face of it. The relatively high interest margin that can be generated on such loans has begun to attract new funds and lending platforms to compete with the traditional mortgage providers. Aegon, for example, responded by setting up a mortgage fund offering institutional investors the opportunity to invest indirectly in the Dutch residential mortgage market. New independent origination platforms, such as DMFCO, have also begun to emerge and we are aware of preparations being made for similar initiatives in both Germany and the UK.

Exhibit 2: Time series of interest and historic spread



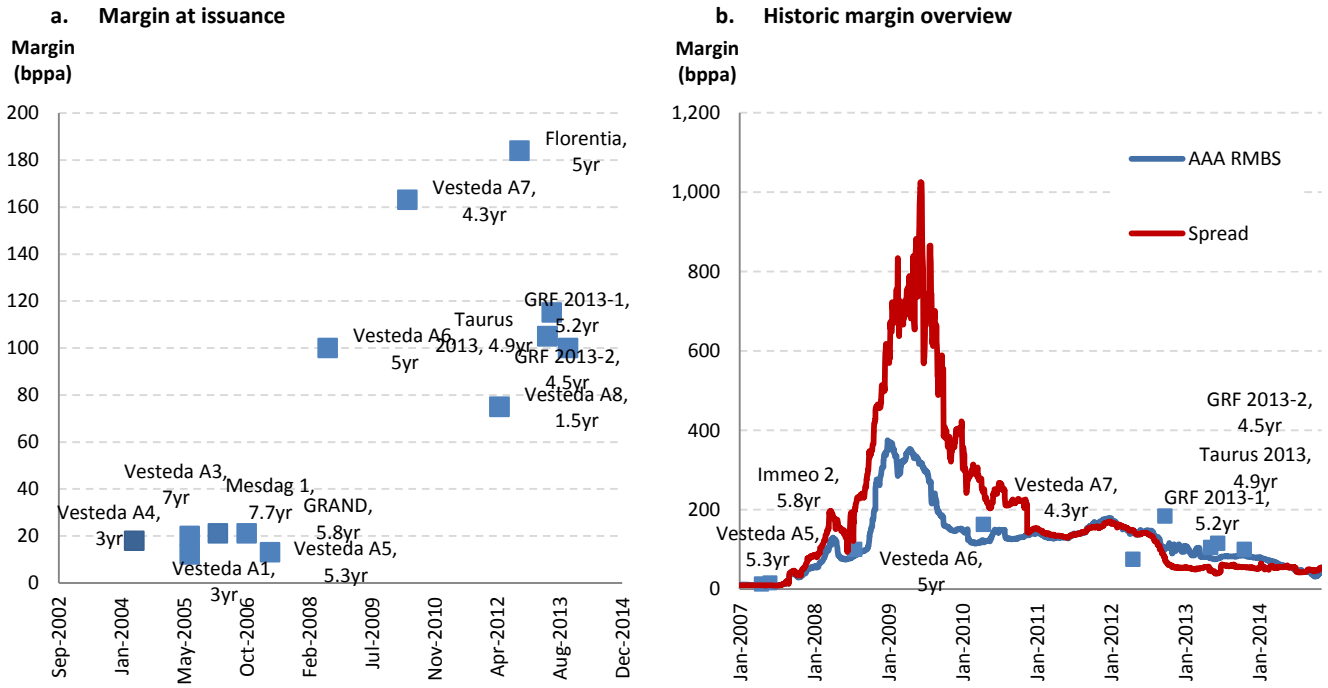
Note: The mortgage rates are derived from the ECB data warehouse and reflect the average rates for mortgages with a maturity, or fixed rate period, of 5 years or more. Swap rates are derived from Bloomberg and correspond with a maturity of 5 years. The spread is the difference between both rates.

The relatively high margins on residential mortgage loans contrast sharply with margins currently observed on AAA rated securitised notes collateralised by residential mortgages. As illustrated in Exhibit 3b, a year ago the margins on such AAA investments were approximately 85 basis points in the Netherlands and 65 basis points in the UK. Since then they have fallen significantly to below 50 basis points in both countries. As a result the margin on the underlying loans is currently approximately 4 to 5 times as high as the margin on corresponding AAA RMBS notes in the Netherlands and the UK. Germany does not have an active RMBS market and as such a comparison between residential mortgages and German RMBS is not possible.

Current pricing of debt for residential rental properties

Traditionally banks have been, and still are, the dominant provider of mortgage loans secured by residential rental properties. However, the lending landscape in Europe is changing rapidly as non-bank lenders are entering the market in growing numbers. Those non-bank lenders, as well as most banks, offer real estate loans covering a wide range of asset categories, including office, retail, industrial and residential rental properties. As these different sectors are competing for debt financing, the margins observed in the different segments are generally in line with each other.

Exhibit 3: Margin



Note: Exhibit 3a shows the margin on AAA rated multi-family CMBS transactions at issuance in Germany and the Netherlands (no such transaction has been issued in the UK). The data labels show the transaction name and weighted average life of the relevant notes. Exhibit 3b compares these multi-family CMBS issuance levels with margins on AAA rated Dutch and UK RMBS notes with a weighted average life of 3 to 5 years. Source: ABS Concept and JP Morgan

In their H1 2014 review, Cushman & Wakefield[3] indicate that senior loan margins on German core investment grade assets are between 80 and 175 basis points. For the UK they report margins ranging from 135 to 225 basis points. From conversations we are having with borrowers and lenders we derive that pricing of loans secured by residential rental properties in those countries do indeed fall within those ranges (and increasingly at the mid and lower end of the range). For the Netherlands, however, we notice a discrepancy. Cushman & Wakefield report senior loan margins between 250 and 450 basis points for core real estate assets, whereas we observe substantially lower margins for loans backed by residential rental properties. For example, in April 2014, a UK fund manager provided a EUR 110 million loan, with a 10 year maturity and a 65% loan to value, backed by a portfolio of 1,250 residential rental units in the Netherlands at a margin between 175 and 200 basis points. These lower margins are the direct result of the increased competition from foreign (and particularly German) lenders for large transactions in this segment.

Turning to pricing in the securitisation market, we notice that AAA rated multi-family CMBS notes secured by residential rental properties generally offer a yield pick-up for investors in comparison with similarly rated RMBS notes. This is clearly illustrated in Exhibit 3b which compares the margin at the launch dates of various German and Dutch multi-family transactions with the margin on AAA rated Dutch and UK RMBS notes. In today's market we expect this yield differential for AAA rated notes to be between 35 and 50 basis points.

Pricing conclusions

Exhibit 4 contains the indicative margins that we believe broadly apply to the various residential real estate debt instruments in Germany, the Netherlands and the UK. The differences between the various instruments are material, as are some of the differences between jurisdictions. The relative high margins on residential mortgage loans to owner-occupiers stand out particularly. On the other side of the spectrum the relatively low margins on corporate bonds issued by residential real estate investments funds are noteworthy. This probably explains why Deutsche Annington (Germany) and Vesteda (Netherlands), both owners of large multi-family property portfolios, recently opted to refinance multi-family CMBS transactions by issuing corporate unsecured bonds.

The impact of capital requirements

Of course there is considerably more to an investment decision than headline prices or margins. Capital requirements and an investor's views on risk are equally important. In the following section we overlay the impact of capital requirements on the different instruments we assess in this Market Insight.

Capital requirements

In terms of capital requirements we have elected to benchmark our analysis against Solvency II. The reason being that we observe insurance companies playing an important and increasingly active role as investors in the residential real estate debt space across the various instruments. Other investors such as funds do not have the same degree of regulation or transparency around minimum capital requirements, whereas banks are subject to Basel III for which the rules can differ per jurisdiction. A comprehensive analysis of the capital charges associated with the different instruments in the different jurisdictions under Basel III would therefore require more words than we have space for in this Market Insight.

[3] Cushman & Wakefield, "*European real estate lending update*", H1 2014

Exhibit 4: Characteristics of various investment opportunities across jurisdictions

Instrument	Format	Indicative margin (bppa)			Capital – Solvency II			Indicative LTV		
		GE	NL	UK	GE	NL	UK	GE	NL	UK
Residential mortgages **Owner-occupied properties NL**	Loan format	125	250	175	2.1%	6%	2.1%	70%	100%	70%
	RMBS - AAA	N.A.	45	45	10.5%	10.5%	10.5%	N.A.	77%	62%
	RMBS - BBB	N.A.	135	135	98.5%	98.5%	98.5%	N.A.	82%	N.A.
	RMBS – First loss	N.A.	N.A.	N.A.	100%	100%	100%	N.A.	100%	N.A.
Commercial mortgages **Residential rental properties**	Loan format -Senior	125	175	200	15%	15%	15%	65%	65%	65%
	Loan format - Mezz	850	850	850	15%	15%	15%	80%	80%	80%
	CMBS - AAA	75	75	N.A.	62.5%	62.5%	62.5%	40%	40%	N.A.
	CMBS - BBB	240	240	N.A.	98.5%	98.5%	98.5%	60%	60%	N.A.
	CMBS – First loss	N.A.	N.A.	N.A.	100%	100%	100%	N.A.	N.A.	N.A.
Residential real estate investment funds	Loan	125	185	185	15%	15%	15%	N.A.	N.A.	N.A.
	Corporate bond	75	75	175	15%	15%	15%	N.A.	N.A.	N.A.

Note: The margins and loan to value ratios (LTV) shown in this exhibit are indicative averages and are based on recent market observations and conversations with borrowers, lenders, issuers and investors. (Limited deal flow in mezzanine and first loss tranches of RMBS and multi-family CMBS, and the private nature of some loan instruments, resulted in a small number of observations.) Capital-Solvency II indicates the expected capital charge, applying the standardised model, for an instrument with a 5 year duration.

On 10 October 2014 the European Commission published the Solvency II Delegated Act, which sets out detailed rules around capital requirements for European insurance companies. The Act is subject to approval by the European Parliament and European Council within the next six months and will form the basis for implementation by the member states of the European Union.[4]

The Solvency II Act expresses the capital charges of RMBS notes, multi-family CMBS notes and corporate loans and bonds as stress factors for each year of duration. These stress factors are set out in Exhibit 5. As illustrated in Exhibit 5, the Act splits the securitisation market into Type 1 and Type 2 securitisations. Type 1 securitisations are considered the higher quality and less risky (tranches of) securitisation transactions and include senior tranches of most prime RMBS transactions.[5] Type 2 securitisations include all transactions not eligible for Type 1 and captures non-senior tranches of prime RMBS transactions as well as senior and non-senior tranches of multi-family CMBS transactions.

Exhibit 5 demonstrates that the capital charge in each credit quality category is the lowest for

[4] The rules set out in the Act are relevant for the standardised model. Large insurance companies might seek sign-off on their internal models which may prove more favourable.

[5] The eligibility criteria for Type 1 Securitisation transactions resemble the European Commission definition of High Quality Securitisation used for the liquidity coverage ratio in the Basel III framework.

Exhibit 5: Capital charge per year of duration

Credit quality category	0	1	2	3	4	5	6
Credit Quality	**AAA**	**AA**	**A**	**BBB**	**BB**	**B**	**Below / NR**
Type 1 Securitisation	2.1%	3.0%	3.0%	3.0%	N.A.	N.A.	N.A.
Type 2 Securitisation	12.5%	13.4%	16.6%	19.7%	82.0%	100.0%	100.0%
Corporate Bonds and loans (duration up to 5 years)	0.9%	1.1%	1.4%	2.5%	4.5%	7.5%	3.0%

corporate loans and bonds. Comparing capital charges across credit quality categories we notice that a BBB rated corporate bond issued by a residential real estate investment company requires only one-fifth of the capital for AAA rated multi-family CMBS notes. As can be seen in Exhibit 4, prices for AAA rated multi-family CMBS notes are not 5x above corporate bond prices making the BBB rated corporate bond more appealing to an insurance company than a AAA rated multi-family CMBS note from a return on capital perspective.

Similarly divergent results are observed when comparing a loan secured by a portfolio of residential rental properties versus a multi-family CMBS. The capital charge per year of duration for the loan is 3%, irrespective of the loan to value level.[6] Hence, the total capital charge for the loans securitised in, for example, the German Residential Funding 2013-2 transaction would be 15%, based on a duration of 5 years. However, the capital charge of the AAA rated notes in this transaction equals 62.5% which is substantially higher despite the fact that the AAA rated notes have a substantially lower loan to value ratio (42.5%) than the whole loan (65%) and benefit from additional credit enhancement. If an insurance company would purchase all notes of this CMBS transaction, thereby effectively replicating the loan, the capital charge would be 71.5%, which is nearly 5 times higher than for the loan.

Looking at the two securitisation alternatives, Exhibit 5 illustrates that AAA rated Type 1 RMBS notes incur a capital charge of 2.1% for each year of duration, whereas for a Type 2 CMBS note with a similar rating and similar duration this capital charge would be nearly 6 times as high. Mezzanine tranches of any securitisation are classified as Type 2 and therefore face very punitive capital charges, e.g. for a 5 year duration the capital charge would be 98.5% (= 19.7% multiplied by 5). We are of the opinion that the higher margin for senior multi-family CMBS notes and mezzanine RMBS notes do not outweigh the increase in capital charges compared with senior RMBS notes and therefore expect insurance companies to shy away from these investments.

Solvency II's capital charge associated with residential mortgage loans to owner-occupiers cannot be determined on the back of the stress factors shown in Exhibit 5. Instead we have to turn to the Solvency II counterparty risk module which states that the capital charge for this type of loan is a function of the lifetime probability of default (PD) and the expected loss given default (LGD):

[6] As illustrated in Exhibit 5, this capital charge per year of duration would become 2.5% if the loan would be BBB rated and 4.5% if the rating would be BB.

Capital charge = PD x LGD

whereby

- PD is assumed to be 15% for performing loans, and
- LGD is equal to the loan amount minus 80% of the risk adjusted value of the underlying collateral. This risk adjusted value is equal to the stressed value of the collateralised property as Solvency II would assess if the insurance company had bought the property directly. For residential properties this implies a 25% stress. Hence:

  LGD = loan amount –
  (80% x 75% x property value)

Therefore, the capital charge = 15% x { loan amount – (80% x 75% x property value) }

Applying this formula to the Dutch residential mortgage portfolio underlying the recent Storm 2014-III securitisation transaction (with and average loan to value ratio of approximately 84%) results in a capital charge of 4.3%. This contrasts sharply with the 12.9% capital an insurance company would have to hold if it would purchase all notes in the transaction. Perhaps even more remarkably, the total amount of capital an insurance company would have to hold if it owned the entire loan portfolio (in raw loan format) would be less than half of the capital required for holding the AAA rated securitised notes only.[7]

[7] As pointed out by Barclays, this discrepancy is probably even larger in other jurisdictions as loan to value levels in the Netherlands are typically higher than in other countries and Dutch RMBS transactions tend to have more favourable tranching levels than transaction originated in other jurisdictions. (Barclays, "*European ABS - Regulation Good from afar but far from good*", 15 Oct 2014)

Capital requirement conclusions

Exhibit 4 contains the capital charge for each of the debt instruments applying Solvency II's standardised approach. The results are remarkable and often counterintuitive. Solvency II clearly favours lending in loan format above investing in securitisations of the same loans. Interestingly, the instrument with the highest margin, i.e. residential mortgage loans to owner-occupiers, has the lowest capital charge. Making it very appealing to declare this instrument the winner of our relatively value comparison. However, before jumping to conclusions we need to assess the risk differences of the instruments considered in this Market Insight.

Risk comparison

In addition to pricing and capital utilisation, risk perception is the third pillar on which an investment decision is built. Solvency II's capital charges should in principle be a proxy for risk faced by investors. However, as seen above, applying the Solvency II standardised approach to the instruments studied in this report results in some notable anomalies. In this section we therefore make our own risk assessment for each instrument.

Exhibit 6 summarises our perception of risk inherent in the instruments assessed. We identified the main risk drivers in relation to residential real estate debt and scored each instrument against those factors to arrive at an aggregate score per instrument (using a 0 to 3 scoring mechanism where 0 represents the lowest risk). Next, in order to reflect the differing importance of the risk drivers we allocated a weight to each factor to derive a weighted score/assessment of risk for each instrument. The results are shown in the last two rows of Exhibit 6.

Exhibit 6: Risk comparison

Risk			Residential mortgages Owner-occupied properties			Secured debt Residential rental properties			Residential real estate investment fund		
Category	Specification	Risk weight	Loan	RMBS Senior	RMBS Mezz	Senior loan	Mezz loan	CMBS Senior	CMBS Mezz	Loan	Bond
Credit	Decreasing house prices	35%	3	1	2	1	3	1	2	1	1
Cash flow	Inability of occupier to service mortgage or pay rent	35%	3	1	2	1	2	1	1	1	1
	Vacancy		N.A.	N.A.	N.A.	1	3	1	2	2	2
	Operation and maintenance costs		N.A.	N.A.	N.A.	1	3	1	2	2	2
Market	Refinancing at loan maturity	20%	0	0	0	2	3	2	3	2	2
	Extension / tail period		N.A.	2	2	N.A.	N.A.	2	2	N.A.	N.A.
	Illiquidity		2	0	1	2	2	1	2	2	0
Structure	Complexity	10%	0	2	2	0	1	2	2	0	0
Total	Aggregate risk factor		8	6	9	8	17	11	16	10	8
	Weighted risk factor		2.5	1.3	2.2	2.2	5.0	2.6	4.1	2.9	2.5

Note: N.A. = not applicable, 0 = negligible, 1 = low risk, 2 = medium risk, 3 = high risk

Risk conclusions

Exhibit 6 illustrates that we are of the opinion that senior RMBS notes offer the lowest risks of all residential real estate debt instruments assessed in this Market Insight: subordination and other credit enhancement features embedded in securitisation transactions provide a comfortable cushion against house price fluctuations and deteriorating debt service capacities. Similarly, the risks of RMBS mezzanine tranches are also considered relatively modest as also those instruments benefit from credit enhancement provided by first loss tranches and reserve funds.

The impact of subordination is also visible when looking at loans and CMBS notes secured by residential rental properties. Instruments issued by residential real estate investment funds typically do not benefit from any form of subordination, but still the risk is perceived to be modest as these instruments (even though unsecured) commonly benefit from conservative covenants embedded in the transaction documentation, such as leverage restrictions and security protection in the form of negative pledges.

Looking at the three main investment categories then Exhibit 6 illustrates that we consider residential mortgage loans and RMBS notes to have the lowest risk, followed by loans/bonds issued by investment funds, whereas the risk is perceived to be the highest for instruments secured by residential rental real estate.

So what to invest in?

So where should investors focus their attention if they are looking at the various instruments that would give them exposure to residential real estate debt? In our view the principal conclusions to our analysis are as follows:

- Investing in loan format offers substantially higher absolute returns than investing in securitised notes.
- An insurance company operating under the current guidelines for Solvency II can generate

the highest return on capital in the residential real estate debt segment by investing in whole residential mortgage loans.

- With respect to residential mortgage loans to owner-occupiers, Germany and the UK offer the most attractive return on capital from a geographical perspective although the deltas between Germany and the UK on the one hand and the Netherlands on the other are mainly reflective of the higher loan to value ratios typically seen in the Dutch market. Looking at residential mortgages with similar advance rates, we favour the Netherlands as the margins are higher and existing servicing platforms and distribution infrastructure facilitates entrance to the market. An active Dutch RMBS market further enhances the investment proposal as it offers appealing arbitrage opportunities.

- The capital charge for senior and mezzanine loans secured by residential rental properties is the same under Solvency II's standard model. The returns are very different though, as are the risk profiles. Because of this very different risk profile, we do not consider mezzanine loans secured by residential rental properties an alternative to residential mortgages, RMBS or corporate bonds issued by real estate investment funds. We believe that mezzanine loans should be left to specialised lenders who, in return for the risk taken, are rewarded with high margins.

- Margins on AAA rated multi-family CMBS exceed margins on AAA rated RMBS and on loans/bonds issued by residential real estate investment funds. However, we are of the opinion that this pick-up is not sufficient to reward investors for the higher capital charges associated with CMBS notes.

- The margin on senior loans secured by residential rental properties is around 1.5 to 2.5 times higher than on unsecured, full-recourse bonds issued by residential real estate funds, whereas the capital charge under Solvency II is identical. As the risks are very similar, we favour senior mortgage loans over loans and bonds issued by investment funds.

- The margin on AAA rated multi-family CMBS is only slightly above margins on corporate bonds issued by real estate investment funds whereas the capital charge according to the Solvency II standard model is more than 4 times as high. We perceive the risks to be very similar and would therefore prefer investing in corporate bonds over multi-family CMBS.

In summary, we conclude that, for insurance companies that apply the Solvency II standard model, residential mortgage loans to owner-occupiers offer the best relative value when looking to invest in residential real estate debt. The margins are relatively high and the capital charges relatively low. The corresponding risks are perceived to exceed the risks embedded in senior RMBS notes but we are of the opinion that the higher margins and lower capital charges outweigh these higher risks.

If you agree with our views in this Market Insight, and even if you don't, we would be delighted to hear from you (info@bishopsfieldcapital.com).