Realkreditrådet
ASSOCIATION OF
DANISH MORTGAGE BANKS

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Overview of the new Danish covered bond legislation addressing refinancing risk

Prepared as a joint effort of the Danish mortgage banks

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Overview of new Act

Scope of the Act:

The Act applies to Danish Mortgage Bonds (SDRO's, SDO's, RO's) where the term of the underlying loan is longer than the maturity of the bond used to fund it. An example is a 30Y mortgage loan with a 1Y interest reset period, i.e. the loan is funded by issuing 1Y bullet bonds one year at a time.

The implementation date of the new Act was 1 April 2014 for bonds with an original maturity up to and including 12 months. For bonds with an original maturity of more than 12 months, the implementation date is 1 January 2015.

The new Danish legislation has provided clarity over the position of borrowers, investors and mortgage banks in an extreme crisis where a mortgage bank is unable to complete the refinancing by sale of bonds on market terms, or interest rates suddenly rise very sharply.

The mortgage model and the status of covered bonds are ***unchanged***:

The Danish mortgage system is still based on the match funding principle (balance principle), which applies to all loans.

The covered bonds – even if the maturity has been extended:

- can be pledged as collateral for loans at Danmarks Nationalbank
- carry the ECBC's Covered Bond Label
- are CRR/CRD-compliant

Overview of new Act (cont'd):

Further details:

- If the sale of a bond with a maturity above 1Y fails in connection with a refinancing, sale of shorter-term bonds may be attempted before the maturing bond is extended.
- Partial failure of a refinancing activity is possible. Agreed trades will be executed, and the remaining refinancing amount will be extended. This will result in a combination of a cash transaction and a maturity extension of the bonds on a pro-rata basis.
- If a mortgage bank is under resolution the bonds may be extended by 12 months at a time.
- The Act does not apply to loans funded by bonds with the same maturity as the loans, for instance 30Y callable loans.

Two triggers are introduced

The Act introduces two types of triggers:

- The refinancing failure trigger (RF)
- The interest rate trigger (IT)

Funding period	Interest rate trigger (5% point rise)	Refinancing trigger	Effective from
Loans with ≤ 1Y funding	1Y yield	Yes	1 April 2014
Loans with ≤ 2Y funding	2Y yield	Yes	1 January 2015
Cibor/Cita/Euribor ≤ 2Y funding	Interest rate cap	Yes	1 January 2015
Cibor/Cita/Euribor > 2Y funding	No	Yes	1 January 2015
Loans with > 2y funding	No	Yes	1 January 2015

(See appendix 2-4 for information on refinancing in practice and recent years sector changes in loans with refinancing)

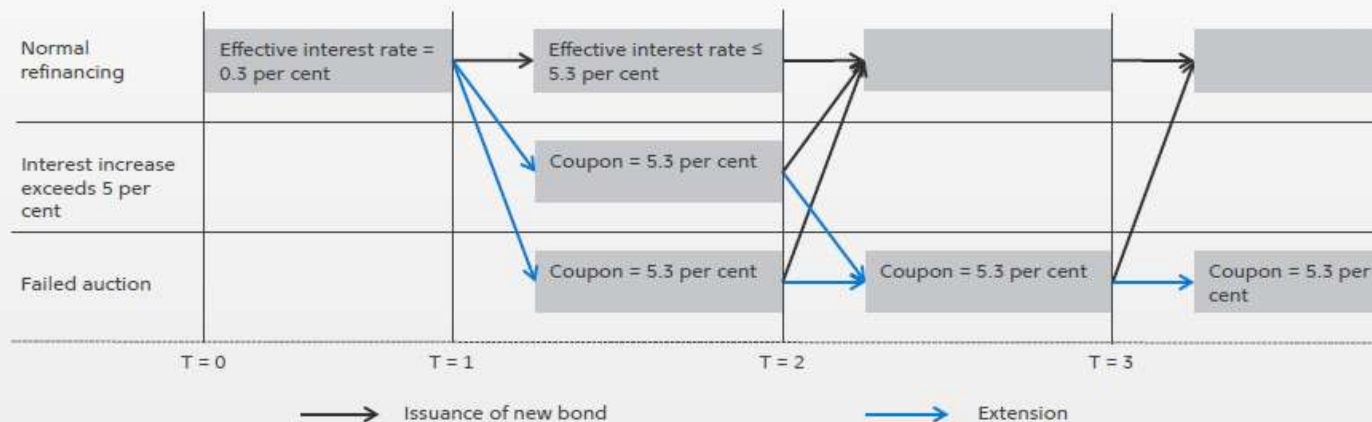
How do the triggers work?

Example: 1-year bond with contingent maturity extension Box 3

Assume that a mortgage bank at time 0 sells a 1-year bond with an effective interest rate of 0.3 per cent. One year later, at time 1, the mortgage bank attempts to issue a new bond to replace the bond issued at time 0. One of the following three situations may arise:

1. The mortgage bank succeeds in issuing a new bond with an effective interest rate of less than 5.3 per cent.
2. The mortgage bank receives sufficient bids to issue a new bond, but with an effective marginal rate above 5.3 per cent.
3. The mortgage bank does not receive sufficient bids to issue a new bond.

In both case 2 and case 3, the maturity of the bond issued at time 0 is extended by 1 year at a coupon of 5.3 per cent, cf. the chart.



If case 2 or case 3 has been realised at time 1, one of the following two situations may arise at time 2: either the mortgage bank receives a sufficient number of bids to sell a new bond, and it then sells a new bond at this marginal rate, or it does not receive a sufficient number of bids, so the maturity of the bond issued at time 0 is extended by another year at a coupon of 5.3 per cent.

If it is assumed that the auction fails at time 2, there are, again, two possibilities at time 3: normal refinancing or failed auction.

Source: Danmarks Nationalbank, Monetary Review, 1st Quarter 2014
(See appendix 1 for further information on the two triggers)

The issuers support the new Act's objectives

In November 2013, the Danish government presented an Act for the purpose of addressing refinancing risks arising from the **funding of mortgage loans by bonds where the maturity is shorter than the loan term**. During the subsequent process a number of changes were made to the Act, before it was adopted by the Danish Parliament in March 2014. It appears from the remarks of the Danish Ministry of Business and Growth that:

"…

The ongoing refinancing of the loans by bond auctions entails a risk that it will not be possible to sell a sufficient volume of new bonds on the refinancing date. This risk could arise from market fluctuations or because a specific institution has specific problems.

…

If refinancing were to fail wholly or partly, it would have major consequences for the mortgage-credit institution, for the borrowers, for the bond investor and for society in general. A failed auction … could affect financial stability as the mortgage-credit institutions constitute an important part of Denmark's financial sector and contribute to the financing of major segments of the national economy."

The Danish mortgage banks find it positive that the Minister for Business and Growth took the initiative to address the refinancing risk relating to loans funded by bonds with shorter maturities than the loan terms. The legislation further strengthens the setup around Danish mortgage bonds, by offering investor stronger protection while reducing systemic risk.

The Danish mortgage market has never experienced a failed refinancing, but we regard the new legislation as an expression of due diligence and focus on maintaining a Danish mortgage model, characterised by a strong regulation and covered bonds offering a high degree of security.

FAQ

Question	Answer
Does the Act apply to loans funded with ROs?	Yes. The Act applies to ROs, SDOs and SDROs
Do extended bonds have the same ISIN as the original bonds?	Yes
Are the bonds repo eligible?	The collateral base of Danmarks Nationalbank is unchanged. Extended bonds are repo eligible with the central bank on the same terms as existing covered bonds. Extended bonds may also be used as collateral
Is Danmarks Nationalbank still "Lender of last resort"?	Yes. In its Monetary Review 1st Quarter 2014, Danmarks Nationalbank reiterated that it remains "Lender of last resort" for solvent covered bond issuers
Will "labelled" bonds keep the ECBC label upon extension?	Yes, an extension will not change whether the bonds are "labelled" or not.

FAQ

Question	Answer
How do you know whether a bond can be extended or has an interest rate trigger?	In future there will be short-term bonds with the same maturity and coupon – with and without an interest rate trigger. It will appear from the bond terms that are published on the stock exchange and on the issuer's website. In addition, Nasdaq OMX and Bloomberg will add information via the "notes" field and possibly in the bond's name in the price list, where the triggers are called: RF for Refinancing Failure, and IT for Interest Rate Trigger
Where can you see the interest rate levels that trigger a maturity extension due to an interest rate trigger, and the interest rate after extension?	They will be published by the issuer e.g. on the issuer's website
Can an interest rate trigger be activated two (or more) years in a row?	No. An interest rate trigger can only be activated once, whereupon the interest rate may increase unlimitedly
What happens with agreed trades if refinancing is subsequently regarded as failed or if the interest rate rises above the trigger level?	All agreed trades will be executed
What coupon will a bond have if refinancing fails several times in a row?	The bond coupon is maintained at the level at the first failed refinancing that triggered the extension

FAQ

Question	Answer
How large a proportion of a bond's principal will be extended in connection with an interest rate trigger?	Each day of a selling period is settled separately. This means that an executed sale on each day is final and will not be affected by a breach of the trigger rate. For example, if a mortgage bank has sold 80% of its bonds at a YTM below the trigger rate and yields subsequently rise to above the trigger rate and the bond maturity is extended, investors in the maturing bonds will have 80% of their holdings redeemed (ie cash payment) and 20% extended. The information on executed sales will appear on the issuer's website
Can a mortgage bank do anything to avoid an extension?	Yes, refinancing with shorter-term bonds can be applied. That can be attempted in the period up to the maturity date of the original bond
Will the new legislation affect the LCR classification of covered bonds?	No, the new legislation will not affect the LCR classification

APPENDIX 1

Failed refinancing trigger

- If a mortgage bank is unable to sell bonds at refinancing (Year 1), the maturity of the maturing bonds will be extended by 12 months
- The coupon of the extended bonds is dependent on the yield-to-maturity (YTM) achieved when refinancing similar bonds the previous year (Year 0)

Year 0		Year 1 – refinancing	Year 2
Bond maturity	Refinancing result		
$\leq$ 1Y	r_0 = YTM (1Y bond)	$Coupon_1 = r_0 + 500bp$	1) If auction fails: $Coupon_2 = coupon_1$ 2) If sale possible: r_2
$\leq$ 2Y*	r_0 = YTM (2Y bond)		
> 2Y	r_0 = YTM (1Y bond)		

r_i = YTM when refinancing year 1; $Coupon_1$ = Coupon year 1
NOTE: For bonds with maturity = 2Y, the basis for extending a bond is the YTM of a 2Y bond, whereas the basis for a bond with maturity > 2Y is the YTM of a 1Y bond.

- If a mortgage bank is still unable to sell the bonds the following year (Year 2), the maturity of the bonds will be extended by 1Y at a time until the mortgage bank is able to sell new bonds in the market
- The coupon rate will remain unchanged at $Coupon_1$ if further extensions are necessary
- However for floating-rate bonds*, the coupon after the extension will instead be the coupon rate at the last fixing plus 500bp. This new rate is fixed for 12 months
- If a mortgage bank is under resolution and the maturity is extended under the failed refinancing trigger, the coupon is fixed at a variable reference rate (for example 12M Cita) plus up to 500bp, for one year at a time

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*) From 1 January 2015

APPENDIX 1

Interest rate trigger

- For bonds with a maturity of up to and including 24 months an interest rate trigger is introduced*
- If the yield-to-maturity (YTM) at refinancing increases by more than 500bp (Year 1) compared with the previous refinancing (Year 0), the maturity of the bond will be extended by 12 months
- The bonds can only be extended due to interest rate increases once

Year 0		Year 1 interest rate increases	Year 2
Bond maturity	Refinancing result		
≤ 1Y ≤ 2Y	r_0 = YTM (1Y bond) r_0 = YTM (2Y bond)	$Coupon_1 = r_0 + 500bp$	r_2

- However, for floating-rate bonds with a maturity up to and including 24 months*, the yield may not be more than 500bp higher than at the last fixing. If triggered, the new coupon remains unchanged for 12 months or up until the next refinancing, unless the yield falls to a lower level at a new fixing within the 12 months.
- The floating rate bonds will be extended by 12 months if the coupon at refinancing is to be fixed above the previous fixing plus 500bp.

*) From 1 April 2014 only bonds with a maturity of up to and including 12 months. From 1 January 2015 all bonds that fund longer-term loans are included

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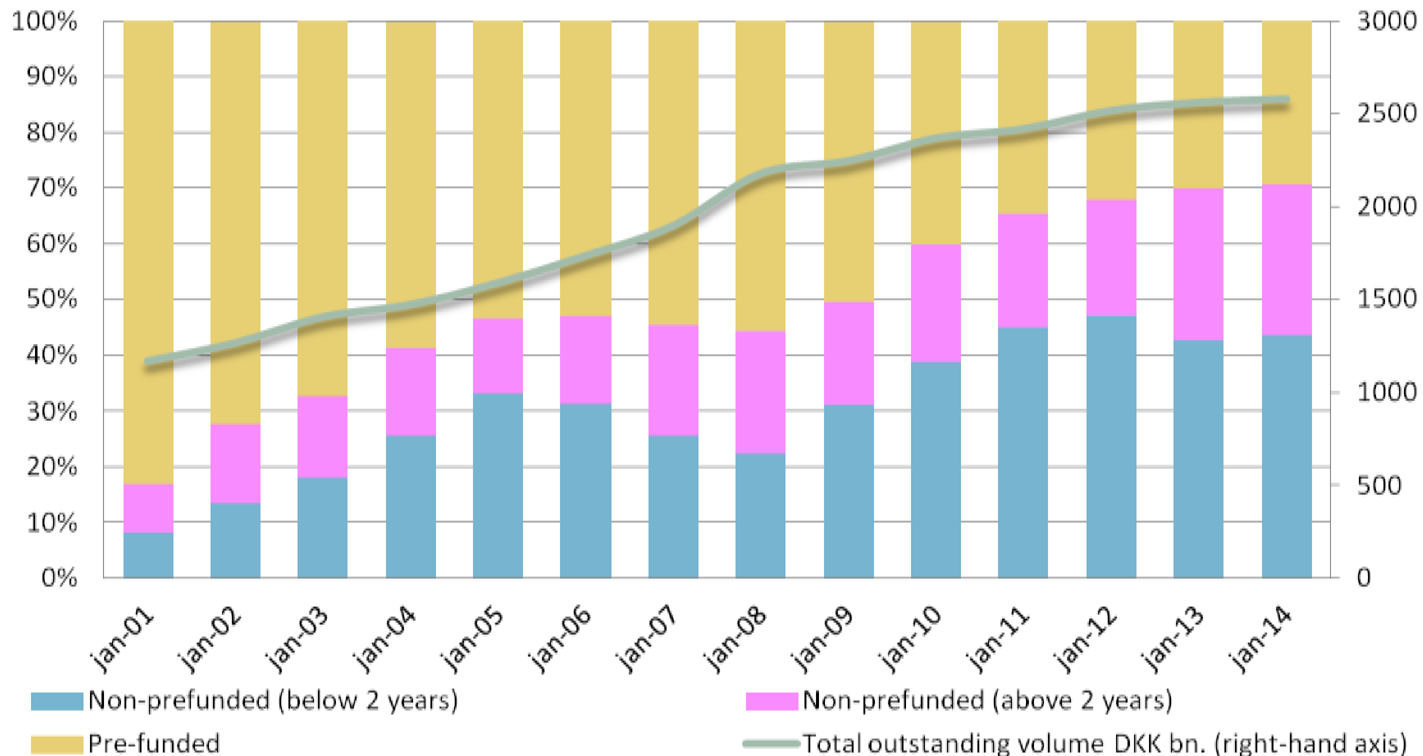
APPENDIX 2

Volume of non-prefunded loans

Due to the popularity of mortgage loans with loan terms longer than the maturity of the bonds funding the loans (non-prefunded loans), the Danish mortgage system was facing refinancing risk, as mortgage banks have to sell new bonds on an ongoing basis to fund existing loans.

The volume of non-prefunded loans amounts to around DKK 1,800 billion today.



Note: Mortgage loans broken down by pre-funded and non-prefunded on the left-hand axis. Total outstanding volume on the right-hand axis.

Source: Danmarks Nationalbank, Monetary Review, 1 Quarter 2014, "Maturity extension of mortgage bonds"

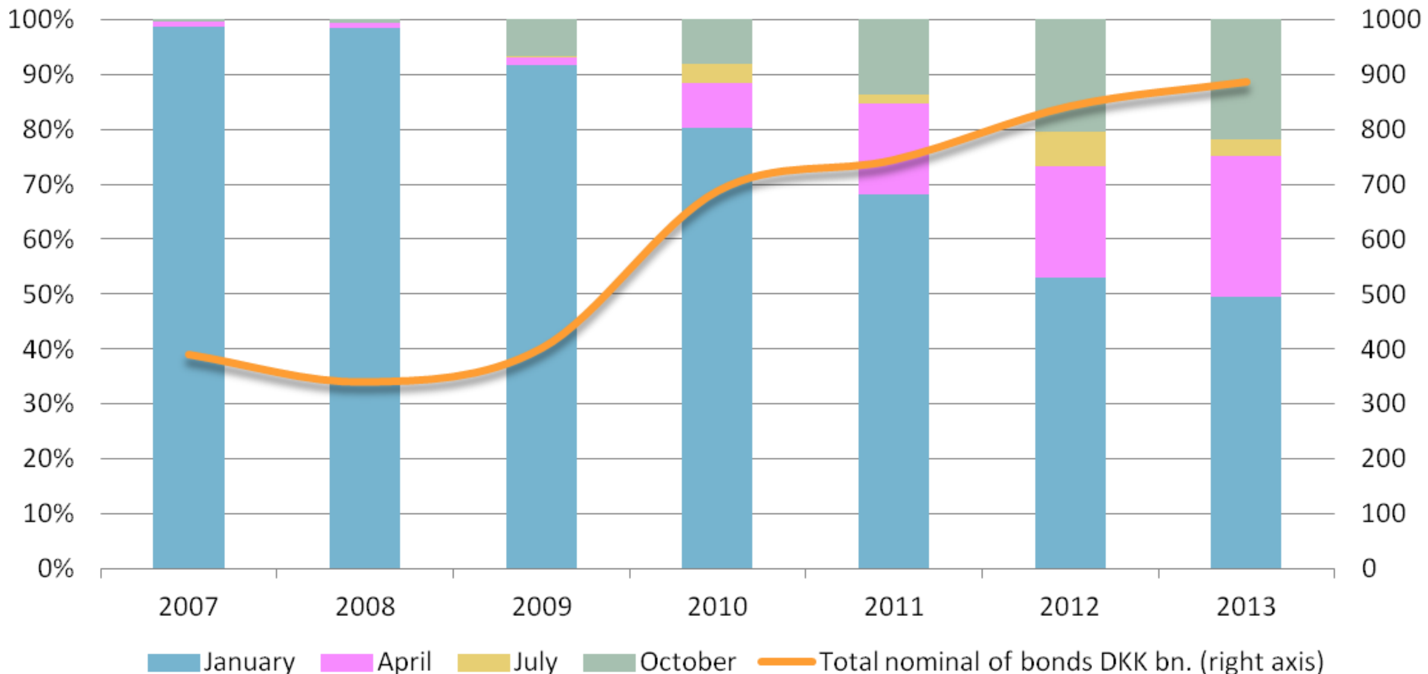
APPENDIX 3

Deconcentration of the refinancing of loans

Even though the amount of bonds sold at refinancing auctions has increased over the years, the financial crisis have demonstrated that covered bonds can be sold, even in times of great uncertainty.

Over the last few years, the sector has spread the refinancing from January to April, July and October as well. This has resulted in a more even distribution of the sale of the bonds funding adjustable-rate mortgage loans and floating-rate loans over the year and it has reduced the concentration of refinancing volumes.

Refinancing of loans



Source: Nordea

APPENDIX 4

Refinancing process in practice

The following is a description of the main principles for how a mortgage bank undertakes the sale of bonds to be refinanced. The process may vary from one mortgage bank to the next and from one bond to the next. It is customary among Danish mortgage banks to sell the largest ISINs on auction, while the remaining ISINs are either sold on auction or on tap.

- To fulfil the Liquidity Coverage Ratio (LCR) requirements, most mortgage banks schedule their sales so that all bonds are expected to be sold 30 days before the maturity date of the maturing bonds at the latest.
- A few weeks before the sale, the mortgage bank informs the market of the amounts offered in the individual ISINs, the scheduled dates of sale and the type of sale (auction, tap sale or otherwise).
- Before the sale commences, the mortgage bank informs the market of the trigger rates. The trigger rate is fixed at the yield-to-maturity (YTM) of corresponding bonds a year earlier plus 500bp. If the sale of new bonds results in a YTM above the trigger rate, the maturity of the maturing bonds is extended by 1 year and the coupon is fixed at the trigger rate.
- In the selling period, the mortgage bank must assess before each sale whether the bonds can be sold at a YTM below the trigger rate. If the mortgage bank has a reasonable expectation of selling the bonds at a YTM below the trigger rate on the relevant date the sale can be executed. If not, the sale must not be executed.
- If a mortgage bank is unable to sell the bonds offered before the maturing bonds mature, the refinancing is considered to have failed. In that case, the maturity of the maturing bonds will be extended by 1 year and the coupon will be fixed at the trigger rate.
- Each day of a selling period is settled separately. This means that an executed sale on each day is final and will not be affected by any failure to execute a sale at a later time or by a breach of the trigger rate.
- For example, if a mortgage bank has sold 80% of its bonds at a YTM below the trigger rate and yields subsequently rise to above the trigger rate and the bond maturity is extended, investors in the maturing bonds will have 80% of their holdings redeemed (i.e. cash payment) and 20% extended.

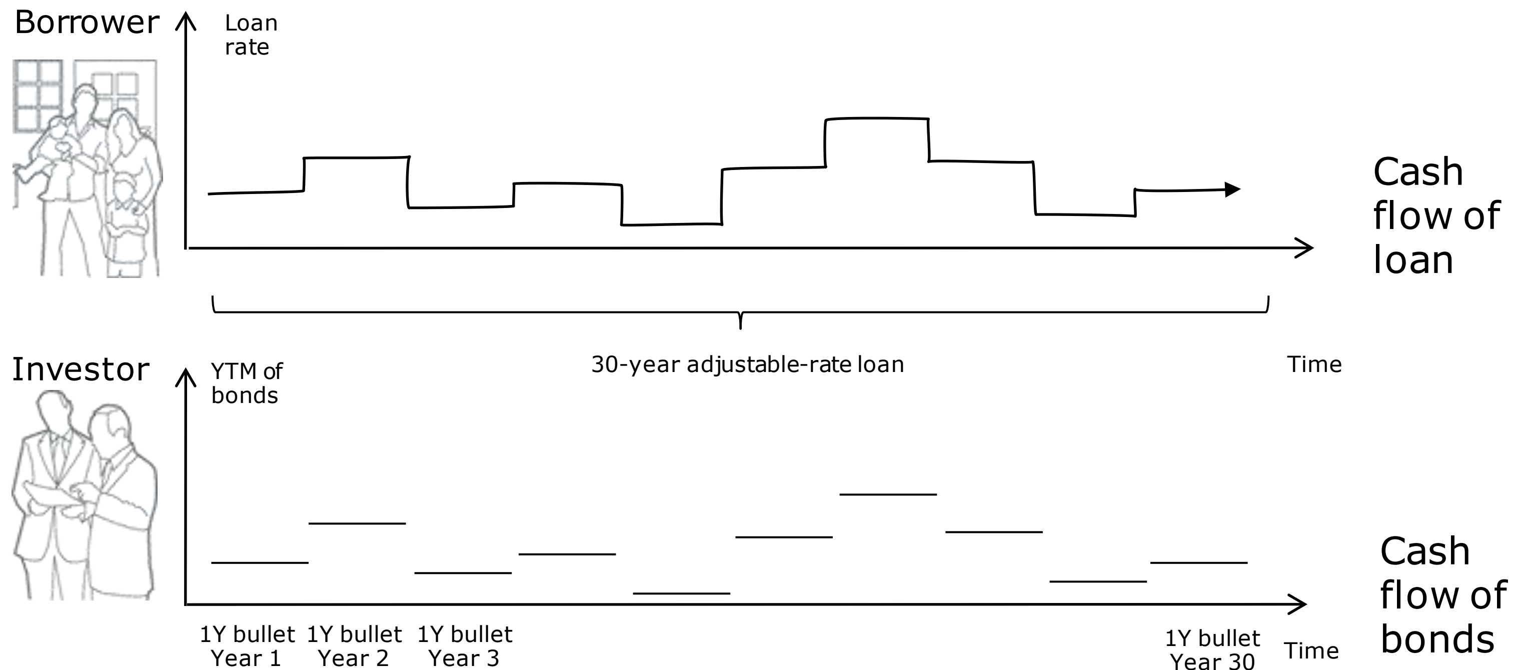
A similar method is applied to floating-rate bonds with the adjustments following from the special characteristics of this type of bond.

APPENDIX 5

The Danish mortgage model is unchanged

The Danish mortgage system is still based on the match funding principle (balance principle) applied to all loans. The loan type, repayment profile, term, interest rate and currency thus determine which bonds the mortgage banks will sell. The match funding principle eliminates mortgage banks' direct loss risk if market conditions change during the loan term. This is because the payments received by a mortgage bank from its borrowers correspond exactly to the payments it makes to the bondholders. Mortgage banks only incur a loss if a borrower fails to make interest and principal payments.

Example of the match-funding principle for adjustable-rate loans



The customer's interest reset period equals the maturity of the bonds issued to fund the loan.
At interest reset the loan rate is adjusted to the yield-to-maturity of the bonds sold for the purpose of refinancing plus a margin.

- The cash flow of the loan matches the cash flow of the bonds.

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More information

- Bill no. L 89 for an act to amend the Danish Mortgage-Credit Loans and Mortgage-Credit Bonds, etc. Act and the Danish Financial Business Act.
- Agreement to regulate refinancing risk.
- Amendments to Bill no. L 89.
- Act no. 244 of 19 March 2014 amending the Danish Mortgage-Credit Loans and Mortgage-Credit Bonds, etc. Act and the Danish Financial Business Act.
- Executive order no. 0251 of 19 March 2014 on refinancing of adjustable-rate mortgage loans.
- ”Maturity extension of mortgage bonds”, Danmarks Nationalbank Monetary Review, **1st Quarter 2014.**
- The Danish mortgage system:
  - The Association of Danish Mortgage Banks
  - Danish Mortgage Banks’ Federation
- The balance principle.

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