

Danish Mortgage Bonds: A Unique Asset Class

Stockholm (HedgeNordic) – Denmark's covered bond market dates back to 1787, and is about four times larger than the country's government bond market. Nearly every building in the country – residential and commercial – has a mortgage that passes through its interest and principal repayments into a bond.

Mortgages are securitised, but not split into derivatives such as interest only and principal only loans as they are in the US. Unlike "Fannie" and "Freddie" agency bonds in the US, very few Danish covered bonds have a government guarantee in terms of credit risk – and individual borrowers have defaulted – but covered bonds have never defaulted in 231 years. Denmark has no "sub-prime" market; loan to value ratios are conservative (generally below 80%); and lenders have full recourse to borrowers' other assets and income, for life! (in contrast, US mortgages are non-recourse and most countries have statutes of limitation barring creditors from chasing debtors, beyond a certain number of years after they declare bankruptcy or insolvency). All issuing entities have an S&P AAA rating.

In Europe, Denmark's covered bond market is ranked second only to that of a much larger economy, Germany. Ratios of mortgage debt to GDP appear to be relatively high in Denmark, but the other side of the balance sheet should also be considered. Thanks to decades of compulsory pension saving, covering the whole workforce, Denmark has very high levels of pension fund assets, which invest in mortgage bonds.

Leverage and Spreads

Given that credit risk has historically been a theoretical phenomenon, investing in Danish mortgage bonds is mainly about earning a spread, and expressing views on interest rate risk, or prepayment risk, or both – and sometimes assessing structural changes around regulation or foreign flows. Spreads have come down to around 0.42% over Danish governments, for five-year bullet fixed rate mortgage bonds, with no prepayment risk. 30-year callable fixed rate mortgage bonds, which have prepayment risk, offer higher spreads: around 0.77% over governments.

Spreads and yields that look low in absolute terms can still be attractive, particularly for investors in other countries with negative interest rates, such as Japan, a key source of foreign investors in the Danish market.

Additionally, spreads can be magnified up to a larger return, by obtaining leverage at negative interest rates, using repos. "We are able to get leverage at a cost of -0.4% after all expenses," says Formulepleje Director, Søren Astrup.



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Some hedge funds use as much as 10 or 15 times leverage to multiply spreads, and attempt to hedge out interest risk as much as possible. These funds can be mainly a play on spreads and prepayment risk, and can show correlations of near zero to Danish government and covered bond markets.

Formulepleje in contrast uses around four times leverage, and – while employing some interest rate hedges – also expresses views on both interest rate, and prepayment risks, and has exhibited an average correlation of nearer 0.7 to Danish government bonds. The firm recently celebrated its 30th anniversary, and its senior portfolio managers, Erik Alfred Bech and Rene Rømer, (*pictured*) have been managing covered bond strategies for 12-13 years. The company has DKK 37 billion (EUR 5 billion) invested in Danish mortgages, making up roughly 1.4% of the total market size of DKK 2,800 billion (EUR 380 billion).

Interest Rate Risk

“We avoid floating rate securities, and have 60% invested in “bullets” with 40% invested in callables, where borrowers have a call option on early repayment” says Bech.

The strategy with the bullets is to optimise maturities by taking views on the yield curve. Currently, “we find the best value is in bonds with three to four year maturities. Our macro view is that Eurozone interest rates should stay lower for longer than consensus forecasts suggest, and that longer-term interest rates will spike as the ECB ends QE” explains Bech. Presently, the strategy has an unleveraged modified duration of 2.2 years, which grosses up to around 11 years, given 4 times leverage.

Of course, Formuepleje does not always accurately forecast interest rates. In early 2011, they were taken by surprise when the ECB, under Trichet, raised rates – but still outperformed the benchmark in that year. Conversely, 2014 was the only year since 2009 when they underperformed the benchmark, partly due to overestimating the extent of interest rate rises.

Danish interest rates are currently 0.25% below Eurozone rates, and repo rates follow government bond yields closely. “Negative rates are a bonus but not essential for the strategy, which does crucially need an upward sloping yield curve. This is because the “roll down” is a key source of returns. For example, over one year, as a four-year bond becomes a three-year bond, a lower yield leads to capital gains” explains Rømer.

Callable Bonds and Prepayment Risk

“In contrast, carry generates a higher proportion of returns in the callable bucket of the strategy. We use models from Nordea and other banks to assess prepayment risk, and borrowers, who are not investment professionals, may behave irrationally. The borrower’s call option is a kind of Bermudan call option, as it is path dependent” says Bech.

“We also take a bottom-up approach to selecting individual bonds that have the least redemption risk, such as longer-dated, ten to fifteen-year bonds, that are less sensitive to call risk” continues Bech.

“The strategy aims to maximise Sharpe ratios and need not pay any attention to the benchmark composition” he adds.

The strategy’s banner year, 2013, when it outperformed the local market by 10%, was partly due to a shrewd and non-consensus prediction of prepayments. “Banks, which earn fees from prepayments, ran advertising campaigns encouraging borrowers to refinance and shift to floating rate mortgages, based on a 1 year bullet bond, but this came to an abrupt end after the credit ratings agencies threatened to downgrade the entire sector. Prepayments then settled down to much more normal levels” recalls Rømer.

The managers also made a smart move by reducing leverage in the spring of 2015, before the new Basel II Liquidity Coverage Ratio (LCR) rules forced local banks to sell mortgage bonds. (Danish Government bonds are classified as category 1a under LCR, whereas Danish covered mortgage bonds are classified as 1b). After the selloff, the managers rebuilt their exposure later in the year.

“The exception to the two core Danish covered bond strategies is a 5% allocation to Swedish covered bonds, which has eliminated both interest rate and currency risk, in order to focus only on the spread risk” says Bech. The firm does not follow Norwegian covered bonds.

In the current climate, the managers are somewhat cautious about some parts of the Danish market. “We are not inclined to try and pick up illiquidity premia from investing in less liquid bonds. These premia are quite low at the moment, and the most important thing is to maintain a liquid portfolio so that we can sell when we need to” says Rømer.

“The Danish mortgage market still had good liquidity even in the worst days of the financial crisis in 2008” says Astrup. Those who needed to sell bonds, could do so. Investors who were able to hang onto the bonds did not lose money. Though property prices in major Danish cities dropped by up to 25%, and some homeowners facing negative equity were forced to sell homes at auctions, bondholders carried on clipping their coupons, and saw a strong recovery in 2009.