OLIVER WYMAN

THE DANISH MORTGAGE LENDING MODEL

KEY CONSIDERATIONS IF JOINING THE BANKING UNION

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1. EXECUTIVE SUMMARY

Denmark operates a unique mortgage lending model where the majority of home mortgage loans are funded through the issuance of matched covered bonds traded on capital markets. The model is considered by many to benefit consumers through transparency, cost effectiveness, non-discriminatory pricing, and providing access to capital markets for SMEs and households. Further, the ability to fix mortgage rates for up to 30 years allows consumers to insulate themselves from interest rate uncertainty.

The Danish covered bond market is significant, representing 18% of all European covered bonds[1,2]. Given the Danish economy is characterised by low government debt and heavy investment in pension funds, these covered bonds provide a key source of DKK denominated liquid assets for investment. Five institutions, known as Mortgage Credit Institutions (MCIs), issue these covered bonds and together with Danish banks function as the largest bond traders. This reliance on covered bonds as assets, plus the relative concentration in the market, creates a fine balance in the Danish economy. Given its size, value to the Danish economy, and systemic relevance, potential regulatory changes need to be carefully considered.

Given these factors, Danish national competent authorities (NCAs) have, to date, taken a tailored approach to supervision of MCIs where Denmark utilises a number of the options and discretions available under EU law. If Denmark were to join the Banking Union, MCIs would be directly supervised by the European Central Bank (ECB) and subject to resolution powers of the Single Resolution Board (SRB), in collaboration with the existing NCAs, Finanstilsynet and Finansiel Stabilitet. The Banking Union will create changes in the supervisory approach, resolution strategy, and could also impact the legal and accounting exemptions that are applied to MCIs in Denmark today.

There has been much debate in Denmark around the pros and cons of joining the Banking Union for consumers and financial institutions. This report seeks to better inform stakeholders in Denmark and Europe of potential challenges if Denmark chooses to join the Banking Union. It does not explore the many potential benefits of Banking Union and therefore does not add evidence to one side or the other of the debate on whether Denmark should join. Instead we outline risks to the current Danish mortgage lending system and associated implications for consumers, if Denmark chooses to join the Banking Union. We also provide recommendations to mitigate these risks, should Denmark want to maintain its current mortgage lending model and its associated benefits. Risks are classified into:

- **Risks that may disrupt the current Danish mortgage lending mode**l if not addressed prior to joining the Banking Union, e.g. leading to a transition to a more typical model with greater deposit funding
- **Risks that may reduce the benefits of the current Danish mortgage lending model** if not addressed, e.g. via increased cost in the current model to be passed on to consumers

The risks and associated recommendations are summarised in Table 1.

[1] Covered Bonds in the European Union: Harmonisation of legal frameworks and market behaviours. Final Report. European Union (2017).

[2] The majority of Danish covered bonds (88%) are issued in the local currency, Danish Krone (DKK), Source: Ibid

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If Denmark wants to maintain the current mortgage lending model, whilst enjoying the additional benefits of Banking Union, Danish authorities and politicians at an appropriate level should seek to mitigate these risks by securing the continuation and/or clarification of regulatory treatments identified together with EU institutions. If properly addressed, we estimate the residual impact of these risks could be relatively low for MCIs and consumers. Note, however, that it is not likely that the ECB will provide any written guarantee on maintenance of certain regulatory treatments in the Banking Union.

However, if the more disruptive risks outlined are not mitigated, they could lead to a breakdown of the current match funded mortgage lending model, e.g. via transition to a universal bank model seen in other Nordic countries. The scale and speed of this transition could be significant and, if not managed carefully, costly for Danish consumers. These risks include substantial changes to market valuation practices, or a shortage of appropriate currency-matched liquid assets to meet supervisory requirements.

Table 1: Summary of recommendations and associated risks addressed

CATEGORY	SUMMARY RECOMMENDATIONS	RISKS ADRESSED
A. Prevent disruption of model	1. Danish authorities and politicians at an appropriate level should seek continuation and/or clarification of regulatory treatments, including:	
	– (i) The intended accounting treatment for asset / liabilities to ensure that more volatile and / or conservative valuation is avoided	• More volatile or conservative valuation of assets and liabilities of MCIs – also limiting the use of covered bonds for market making
	– (ii) The treatment of covered bonds under large exposure regime	• Stricter large exposures regulation limiting the ability to use covered bonds in e.g. liquidity portfolios and for market making
	– (iii) The resolution approach and whether covered bonds can be fully protected from bail-in	• Potential negative impact on covered bond rating assessment of SRB resolution strategies, e.g. that may lead to bail-in of covered bonds
B. Minimise adverse impact on benefits of model	2. Work closely with the ECB to ensure refinancing risk in a crisis scenario is assessed and adequately addressed. Banks and public authorities should perform a detailed assessment of the MCIs being subject to MREL using internal data.	• Refinancing risk in a crisis scenario due to cyclical and higher MREL requirements and associated costs
	3. Prepare for supervisory transition – (i) Engage with the ECB to inform supervisors on details of the MCI model – (i) Agree sufficiently long transition periods, allowing time for changes to capital and other resources and adjustment to new supervisory approaches – (iii) Run fire-drill exercises to prepare, e.g. an advance min Asset Quality Review	• Costly transition of supervisory approach

2. INTRODUCTION AND SCOPE

Denmark has, for a number of years, engaged in a national debate around whether to join the Banking Union (BU) in the European Union. The BU aims to create a safer financial sector in the single market through centralising prudential supervision and the planning and executing of resolution strategies for financial institutions across Europe, in collaboration with local authorities.

To date, a decision has not been made although a formal report on the topic is expected in 2019. There has been much debate in Denmark around the pros and cons of joining the Banking Union, with proponents citing financial stability as the key benefit[3]. This report, will however, not look to add evidence to one side or the other of this discussion. Rather, we outline potential challenges if Denmark chooses to join the BU, with reference to the Danish mortgage lending model. The model is unique in Europe as it is based on 'match funding' where cash flows from covered bonds are matched with the underlying mortgage loans, enabling some key consumer benefits such as pricing transparency, pre-payment optionality at lower costs and long term fixed interest rates (further described in Sections 4.1 and 4.2) . As of end 2018, 75% of all lending to households and non-financial corporations in Denmark are originated by a mortgage credit institution, a specialist institution that must not take deposits[4].

This analysis looks to inform stakeholders in Denmark and Europe on the key impacts that joining the Banking Union may have on the Danish mortgage lending model and the market for mortgage loans, and to support negotiations, through outlining appropriate mitigants Denmark could take to protect the Danish mortgage lending model as it currently functions. It is not an exhaustive list of impacts, but a curated list consisting of the obvious shifts in supervisory approach, coupled with the most notable deviations from standard EU treatment that could be scrutinised in the transition.

To inform this report we conducted a series of interviews with over 20 stakeholders across the public and private sector in Denmark. The analysis presented is an outside-in perspective using publicly available data and information to illustrate key concepts.

This report was commissioned by Forenet Kredit, the principal shareholder of Nykredit Group A/S (with 78.9% ownership[5]), the leading mortgage provider in Denmark. Oliver Wyman has retained full editorial independence in drafting the report and undertaking the analysis contained within.

[3] http://www.nationalbanken.dk/en/publications/themes/Pages/The-banking-union---in-brief.aspx

[4] Danmark Nationalbank, Oliver Wyman analysis

[5] https://www.nykredit.com/en-gb/om-os/organisation/

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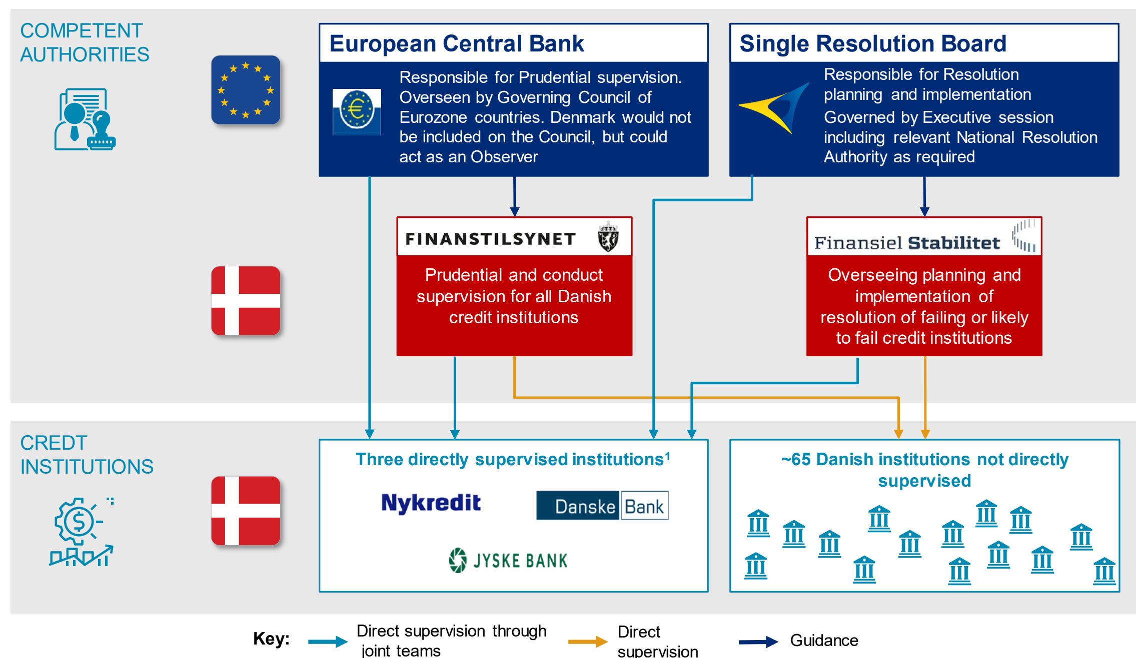
3. THE BANKING UNION

The Banking Union is designed to ensure that EU banks are stronger and better supervised[6], driving harmonisation in supervisory approach and creating a level playing field[7]. It oversees financial institutions in the Eurozone, but non-Euro countries can also join. While this has not happened to date, Bulgaria is seeking to join and going through the initial assessments required. The two pillars of the Banking Union are:

- **The Single Supervisory Mechanism**, overseen by the European Central Bank (ECB) and the national supervisory authorities, provides supervision and defines common standards for financial institutions.
- **The Single Resolution Mechanism**, overseen by the Single Resolution Board (SRB) and national resolution authorities manages financial institutions that are failing or likely to fail to ensure they do not harm the broader economy or cause financial instability. The SRM also undertakes the planning needed to prepare for failure.

The ECB and SRB directly supervise significant institutions and provide guidance to national authorities in supervising the remaining institutions in each country. Four of the five Danish MCIs are within institutions that would be subject to direct prudential supervision by the ECB and SRB based on their scale (see Figure 1).

Figure 1: Potential future state regulation and supervision of Danish mortgage credit institutions under Banking Union



1: Nordea would also be above the threshold to be directly supervised, but is already directly supervised in Finland through Nordea Abp

[6] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/banking-union_en
[7] https://www.bankingsupervision.europa.eu/about/mission-statement/the-strategic-intents/html/index.en.html

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Joining Banking Union could bring about changes in:

- **Supervisory approach for MCIs** – ECB would be responsible for prudential supervision of the three systemic banks. As context, the ECB already supervises 119 banks across Europe[8]. This will be in collaboration with the NCA, Finanstilsynet, in Joint Supervisory Teams
- **Resolution strategy** – SRB would be responsible for defining and implementing credible and feasible resolution strategies, in collaboration with the National Resolution Authority, Finansiel Stabilitet
- **Specific regulatory, supervisory and accounting approaches** that have been taken by Danish competent authorities, may be questioned and come under pressure to harmonise with other countries from ECB and SRB

Denmark, as a non-Euro country, will be excluded from joining the Governing Council of the ECB. This has caused some concern in Denmark that supervisory decisions about Danish entities will be taken without the opportunity for intervention. However, the ECB have established a Board of Review which allows any natural person or supervised entity to request a review of a decision[9].

4. CURRENT STATE

4.1. THE DANISH COVERED BOND MORTGAGE LENDING SYSTEM

Most of mortgage lending financed by covered bonds in Denmark is provided by a specialist institution, called a Mortgage Credit Institution (MCI), which do not provide other financial products and are not allowed to hold customer deposits.

The Danish MCI mortgage lending system matches the terms of each mortgage loan with a bond of equal terms on interest rate (length of fixing), currency and optionality to prepay – this framework is often referred to as 'match funding'. The covered bond, which is fully secured against the value of the property is a popular asset for investors, including pension funds and banks (see Figure 2 below). It is typically highly rated and by investors considered to be an effective proxy for Danish government bonds. Hence, the Danish covered bond market is of systemic importance to the Danish economy (see Section 4.3 for further detail).

MCI mortgage loans are available as fixed rate mortgages, with the interest rate fixed for the lifetime of the mortgage, variable rate mortgages, with the interest rate fixed periodically for a specific time horizon, or floating rate mortgages, predominantly denominated in DKK or EUR, with the interest rate fixed to benchmark interest rates such as the Copenhagen Interbank Offered Rate (CIBOR).

[8] List of supervised entities (2019). European Central Bank. Accessed from https://www.bankingsupervision.europa.eu/press/pr/date/2018/html/ssm.pr181214.en.html on 25th September 2019

[9] Guide to Banking Supervision. European Central Bank (2014)

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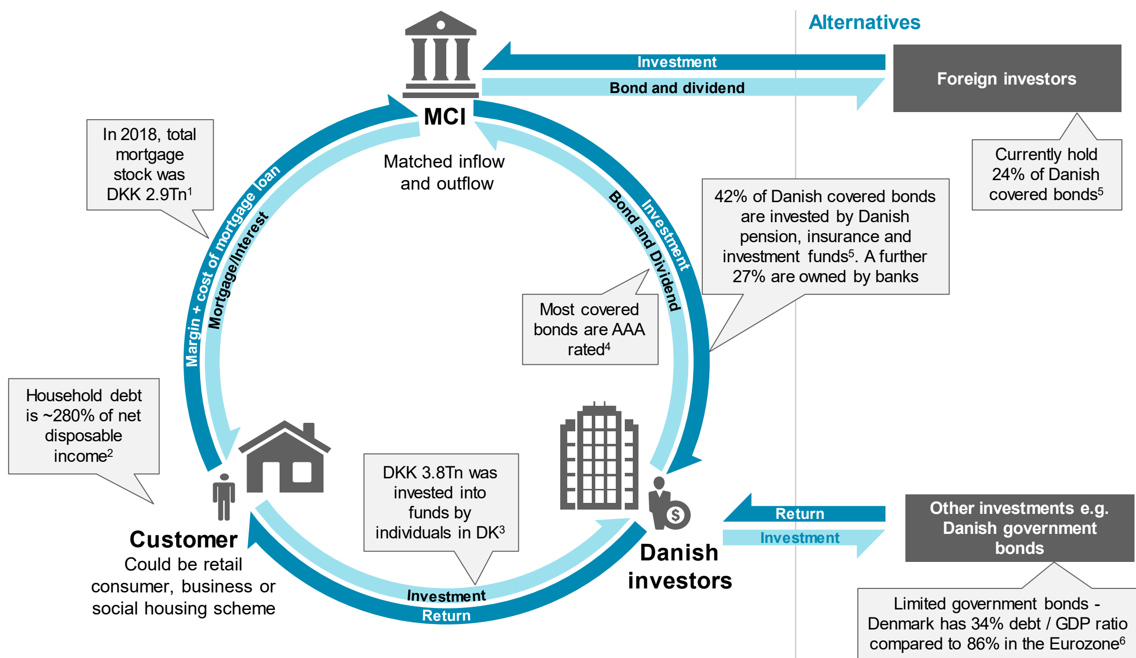
Figure 2: Illustration of the Danish covered bond mortgage lending ecosystem



Sources - 1: A review of Europe's mortgage and housing markets, European Mortgage Federation. Hypostat (September 2019). 2: OECD. 3: Danmarks Nationalbank. Includes Investment fund shares, life insurance and annuity entitlement and pension entitlements. 4: Danish Covered Bonds 2019. Nykredit. 5: Nykredit Investor presentation 2019. 6: Eurostat.

Since 2007 commercial banks have also been allowed to grant mortgage loans financed by covered bonds[10], although MCIs still grant the vast majority of these mortgage loans. This specialist institution model means MCIs have balance sheets almost entirely consisting of the mortgage loans and their associated covered bonds (see Figure 3). Danish MCIs are well capitalised compared to other institutions in Europe, with the average capital ratio being 23.5% in Danish MCIs[11] compared to 14.0% across Europe in 2017[12]. Mortgage loans are grouped together into pooled structures called capital centres which are sufficiently capitalised to allow them to be managed independently in the event of a crisis, reducing the likelihood of contagion.

[10] ECBC: European Covered Bond Fact Book 2019. European Mortgage Federation (14th Edition, August 2019)
[11] Annual reports, Oliver Wyman analysis
[12] 2018 EU-Wide Stress Test results, 2 November 2018

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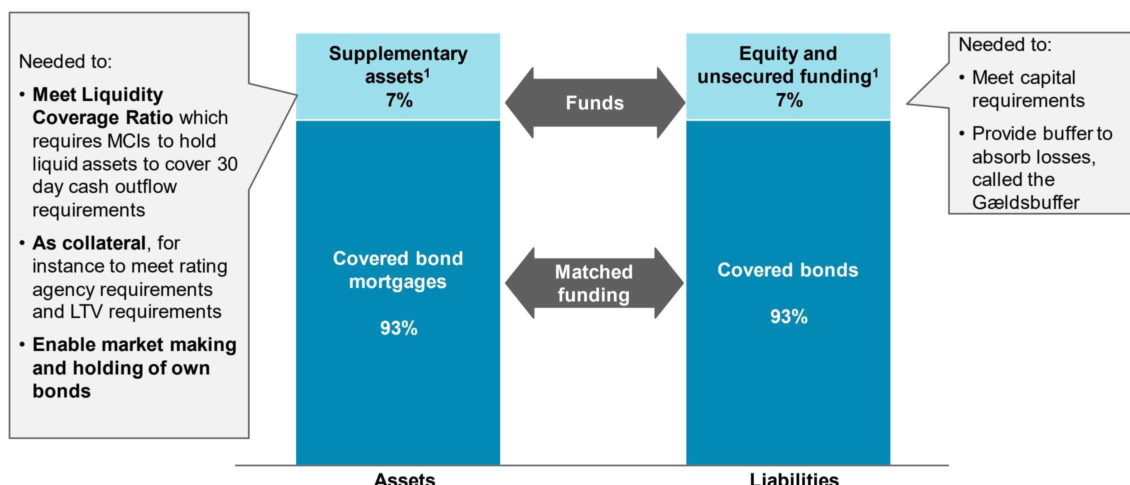
Figure 3: Stylised balance sheet depicting assets and liabilities across five Danish MCIs (2018)



Sources: Annual reports, Oliver Wyman analysis. 1: Including other loans (1.1%) and bonds (1.1%)

The matching of the bond and loan cash flows is referred to as 'match funding' and more formally called the 'Balance Principle' or 'Strict Balance Principle'. Match funding, and the subsequent strict constraints placed by Danish authorities on MCIs as covered bonds issuers, are what separates Danish covered bonds from other covered bonds issued elsewhere in the EU. Match funding limits some key market risks for the MCI, notably interest rate, foreign exchange and liquidity risk.

Mortgage lending customers are charged a margin over the cost of the bond to cover the remaining credit risk that the MCI holds, administration costs as well as a profit margin. The transparent approach to pricing seen in Danish match funded mortgage loans, based on the funding price plus a margin, is common in corporate lending in other markets, but rare in household lending and lending to small and medium sized companies elsewhere in Europe.

4.2. BENEFITS OF THE COVERED BOND MORTGAGE LENDING MODEL

Although standard commercial bank deposit funded mortgage lending is also available to Danish consumers, most mortgage loans are based on MCI mortgage lending[13]. This can be attributed to historical preference as well as key benefits for consumers around transparency, optionality around pre-payment, and cost effectiveness (see Table 2). Figure 4 demonstrates that, when compared to other countries, consumers in Denmark benefit from more cost-effective mortgages, a conclusion supported by a more detailed analysis by Deloitte in 2018[14].

[13] Danmark Nationalbank, Oliver Wyman analysis

[14] Komparativ analyse of boligfinansiering I udvalgte lande, Deloitte (December 2018)

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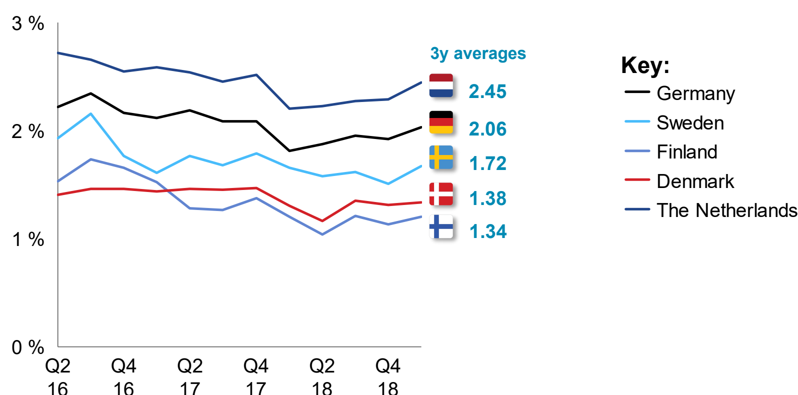
Table 2: Key benefits for consumers from MCI mortgage lending

BENEFIT	DESCRIPTION
Transparency of costs	• MCI mortgage lending provides transparency to consumers around the cost of their mortgage loan, which is simply the observable market rate for the covered bond, plus a margin for the MCI. Costs can be benchmarked in the market. • Changes in MCI costs are passed to mortgage loan holders through the margin. The margin for both new and existing customers can be increased by the MCI with 6 months' notice; increases are subject to oversight by the Finanstilsynet.
Pre-payment optionality at low cost	• MCI mortgage loan holders may terminate their loans by buying back the covered bonds matching their loans in the market and delivering them to their MCI. This applies to all mortgage loans irrespective of the bonds being callable or non-callable (free of charge[15]) • In addition, those loans that are funded by callable bonds have an embedded quarterly call option, allowing consumers to redeem outstanding debt at par or at the market price of the bond (whichever is lower, free of charge)
Cost effectiveness	• The matched funding structure limits the risk taken by the covered bonds issuer, reducing the cost the MCI charges to consumers • Transparency and ease of pre-payment mean individual MCIs (or commercial banks offering mortgage lending) have little pricing power • On average and relative to select other EU countries, mortgage lending costs are amongst the lowest observed (see Figure 4)
Product range	• Product range includes unusual long-term fixed rate mortgages, up to 30 years

Figure 4: Historical mortgage lending spread for mortgage loans over a 5y fixed period in Denmark and other European countries (Q2 2016 - Q1 2019)



Sources: Datastream from Refinitiv, Quarterly Review of European Mortgage Markets (Q1 2019). Medium term variable rate (1-5y fixed) mortgage spread, calculated as 1-5y fixed rate mortgage over the respective 5yr sovereign bond. Note that the volumes of mortgage loans for these maturities differ by geography, e.g. in Finland the vast majority of interest rates are floating, 4-7% are in the bucket 1-5y as displayed in this graph. Also the average LTV differs among geographies, reducing comparability.

There are perceived benefits from the model for Danish society more broadly. All consumers, provided they meet minimum affordability criteria, who are buying property of the same value and with the same loan-to-value (LTV) percentage, will pay the same cost for a mortgage loan irrespective of other factors, such as being an existing customer or taking other products. In other words, the individual creditworthiness of the consumer does not affect the price they pay for the mortgage loan, given they fulfil the minimum requirements to take a loan. This non-discriminatory pricing is vulnerable to disruption however; if the most creditworthy consumers are offered more

[15] A small administrative fee or trading fee may apply but generally no penalties are applied on pre-payments

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beneficial pricing and chose not to support the traditional model, the cost of a mortgage loan will increase for the remaining consumers.

The capital centre structure of an MCI, grouping a range of mortgage loans and issuing covered bonds for the group, provides mutualisation in accessing funding. Both residential and commercial property can be bundled into the same capital centre, providing businesses with greater access to funding from capital markets (through bond issuance), from bundling with relatively secure residential mortgage loans.

The system also provides access to reasonably priced funding for social housing schemes, which are prevalent in Denmark, contributing to around 21% of housing[16]. This lending is also now subject to a full state guarantee.

Further, the system has historically had low default and loss rates, reducing costs for all consumers. There are several mechanisms that form part of the broader Danish mortgage lending model that have been developed to this effect. These are interconnected and jointly provide for an efficient system that is not easily replicable. As an example, MCIs commit to providing credit for a 30-year period and manage their customers closely to avoid default where possible. Efficient land registration and foreclosure systems further help limit default and loss rates. Loss given default is also low as MCIs have recourse to claim lost interest payments from the sale of assets, not just the principal amount. If the compulsory sale does not fully satisfy the creditor’s claim, the creditor may file an unsecured claim against the debtor, who becomes personally liable for the amount.

4.3. ROLE OF THE COVERED BOND MORTGAGE LENDING SYSTEM IN THE DANISH ECONOMY

The top four largest banks in Denmark, representing 84% of the total banking assets in Denmark, each contain an MCI (see Figure 5)[17]. MCIs hold DKK 2.9Tn of Danish mortgages[18] and 75% of total lending to households and non-financial corporations in Denmark are from MCIs[19].

The size of these institutions and the critical role they play in the Danish economy leads to them being classified as Systemically Important Financial Institutions, or SIFIs, by Finanstilsynet based on whether they meet at least one of three quantitative criteria in two consecutive years[20]:

- Balance sheet is greater than 6.5% of GDP
- Lending is greater than 5% of the total sector
- Deposits are greater than 5% of the total sector

SIFIs are subject to additional scrutiny and required to hold an additional SIFI capital buffer of 1-3% of their risk weighted assets. The European Central Bank (ECB) also have criteria for identifying SIFIs, based on size, economic importance, cross-border activities and direct public financial assistance. Under these rules, four of the largest banks in Denmark, which each contain an MCI, would be classified as significant.

[16] The state of Housing in the EU. A Housing Europe Review (2017)
[17] Annual reports, Oliver Wyman analysis
[18] Annual reports, Oliver Wyman analysis
[19] Danmark Nationalbank, Oliver Wyman analysis
[20] http://www.nationalbanken.dk/en/financialstability/danish_financial_sector/Pages/Default.aspx

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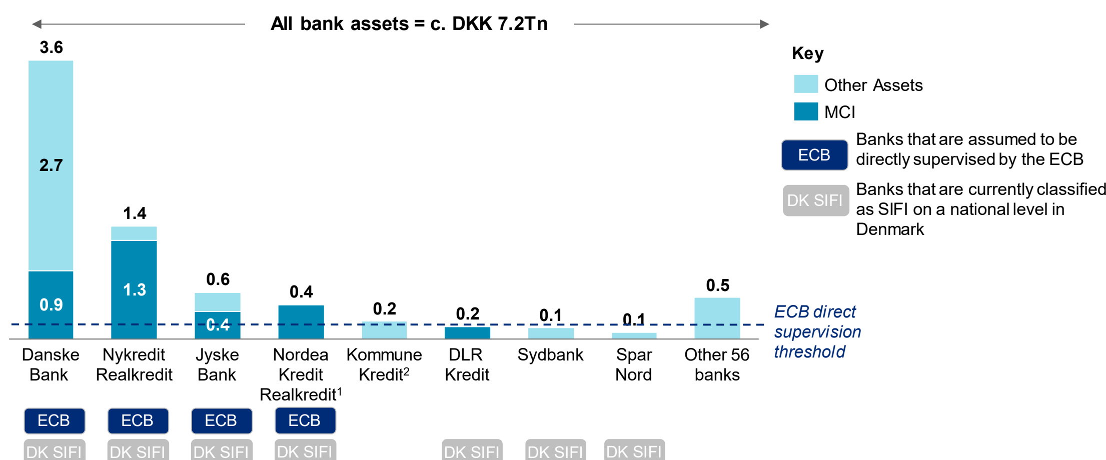
Figure 5: Largest players and SIFI status (2018, DKK Tn)



Sources: Annual Reports, Danmark Nationalbank, Oliver Wyman analysis. 1: Nordea Kredit MCI already supervised by ECB through Nordea Abp, based in Finland. 2: KommuneKredit excluded from CRD (Art. 2, 5(5)).

Similarly, MCIs and the Danish covered bonds are systemic for the investor community. Danish covered bonds are highly rated, almost all with AAA rating, due to their high level of security and over-collateralisation. They are therefore considered by investors to be an effective proxy for Danish government-issued bonds. This approach is key to the Danish economy, where government debt is relatively low with a debt/GDP ratio of 34% compared to 86% in Eurozone countries[21]. Around 75% of covered bond investors are domestic[22], reflecting the importance of these bonds in this domestically-focused economy.

4.4. CURRENT STATE REGULATION AND SUPERVISION OF COVERED BOND MORTGAGE LENDING

Regulatory and supervisory framework in Denmark

In the current state, Danish MCIs are subject to EU legislation, through:

- Regulations, which are binding legislative acts applied in their entirety across the EU;
- Directives, which are legislative acts that set out a goal that all EU countries must achieve, and individual countries draft their own laws to achieve this goal;
- Regulatory technical standards (RTS) and implementing technical standards (ITS), which are binding legislation that is prepared by European Supervisory Authorities (ESA), such as the European Banking Authority;
- Guidelines as non-binding guidance on how to interpret the legal framework, also produced by ESAs.

Key directives and regulations impacting Danish MCIs are listed in Table 3. Danish legislative and executive bodies, including the government and parliament, are responsible for transposing EU law into Danish law. During this process, Denmark has much greater discretion in how they implement

[21] Eurostat
[22] Nykredit Investor Presentation 2019

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directives than regulations, although some regulations also have a set of clearly defined elective options and discretions that can be taken during transposition.

Table 3: Key EU law that relates to MCIs and MCI mortgage lending

EU LAW	SHORTHAND	REGULATION OR DIRECTIVE?	KEY ELEMENTS RELATING TO CBM AND MCI	DANISH IMPLEMENTATION
Capital Requirements Regulation and Directive	CRR / CRD	Regulation / Directive	• How risks should be accounted for • Related capital requirements • Other requirements, including liquidity and large exposures	Danish Financial Business Act Executive orders, guidelines and decisions from Finanstilsynet
Bank Recovery and Resolution Directive	BRRD	Directive	• Requirements for resolution • Minimum Requirement on Own Funds and Eligible Liabilities (MREL)	Act on Restructuring and Resolution of Certain Financial Enterprises 2015 Several amendments to Financial Business Act and Mortgage Credit Act 2015
Liquidity Coverage Requirement Regulation	LCR Regulation	Delegated Regulation from CRR	• Liquidity requirements and calculation of the liquidity coverage requirement • Treatment of covered bonds is close to equivalent to government bonds in liquidity terms	Memos from the Finanstilsynet on the existing model and the upcoming model (pillar 2 requirements)
Covered Bond Directive	CBD	Directive	• Common legal framework for covered bonds across EU, includes a 2% over-collateralisation requirement	*Not yet transposed into Danish legislation*

In addition to EU legislation, Denmark has local laws which relate specifically to the covered bond mortgage lending and MCI, notably the Danish Mortgage Law[23], which outlines the terms of MCI mortgage lending, and Danish Financial Business Act[24], which describes the services an MCI is legally allowed to provide.

EU and Danish law are interpreted in the local context by the Danish competent authorities, who are legally responsible for monitoring compliance with the legislation. The Danish Financial Services supervisor, Finanstilsynet, are responsible for prudential and conduct supervision of all Danish credit institutions and investment firms. The Danish Resolution Authority, Finansiel Stabilitet, contribute to ensuring financial stability in Denmark by executing the resolution of failing financial enterprises when they are deemed to be unable to go through insolvency proceedings.

Applying this framework to MCIs

Reflecting the systemic nature of the MCI mortgage lending model to the Danish economy, local regulators have taken a pragmatic approach to transposing EU law that relates to MCIs and MCI mortgage lending into local law, arguing for and implementing a number of options and discretions.

[23] Mortgage-Credit Loans and Mortgage-Credit Bonds etc. Act. Consolidating Act no. 1188 of 19 September 2018
[24] Financial Business Act. Consolidated Act no. 937 of 6 September 2019

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The options and discretions taken broadly reflect allowances in the prudential and resolution treatment of MCIs based on the balance principle employed in the MCI business model.

In particular, Denmark employed 29 options and discretions in CRR relating to the use of financial resources (see Table 4). This is not unusual, with many other countries, including those already part of the Banking Union, also utilising this level of discretion. However, the particular exemptions taken are not widely used by comparison countries and directly relate to the mortgage lending market. If there was greater pressure to harmonise, especially in the drafting of subsequent versions of EU law, there is a fear that this could be particularly damaging to the mortgage model and market.

Table 4: CRR / CRD options and discretions exercised[25]

COUNTRY	NUMBER OF OPTIONS AND DISCRETIONS USED IN CRR AND CRD (%)
Denmark	29 (45%)
Sweden	36 (55%)
Germany	34 (52%)
Finland	28 (43%)
SSM average	**36 (55%)**
EU average	**35 (52%)**

In some cases, to counterbalance these exemptions, Danish regulators have implemented additional national standards on mortgage lending providers and the covered bonds. In particular, financial groups are excluded from holding minimum requirement for own funds and eligible liabilities for the MCI, the so called MREL-requirement. Instead the Danish regulators have implemented an additional requirement, known as the Gaeldsbuffer (see Resolution strategy, page 20). Further, to counterbalance an exemption in the calculation of the Liquidity Coverage Ratio (LCR) based on the interdependent assets and liabilities in the covered bond mortgages, the Finanstilsynet has implemented an additional requirement for MCIs to hold a stock of liquid assets equal to 2.5% of mortgage loans, which goes beyond equivalent liquidity requirements in European legislation.

Danish regulators have also complemented EU law with additional local law to cover the details of the Danish approach to mortgage loans where not detailed by EU law. For instance, the Danish Mortgage Law describes the various requirements on MCIs, including[26]:

A. The terms of the Balance Principle
B. Term and repayment profiles, LTV limits
C. Valuation requirements

Similarly, amendments to the Financial Business Act in 2014 have reduced the tail risk of refinancing short term covered bonds by imposing an automatic extension in case of a refinancing failure. The Finanstilsynet also allow 100% reduction of CRR-compliant covered bonds in the calculation of large exposures, whereas the ECB apply an 80% reduction.

[25] Overview of options and discretions set out in Directive 2013/36/EY and Regulation (EU) 0 575/2013. Available from https://eba.europa.eu/supervisory-convergence/supervisory-disclosure/options-and-national-discretions. Accessed September 2019

[26] Mortgage-Credit Loans and Mortgage-Credit Bonds etc. Act. Consolidating Act no. 959 of 21 August 2015

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In addition to this Danish regulation, the supervisors have implemented additional soft standards the MCIs must meet or face further scrutiny. The five additional standards are contained in what is referred to as 'the Supervisory Diamond'. These standards were implemented in response to the spike in interest-only mortgage loans post-recession, and cover lending growth, debtor's interest rate risk, interest-only loans, limitation of loans with short-term funding and concentration risk[27]. A number of macroprudential measures have also been taken to address risks in the residential real estate market over recent years, affecting the MCIs. This includes for example new guidelines for lending in growth areas, requirements on 5% down payment and new guidelines for lending to households with high loan-to-income (LTI). Additional requirements, such as rules on good practice, 'god skik', are also placed on MCIs.

5. IMPACT OF JOINING THE BANKING UNION ON MCIS AND THE DANISH FINANCIAL SYSTEM

As Denmark debates joining the Banking Union, we have considered the potential impact on MCIs from shifts in supervisory approach, as well as the most notable deviations from standard EU treatment that could be scrutinised in the transition. It follows that any impact on MCIs from joining the Banking Union could also impact consumers, both retail and corporate, that access capital markets funding for mortgages through the MCI, and the wider economy that relies on the covered bonds as a source of liquid assets.

Overall, we see that in the least disruptive scenario based on the current regulatory environment and where Denmark follows the recommendations in Table 5 below, the impact on MCI financial resources is relatively minor. Challenges will, however, exist around adjusting to the supervisory approach of the ECB and SRB. This mirrors the experience of Nordea, a Nordic bank who recently completed the first phase of joining the Banking Union, known as the Comprehensive Assessment, and will be subject to ongoing scrutiny as a supervised entity and are expected to remediate deficiencies in policies, processes and weaknesses in data systems[28]. Nordea is the most appropriate comparison point within the Banking Union as it includes an MCI, but as recent joiners, the full impact of Banking Union supervision is unlikely to yet have been realised. Nordea also have a more universal banking model than other MCI groups based in Denmark, so there may be additional considerations in joining the Banking Union for more specialist Danish MCIs.

A potentially more impactful outcome for consumers would come from the interaction of the Banking Union with future changes in the regulatory environment (e.g. introduction of Basel IV) and more extreme scenarios of impact. Avoiding these outcomes will require significant and continued discussion before joining the Banking Union.

[27] Mortgage Credit Institutions. Market Developments in 2018. Finanstilsynet

[28] Final disclosure of Comprehensive Assessment results for Nordea Group Abp. Available from https://www.bankingsupervision.europa.eu/press/pr/date/2019/html/ssm.pr190718~e33f6e4fe2.en.html. Accessed October 2019

Table 5: Impact on MCIs and the Danish financial system from four issues raised by Denmark joining the Banking Union

ISSUE	EFFECT	SIZE OF IMPACT	RECOMMENDATION
Market valuation	ECB could choose to challenge the interpretation of the fair value option that MCIs take for valuing assets and liabilities by requiring adding reserves and capital in the form of Additional Valuation Adjustments or by requiring changes to the provisioning approach. Under this pressure, MCIs could choose to switch to amortised cost method for mortgage loans and bonds.	Requiring EU average AVA was added would cost DKK 1.2Bn additional capital across the industry. Amortised costs will create volatility in the profit and loss statement. In the last 3 years bond price changes would have affected the pre-tax profit by 5-50%. This in turn could make it untenable for MCIs and banks to play the role of market maker and issuer, challenging the mortgage lending model	Denmark should agree the intended accounting treatment with the ECB before joining the Banking Union to ensure potentially significant impact is avoided and enough time is available to, clarify or adjust regulatory technical standards as required.
Resolution strategy	SRB will set the preferred resolution strategy and could choose bail-in of the Group to absorb losses and recapitalise, or a combination of tools. In preparation for a bail-in scenario, SRB could require MREL is held for the MCI and covered bonds could become bail-in-able. In preparation for a strategy using a combination of tools, MCI will need to evidence separability.	Given the 8% TLOF[29] requirement, SRB MREL requirement does not become the binding requirement for the MCI alone under current circumstances, although it is binding at the Group level. The SRB MREL definition will exacerbate the impact of Basel IV when introduced. If a combination of tools is preferred, MCIs may be asked to increase separability, which could involve substantial cost and upheaval, e.g. for IT systems. If covered bonds become bail-in-able this can be seen as negative for the rating and be disruptive for both for borrowers and investors.	Denmark should try to clarify the resolution approach and start preparing (whether that is preparing to hold MREL or create separability of organisations). Denmark should attempt to maintain the full exemption for bail-in for covered bonds and attempt to negotiate transition periods that allow operational or structural changes if needed.
Refinancing risk	In a crisis, MREL capital and supplementary asset needs will increase. Assuming SRB require their methodology for calculating MREL, which is more risk sensitive, this could exacerbate the refinancing needs of MCIs. Danish MCIs and banks have substantial cross-holdings in CBs, which are predicated on an exemption in CRR. This creates concentration risk and the ECB may require holdings be diversified, although other DKK assets are scarce.	In a crisis scenario additional MREL requirements for the MCI are not binding given the higher 8% TLOF requirement. It will create additional requirements when considered at the Group level. In a Basel IV scenario, risk sensitivity will increase MREL needs. These additional resources are enough to cover the supplementary asset requirements – however significantly increasing the refinancing risk. Any interference limiting the cross-holdings in covered bonds leads to a weaker CB market potentially having a negative impact on the mortgage lending system.	Due to the highly inter-related nature of the DKK-denominated market and systemic importance, Denmark should work closely with ECB and SRB to ensure that the tools that are used to supervise universal banks do not create outcomes that inadvertently make the MCI model untenable.
Supervisory transition	Transition to Banking Union requires completion of the Comprehensive Assessment and subsequent remediation work. ECB direct supervision likely to increase scrutiny of data and capital models.	Significant shift in supervisory style incurring additional cost for MCIs, but comparatively relatively small financial impact across the industry.	Denmark should engage with the ECB to inform supervisors on details of the MCI model and undertake an advance mini Asset Quality Review to inform the MCIs of the areas where remediation is needed

[29] TLOF: Total Liabilities and Own Funds

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5.1. MARKET VALUATION

Use of the fair value option

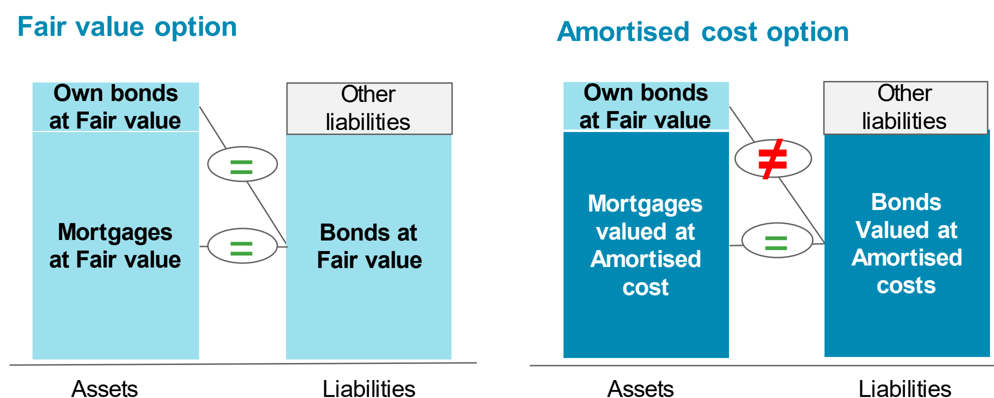
The MCIs, as with all financial institutions, need to be able to value their assets and liabilities. In deciding the most relevant methodology for MCIs, there are some specific factors that need to be considered:

- Covered bond mortgage loans are match funded, so introducing differences in how the matched assets and liabilities are valued can create significant volatility in the profit and loss statement
- MCIs typically retain substantial holdings of their own covered bonds in their trading book for market making (as well as other covered bonds and assets)
- Covered bonds in the trading book must be valued according to the price observed in the market, known as fair value accounting

Use of the fair value option therefore eliminates accounting treatment mismatches between assets and liabilities and between bonds held for trading and those issued as liabilities.

In Denmark, MCIs therefore typically elect to account their mortgage loans using the fair value option, to match the treatment of the bonds in their liability and asset pools and ensure consistency throughout the books (see Figure 6 for illustration). The value of the loan is estimated based on the value of the bond, plus a market observable margin and adjustments for credit losses.

Figure 6: Stylised representation of the fair value and amortised cost options for valuing assets and liabilities



This fair value election is unusual as mortgage loans are usually accounted for at amortised cost. The fair value approach reflects the importance of the consistency between the accounting treatment of assets and liabilities in the covered bonds mortgage lending model. MCIs elect for this approach as it avoids accounting mismatches that can be created by the daily trading of bonds in the trading book. The fair value for the bond will vary, for instance due to interest rate or MCI credit spread fluctuations impacting the market value of their bonds. When the trade is reported, the market price might not match the amortised cost recorded for the bond held as a liability, creating P&L fluctuations as the position in the trading book will be offset against the issued bond on the liability side. The Danish approach, using the fair value option for assets with no real trading intent, has been used since adoption of IFRS in 2005, in accordance with IAS 39 9(b)(i) and IAS 39 AG4E(d)(ii). This approach is also contained in IFRS 9.

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However, the typical approach to valuing the credit portion of the mortgage lending assets is more of a banking book provisioning approach than direct market observation. If MCIs were to directly imply a market value for this element of their assets it could result in significant P&L volatility during a downturn or market correction and force MCIs to adopt the amortised cost approach further analysed in this section. This would introduce volatility into the P&L that would make it difficult for MCIs to maintain credibility with investors. Volatility would also make it untenable for MCIs to play the dual roles of market maker and issuer for the bonds. If the MCIs were required to withdraw from market making, this would challenge the mortgage lending system.

Potential impact of applying prudent valuation

Using the fair value approach is akin to treating the assets as if they are liquid and tradable, but with the intention of holding them for the lifetime of the loan. Usually, if assets are accounted in this way, the institution should apply 'prudent valuation' standards, holding fair value reserves as well as additional capital, called 'additional valuation adjustments' (AVAs), to account for remaining uncertainty in the trading book valuations, for instance due to market price uncertainty, close-out costs and model risk. These AVAs provide a buffer against how much worse the orderly exit price could be than expected, but the loans are not actually traded (or tradeable) in practice.

Fair value reserves and AVAs calculated for the mortgage loans and covered bonds could be large, given the magnitude of the matched positions in a typical MCI. However, where assets and liabilities are perfectly offsetting, it is assumed that this uncertainty will cause equal shifts in the value of both the assets and liabilities and therefore have no impact on the capital requirement of the institution[30]. In these circumstances, i.e. where there are exactly matching fair-valued assets and liabilities, both are excluded from the calculation of AVAs. Danish MCIs, in agreement with their national regulator, only apply AVAs to a small subsection of their books, treating the matched loans and bonds as if they were perfectly offsetting.

The ECB interprets EBA's technical standards in supervision of financial institutions in the Banking Union. The exemption from prudential valuation adjustments is open to interpretation (as one could argue that assets and liabilities are not perfectly offsetting e.g. due to their differing credit risks) and could come under some scrutiny by the ECB. In one scenario, the ECB could request that AVAs are held for all positions held by MCIs. This would lead to a potentially large accounting reserve and direct deduction from capital. Outside in, it is hard to predict what a realistic AVA requirement would be, but it could range from a small number of bps to hundreds of bps. Based on a European average AVA applied to the assets held in the mortgage lending book, our analysis suggests this could be in the order of a DKK 1.3Bn increase across the industry. This would be a substantial increase when compared to the current AVA of DKK 0.2Bn and represents 0.2% decrease in net income before taxes in Common Equity Tier 1.

In a more extreme scenario, the loan-plus-bond packages could be reclassified from highly liquid, based on the bond trading activity, to illiquid, based on the loans themselves being untradeable. This illiquidity means the assets are harder to price accurately, and they would be reclassified from level 1 to level 3 assets in the accounting standards. This would have implications for P&L recognition and may severely increase the magnitude of AVAs if they have been applied.

[30] EBA Final draft Regulatory Technical Standards on prudent valuation under Article 105(14) of Regulation (EU) No 575/2013 (Capital Requirements Regulation - CRR). 23 January 2015 EBA/RTS/2014/06/rev1

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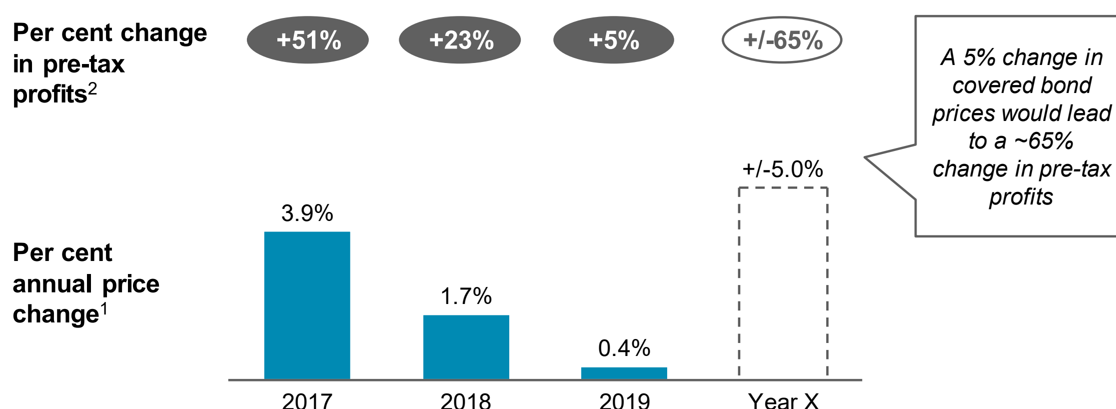
Potential impact of switching to amortised cost

If the ECB required a fair-value approach that created significant P&L volatility and capital requirements, MCIs may need to change their accounting treatment to amortised cost. However, MCIs are also market makers in their own issuances.

This approach could therefore introduce significant fluctuations in accounting P&L, based on the observed market price of the bonds, which the MCIs also trade. Based on fluctuations in the annual bond price, we have estimated that switching to amortised cost to value the loans and the matched bonds could introduce considerable shifts in the pre-tax profit of the MCIs (see Figure 7).

Introducing this volatility into the P&L would make it difficult for MCIs to maintain credibility with investors. Volatility would also make it untenable for MCIs and banks to play the role of market maker for the Danish covered bond market. If the MCIs and banks were required to withdraw from market making the bonds, this could challenge the current Danish mortgage lending model.

Figure 7: Impact on pre-tax profits of switching to amortised cost estimation of loans and bonds



1: Calculating simple price returns for a sample of c. 400 covered bonds with observable prices for the period 1 Jan 2016 to 1 Jan 2019; 2. In % of pre-tax profits based on assumed average annual price change multiplied with own mortgage bonds that are offset against issued mortgage bonds in the trading book for the top 5 Danish MCIs; Nykredit Realkredit PnL incl. attributable profits of Nykredit Bank A/S. Sources: Annual reports, Datastream from Refinitiv, Oliver Wyman analysis.

Conclusion and recommendation

In conclusion, the Danish opt for valuing both the mortgage loans and bonds through the fair value option, otherwise each time the MCI traded on of their bonds in the trading book it would introduce an accounting mismatch. If a new supervisor were to suggest a shift in accounting approach from the current state to:

- change how fair-value measurement is applied (direct market observation or additional reserves / capital), or;
- account for the loans and bonds at amortised costs,

the impact could be severe for MCIs. Our analysis indicates it could lead to major increase in capital needs, which would need to be passed onto consumers if the model were to be maintained.

If Denmark wants to maintain the current mortgage lending model whilst enjoying the additional benefits of Banking Union, Denmark should clarify the intended accounting treatment with the ECB

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before joining the Banking Union to ensure this potentially significant impact is avoided and enough time is available to converge on a common understanding, clarifying or adjusting regulatory technical standards as required.

5.2. RESOLUTION STRATEGY

Resolution strategies for MCIs

During the financial crisis, the European Commission approved €4.5Tn (equivalent to 37% of EU GDP at the time) in state-aid measures to financial institutions[31]. After this unprecedented level of taxpayer guarantees and bail outs, it was decided that the EU needed a mechanism to manage bank failure in an orderly way. Resolution is a way to manage failure of a financial institution to minimise impact on depositors, the financial system and public finances. In each EU Member State a resolution authority is responsible for overseeing the drafting and implementation of resolution strategies to ensure the continuity of bank's critical functions, financial stability and minimise cost to the taxpayers.

Given the interconnectedness of the Danish covered bond mortgage lending market and the systemic importance to the Danish economy, for each MCI there must be in place an effective resolution strategy to protect customers and avoid contagion in the event of failure. In the current state, the resolution strategy for each MCI is set by the Finanstilsynet, according to BRRD and the Danish transposition in Act on Restructuring and Resolution of Certain Financial Enterprises 2015.

Resolution tools and their application for MCIs

Under BRRD, if a firm is considered a 'gone concern' and in need of intervention, first a private sector solution is sought. If this is unavailable, the resolution authority, which in Denmark is an independent public company called Finansiel Stabilitet, will consider whether they should intervene by applying a Public Interest Test. This test considers factors such as contagion and preserving critical functions. If the firm fails the test, it will be managed through insolvency, but if it passes the Finansiel Stabilitet has access to four tools for managing the entity[32]:

- **Bail-in** - equity and debt can be written down and converted, placing the burden on the shareholders and creditors of the bank, rather than the public;
- **Sale of business** - permits the total or partial disposal of an entity's assets, liabilities and/or shares to a private purchaser;
- **Bridge bank** - part or all of the assets, liabilities and/or shares are transferred to a controlled temporary entity;
- **Asset separation** – certain assets can be transferred to an asset management vehicle.

Once these options have been exhausted, as a last resort and once shareholders and creditors have first borne losses, liquidity and capital could be provided from the resolution fund. To protect deposit holders, resolution is executed over a weekend period.

Crucially, to protect covered bondholders, BRRD contains a clause which states that MCIs that do not receive deposits will be exempt from the bail-in tool, provided those institutions will be wound

[31] https://srb.europa.eu/en/node/632
[32] https://srb.europa.eu/en/content/resolution-qa

up through the use of the other BRRD tools or through insolvency proceedings, and bondholders will bear losses in line with the resolution strategy[33].

In line with this, Denmark's transposition of BRRD precludes use of the bail-in tool for MCIs[34]:

> *24.-(1) Finansiel Stabilitet may apply bail-in for loss absorption and recapitalisation of an enterprise or entity under resolution or for converting to equity or writing down liabilities transferred pursuant to sections 19, 21 or 23.*
> *(2) Bail-in measures may only be applied for recapitalisation, see subsection (1) hereof, if there is a reasonable prospect that the application of the bail-in measures, in addition to achieving relevant resolution objectives, will lead to a restructuring of the relevant enterprise or entity with a view to long-term viability. The application of any other measures, including initiatives implemented in accordance with the restructuring plan, see section 28, may be included in this assessment.*
> *(3) Finansiel Stabilitet will implement bail-in measures on the basis of the valuation in pursuance of part 3.*
> *(4) Bail-in measures, see subsection (1)-(3) hereof and sections 25-28, cannot be applied in the restructuring and resolution of a mortgage credit institution.*

The current legal framework therefore limits the resolution options for an MCI to either use of other resolution tools (e.g. sale of business, bridge bank or asset separation) or opting for liquidation proceedings. However, in practice, the Finansiel Stabilitet has stated that the resolution for the Group is single-point-of-entry strategy that involves keeping the Group as one entity, ensuring the Group remains on the market and be re-established as a viable undertaking following resolution. In this scenario, the capital instruments in the MCI can be written down, as can senior non-preferred debt, due to contractual write-down language.

BOX 1: MREL AND THE GAELDSBUFFER

Under BRRD, institutions deemed systemically important (i.e. would not be wound down under normal insolvency proceedings) must hold sufficient own funds and liabilities to absorb losses in the event of failure (i.e. roughly the Own Funds requirement), plus a recapitalisation amount allowing a resolved entity to stabilize and continue to provide critical functions. This amount, known as Minimum Requirement for own funds and Eligible Liabilities (MREL), is the greater amount of double the required capital or 8% of the total liabilities. MREL is required for all banks in Denmark. As MCIs cannot be bailed in, the resolution strategy cannot be to bail-in debt to re-capitalise the MCI. Therefore, MCIs do not need MREL beyond that required to absorb the loss absorbing amount (i.e. the capital).

It is clear however that due to the risk of contagion and the importance of MCI in providing a critical function to the Danish economy, the Danish NRA are unlikely to move a failed entity into insolvency. As such, in considering the use of the other tools (with the exception of bail-in) the Finanstilsynet has concluded that the success of applying these tools requires access to recapitalisation and to emergency liquidity. The Finanstilsynet require MCIs to hold (in addition to the capital requirement) an additional buffer of 2% capital or debt relative to total mortgage loans, known as the Gaeldsbuffer. Once the Gaeldsbuffer has been phased in, the requirement equals current total MCI capital available, i.e. DKK ~158Bn (see Figure 8).

[33] BRRD2 (2019/879) Article 45a(1)
[34] English translation of The Act on Restructuring and Resolution of Certain Financial Enterprises. Section 24

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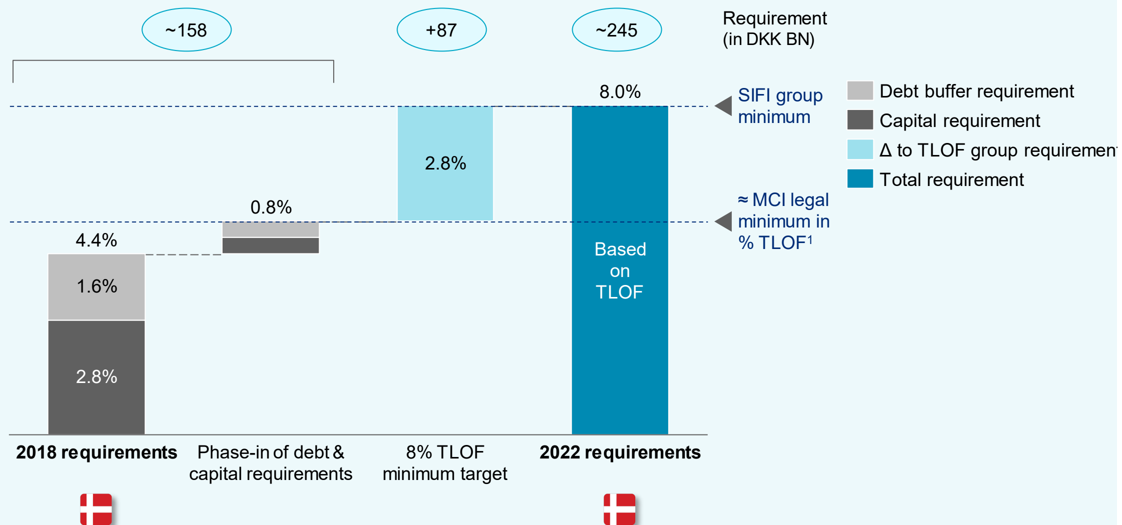
Reflecting this reluctance to move an MCI into insolvency, MCIs currently pay contributions to the Danish resolution fund providing access to guarantees, loans, asset purchases and emergency liquidity (in addition to that available from Danmarks Nationalbank or public equity support), but do not meet the full contributions as bail-in is not a resolution option.

The Danish Parliament has passed a law in 2018 that more closely aligns Gaeldsbuffer requirements to traditional MREL[35]. Under this, all SIFIs are required to hold minimum 8% buffer relative to total liabilities and own funds (TLOF) at the Group level (including the MCI) by 1 Jan 2022, aligning Danish law to the BRRD. We estimate that for MCIs this represents DKK ~87Bn of additional requirement (a 55% increase) to be met by eligible liabilities (see Figure 8 for illustration of additional MREL requirements for MCIs). SIFIs could issue liabilities from the point of entry, typically a bank entity, but would also to some extent benefit MCIs:

- Creates unsecured funding in the group which can be used to fund supplementary collateral and liquidity requirements
- Is typically medium-term funding, therefore could help manage supplementary collateral needs in a crisis
- Makes loss absorption by covered bonds holders more unlikely and could therefore counteract some of the negative effects should the unsecured part of the covered bond be perceived as subject to bail-in.

Issuance of new debt coupled with more cyclical MREL requirements can give rise to refinancing risk, further elaborated on in Section 5.3.

Figure 8: Increase in MREL holdings in MCIs from 2018 to 2022 (% of TLOF)



1. Legal minimum for MCIs is based on capital requirement and debt buffer; a proxy based on TLOF is shown to compare it to the 8% TLOF requirement. Sources: Annual reports, risk reports, solvency reports of Danish top 5 MCIs, Oliver Wyman analysis

Banking Union and the Single Resolution Board

After joining the Banking Union, the Single Resolution Board (SRB), which is a fully independent EU agency acting as the central resolution authority, will be responsible for setting the preferred resolution strategy for the largest banks (which include MCIs) in line with BRRD.

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The SRB's objectives are to ensure continuity of critical functions, avoid significant adverse effects on financial stability (especially preventing contagion), protect public funds, depositors and client funds/assets, and apply to all banks covered by the SSM. The SRB have access to the same suite of resolution tools and work closely with the NRA. The SRB also owns and administers the Single Resolution Fund (SRF), a resolution fund which is currently composed of national compartments with a view to becoming fully mutualised.

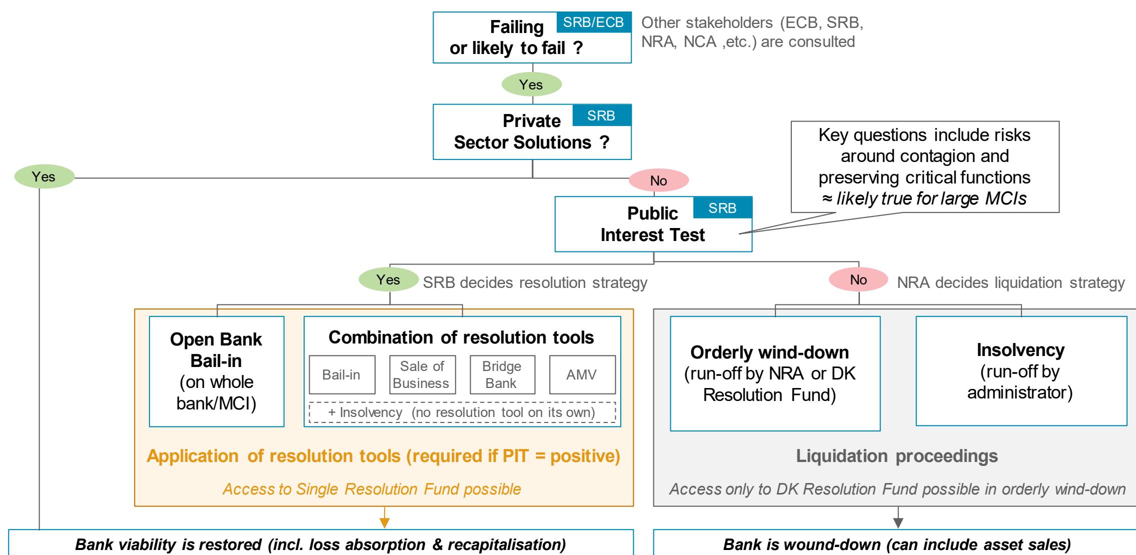
Resolution strategies in the SRB

As with the current state with the NRA oversight, there are two potential outcomes of a resolution scenario (see Figure 9):

- SRB concludes it is in the public interest to apply resolution tools which is either an 'open bank bail-in' on the whole group or a combination of resolution tools, or
- Otherwise concludes that national liquidation proceedings (orderly wind-down by NRA or insolvency proceedings by an administrator) are preferable, which would contradict the current view of the Danish NRA.

Of these, it seems likely that the SRB would share the view of Finansiel Stabilitet and opt for resolution, rather than liquidation.

Figure 9: Decision tree for SRB's preferred resolution strategy



Impact of the SRB's preferred resolution strategy being open bank bail-in

In the Banking Union, the SRB could prefer a resolution strategy which includes a bail-in and hence presumes a recapitalisation of the whole group. In this case, the exemption for MCIs from MREL may not be considered to be in line with the resolution strategy. The SRB could then require that MREL is held also for the MCI.

In this scenario it seems likely that the SRB would require MCIs to hold MREL at roughly 2x capital requirements[36]. Our analysis shows that this will be very near the 8% requirement already binding

[36] Two times capital requirements incl. buffers less 125 bps for market confidence charge and RWA for recapitalisation and market confidence charge post depletion

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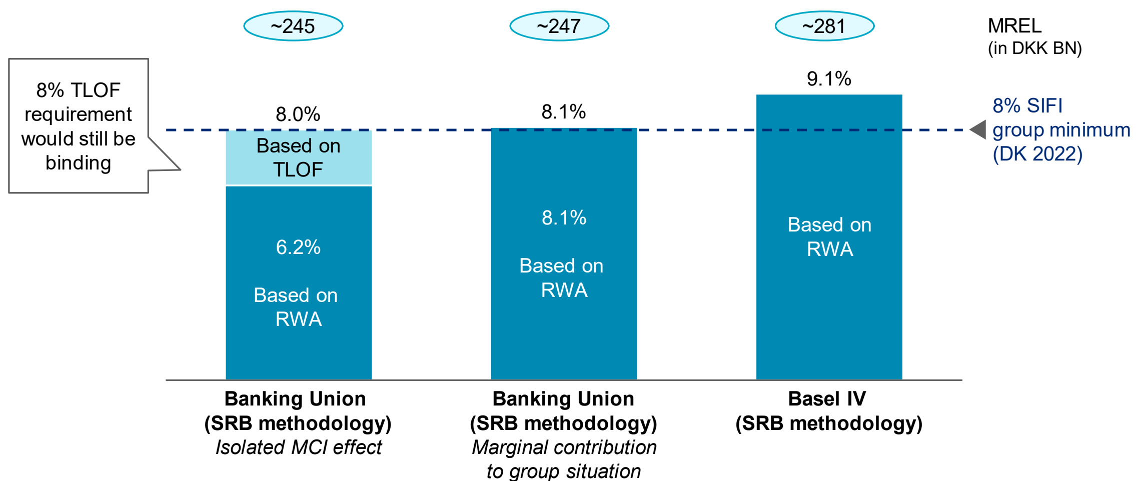
in Denmark from 2022 onwards and the Banking Union will therefore not materially increase MREL for MCIs. Given the low risk weights in the MCI, the distance to the 8% requirement is relatively large if the MCIs are considered in isolation. When analysing the marginal effect at a Group level from requiring the MCI to hold MREL then the risk weighted MREL becomes binding (see Figure 10)[37]. As MREL relates to risk weighted assets, we would expect funding requirements to deepen during a housing price crisis (considered in the next chapter – see Figure 12) and can therefore be considered pro-cyclical.

An expert group has estimated that risk weighted assets will be ~34% higher across credit institutions and risk types if the proposals to finalise Basel III (BCBS/2017/D424), commonly known as Basel IV, are implemented with output floors requiring that capital holdings are 72.5% of the standardised approach[38]. As the SRB MREL calculation is linked to capital requirements, Basel IV would likely also impact the MREL requirements. In this scenario, we estimate MREL would increase beyond the 8% TLOF minimum and create a DKK 36Bn financing requirement.[39]

Figure 10: Impact of Basel IV on MREL requirements



1. TLOF = Total Liabilities and Own Funds 2. Two times capital requirements incl. buffers less 125 bps for market confidence charge & RWA for recapitalisation and market confidence charge post depletion 3. According to the Danish Expert Group Report on “Effects of Basel Board Recommendations on Capital Requirements for Credit Institutions”; risk weights calculate with average increases – for simplicity assumed that credit risk of MCIs only consists of mortgage loans (61% increase in RWA). Sources: Annual reports, risk reports, solvency reports of Danish top 5 MCIs; SRB policy on MREL

We must also consider the impact on covered bonds of explicitly stating that bail-in is the preferred resolution tool for the entire group. Covered bonds are currently protected from being bailed-in, and any change in this status could challenge the rating of the bonds and the MCI model more

[37] The marginal contribution is calculated by stressing only the MCI and analyzing the effect on the group level requirements. As risk weighted MREL is binding or closer to being binding at group level compared to the MCI in isolation the stress has a greater impact when looking at the marginal contribution

[38] According to the Danish Expert Group Report on “Effects of Basel Board Recommendations on Capital Requirements for Credit Institutions”; risk weights calculate with average increases – for simplicity assumed that credit risk of MCIs only consists of mortgage loans (61% increase)

[39] The current Danish approach with capital + 2% Gaeldsbuffer would likely also become binding in a Basel IV regime since capital requirements would go up. The Gaeldsbuffer would however still be insensitive to changes in risk weights.

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broadly. Any change to the rating of the bonds, which function as a source of highly liquid assets in the Danish market where government bonds are scarce, could create a wider systemic risk.

Should collateral be valued at a lower amount than the outstanding bonds at the point of resolution then the uncovered amount could hypothetically be bailed-in. For this reason, it is important that the process that would be taken by the SRB to execute the resolution, and therefore to value the assets, is clear to ensure the unsecured section is not overstated. Valuation is typically performed with compressed time frames which increases the risk of a crude valuation understating the asset value.

Raising the possibility of bail-in for the bonds, even theoretically, represents a risk for the MCIs and the Danish financial system. While rating agencies interviewed do not see that a European style bail-in alone would risk the AAA rating of covered bonds it could still have a negative impact on the rating. Should Denmark seek to protect the mortgage lending model as it currently stands, it could seek to clarify the resolution strategy and whether covered bonds will be protected from bail-in before joining the Banking Union. Covered bonds issued from MCIs with a bank parent will enjoy some additional remoteness from bail-in as liabilities in the parent entity will be structurally subordinate to the covered bonds. In groups with the MCI as the parent company there is less remoteness and the SRB could engage in conversations around structural changes to ensure a high level of remoteness. Alternatively they could impose a greater amount of MREL for these groups to further reduce the likelihood of bailing in covered bonds.

Banks and MCIs must contribute to the resolution fund to gain access to the tools available. Given the bail-in tool is currently precluded for MCIs, the resolution fund can only provide guarantees, loans, provide capital injection to bridge institution, buy assets and provide liquidity in a resolution scenario, and MCI contributions are roughly half of that if the resolution fund could be asked to support recapitalisation. If the SRB were to consider bail-in the preferred resolution strategy would require MCIs to contribute roughly double the current amount to the Resolution Fund, which is estimated to be a further annual DKK 215m across all Danish MCIs.

Impact of the SRB's preferred resolution strategy treating the group differently, and not as a whole

If the SRB agrees with the current Danish implementation of BRRD and concludes that MCIs are exempt from bail-in, the alternative preferred resolution strategy for the MCI would likely involve a mixture of resolution tools. These tools would include:

- Selling assets / legal entities
- Transferring critical functions (e.g. the MCI) to a bridge bank
- Transferring assets to an asset management vehicle
- Leaving parts for insolvency

As time is limited during a resolution, it is expected that banks ensure separability of resolution units in advance, such that this differentiated approach is feasible and credible given the timeline. In this scenario, the SRB will want to impose changes to ensure that entities are fully resolvable (see Table 6).

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Table 6: Examples of potential SRB requirements (non-exhaustive)

EXAMPLE REQUIREMENT	
Capabilities	• Ensure separability and multitenancy of critical systems • Allow comprehensive and timely data availability, e.g. granular asset and liability data for each resolution unit within 48 hours • Conduct dry-runs (e.g. on data availability)
Operational separability	• Identify all critical IT systems and related services • Implement SLAs / resolution-proof agreements for shared services • Localise FMI accesses or have backup providers • Reduce 'structural complexity', e.g. clear legal entity structure that supports separability
Financial separability	• Ensure local funding ('independent resolution units') • Limit liquidity pooling and intragroup guarantees • Collateralise intragroup derivatives • Issue MREL from each resolution unit

Conclusion and recommendation

In conclusion, joining the Banking Union, and making the SRB responsible for the Groups that include MCIs, could shift the preferred resolution strategy formally to open bank bail-in. This would represent a substantial shift for MCIs. One particular concern of MCIs is that the SRB could therefore impose higher and more volatile MREL requirements, double contributions to the resolution fund and changes in the business model for the MCI, creating additional cost. Our analysis, however, concludes that the existing requirement for 8% TLOF (which is currently being phased in in Denmark) would mean application of the SRB methodology for calculating MREL would in the least disruptive scenario not be the binding requirement and not represent an additional cost for MCIs beyond what is already required. This does not hold in a Basel IV world and/or in times of crisis, where additional refinancing needs would be in place (see next chapter). Furthermore, any possibility of bail-in for the covered bonds, even theoretically, represents a risk for the MCIs and the Danish financial system if affecting the covered bonds rating and investor credibility.

If Denmark wants to maintain the current mortgage model whilst enjoying the additional benefits of Banking Union, Denmark should:

- Work to fully understand the potential consequences of the different resolution approaches to come up with a preferred approach. This would support conversations with the SRB and allow for any preparations prior to joining the SSM (whether that is legal changes or creating strategies for separability of organisations).
- Attempt to negotiate transition periods that allow operational or structural changes (e.g. MREL methodology/requirement, point of entry for resolution) without undue haste.
- Attempt to maintain the full bail-in exemption for Danish covered bonds.

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5.3. REFINANCING RISK

Liquidity and large exposure exemptions for MCIs

As demonstrated in the stylized balance sheet (see Figure 3), MCIs hold supplementary assets which are used to:

- Provide supplementary collateral meeting the coverage requirement of the covered bonds to the extent mortgage loans are breaching the LTV-limits. These assets are however considered encumbered and cannot be used to meet the liquidity requirements (see below);
- Maintain overcollateralization in the cover pools, which is valuable in maintaining the high, usually AAA rating of the covered bonds[40];
- Provide liquid assets which help MCIs meet the Liquidity Coverage Ratio (LCR) which requires an MCI to have sufficient liquid assets, in the same currency, to meet outflows for 30 days. If liquid assets exactly meet outflow needs for 30 days, then the LCR is 100%.

In a housing crisis scenario, rising collateral needs and MREL requirements will need to be met, which creates refinancing risks (see Box 2). Differing attitudes to the risk in the system and the financial resources needed to mitigate those by the Finanstilsynet and ECB could exacerbate this risk.

[40] The new covered bond directive introduces a minimum 2% over-collateralization requirement which is lower than the constraints applied by rating agencies. However, constraints applied by rating agencies are voluntary and can be deviated from in a stressed scenario. Thus, the assets used for the 2% over-collateralization requirement are considered encumbered and cannot be used to fulfil the coverage requirement of the covered bonds nor the liquidity requirements.

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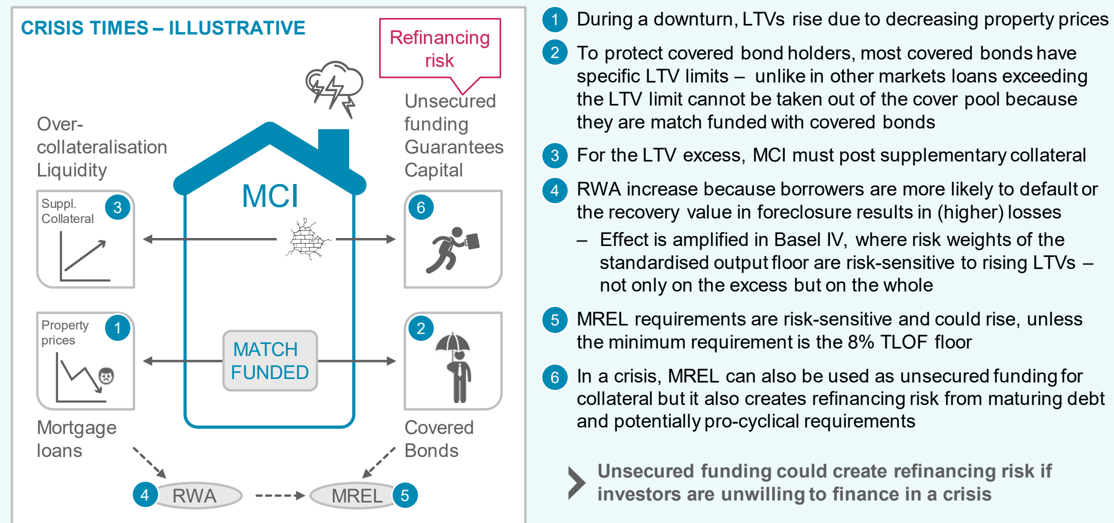
BOX 2: FINANCING NEEDS IN A HOUSE CRISIS

SRB MREL and Basel IV implications for refinancing risk

Figure 11 illustrates the impact of a housing price crisis on MREL and supplementary collateral requirements. In this scenario, one area of particular concern is the potential refinancing requirement if, as per section 5.2 on Resolution strategy, MCIs were made to comply with the SRB's MREL requirements. As the SRB methodology for calculating MREL relates to the risk weighted assets of the MCI, rather than the unweighted loans as per the Gaeldsbuffer, as a crisis develops the MREL requirements increases. This pro-cyclical nature of MREL in the SRB definition could exacerbate any refinancing risks the MCIs face.

Figure 11: Illustration of impact of housing crisis on refinancing risks in MCIs



To simulate these circumstances, we applied the 2018 EBA stress test assumptions for an adverse scenario to MCIs and calculated the Gaeldsbuffer and SRB MREL requirement (see Figure 12). We find that, when looking at the MCI in isolation there is no need for additional MREL. However, when looking at a marginal contribution of the MCI to the group MREL requirements, the MREL required based on risk weights is the binding constraint and creates a need for additional financing.

In Basel IV, the output floors add binding capital requirements of 72.5% of the standardised method, which is still sensitive to higher LTVs in a crisis. In this case where Basel IV was introduced, the SRB methodology would imply an 11% increase in MREL in stressed circumstances. The European and Danish authorities will need to develop a joint view on how to manage this additional requirement.

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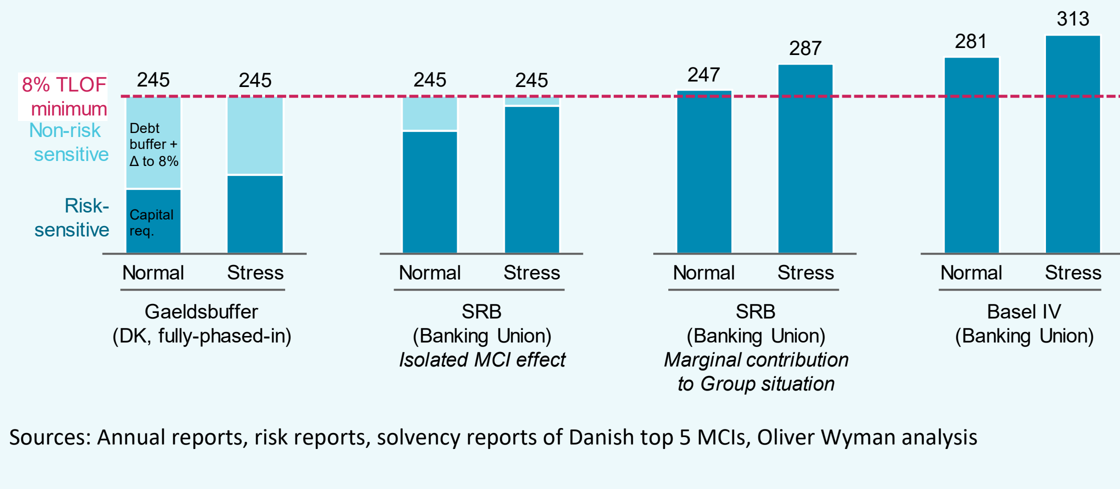
Figure 12: MREL requirements in normal and crisis times under Gaeldsbuffer, SRB and Basel IV conditions (2018, DKK Bn)



Sources: Annual reports, risk reports, solvency reports of Danish top 5 MCIs, Oliver Wyman analysis

Ability for MCIs to meet refinancing needs

MREL can be financed by capital and MREL-eligible debt, known as senior non-preferred debt (SNP). In a crisis, the annual SNP issuance is defined by:

- Refinancing of expiring SNP
- New SNP needs due to higher losses and MREL requirement in stress

In both the current and SRB scenario, we estimate that by 2022 DKK 18Bn of SNP refinancing would be needed on an annual basis (assuming a 5 year maturity for MREL bonds) (see Figure 13). This represents 16% of the current SNP issuance of DKK 110Bn to date, and <2% p.a. of EU SNP issuance[41], so it seems likely this need could be met. However, if MREL investors need to become more international to meet this additional requirement, there is a concern that it creates greater refinancing risks (e.g. because these investors could become more prone to flight in a crisis).

In a stressed scenario we find that, at a group level, DKK 40Bn of additional SNP will be required to cover the MCI in a crisis[42]. This only considers a stress of the MCI and some additional buffers may exist on a group level that will reduce the impact. It is however likely that the rest of the group would also experience increasing risk levels or losses and thereby adding to the refinancing needs in the market. This effect is large enough to warrant a more in-depth analysis of the entire system based on bank-internal data. In a Basel IV regime, the needs are also increasing but are more stable as the binding models are less risk sensitive. In addition to these volumes, a larger volume of expiring debt would need refinancing in a Basel IV scenario increasing the refinancing risk. Unlike the need for supplementary collateral (see below), the MREL requirement is a "hard" requirement.

[41] Dealogic Cortex, Oliver Wyman analysis

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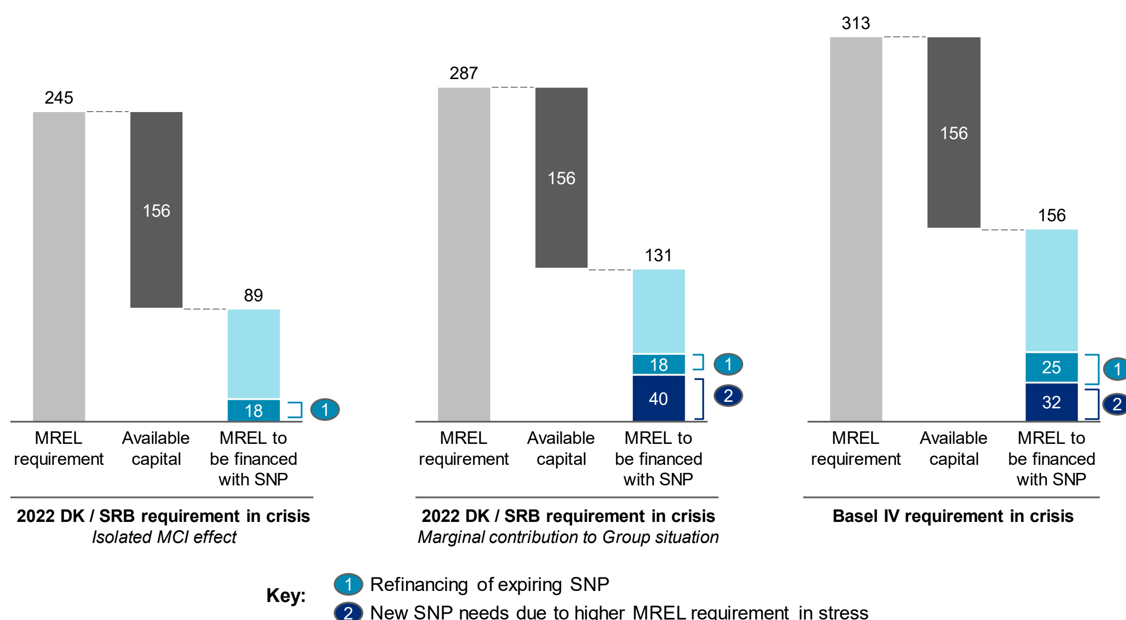
Figure 13: Refinancing needs in a crisis (2018, DKK Bn)



Sources: Annual reports, risk reports, solvency reports of Danish top 5 MCIs, Oliver Wyman analysis

Ability for MCIs to meet supplementary collateral needs

Additional SNP will need to be issued to meet MREL requirements from Basel IV. The proceeds of this issuance will be invested in supplementary assets with the aim of generating returns and providing liquid assets to meet the covered bond supplementary collateral requirements and the LCR liquidity requirement[43].

Today MCIs hold DKK 135Bn in the Gaeldsbuffer, but we estimate this will need to increase by DKK 110Bn by 2022 to meet additional Danish and SRB requirements (see Figure 13). Basel IV would increase this by a further DKK 36Bn, creating a total of DKK 146Bn in assets available for investment. Given the restrictions around the business model of MCIs, it is assumed that all of it will be invested in assets that could be used as collateral. These assets are typically low yielding and the additional funding would create additional costs for the MCI.

In a downturn scenario with a ~20% property price drop, the increase in LTV[44] would generate a need for DKK 167Bn in additional collateral[45]. Considering the 146Bn new MREL available after Basel IV implementation, there would be a need for additional DKK 21Bn in a crisis. The introduction of additional MREL would therefore dampen the additional funding needs in a crisis but would not fully mitigate this risk.

In a deeper crisis, if supplementary collateral requirements could not be met, MCIs could swap the SDO bonds, which require LTV compliance, to ROs, which do not have the same LTV compliance but

[43] The new covered bond directive introduces a minimum 2% over-collateralization requirement which is lower than the constraints applied by rating agencies. However, constraints applied by rating agencies are voluntary and can be deviated from in a stressed scenario. Thus, the assets used for the 2% over-collateralization requirement are considered encumbered and cannot be used to fulfil the coverage requirement of the covered bonds nor the liquidity requirements.

[44] House prices: average %-change for residential and commercial real estate (-20%) over 3-yr adverse period

[45] Source: Danmarks Nationalbank - MREL for mortgage banks reduces funding needs in times of crisis (August, 2018)

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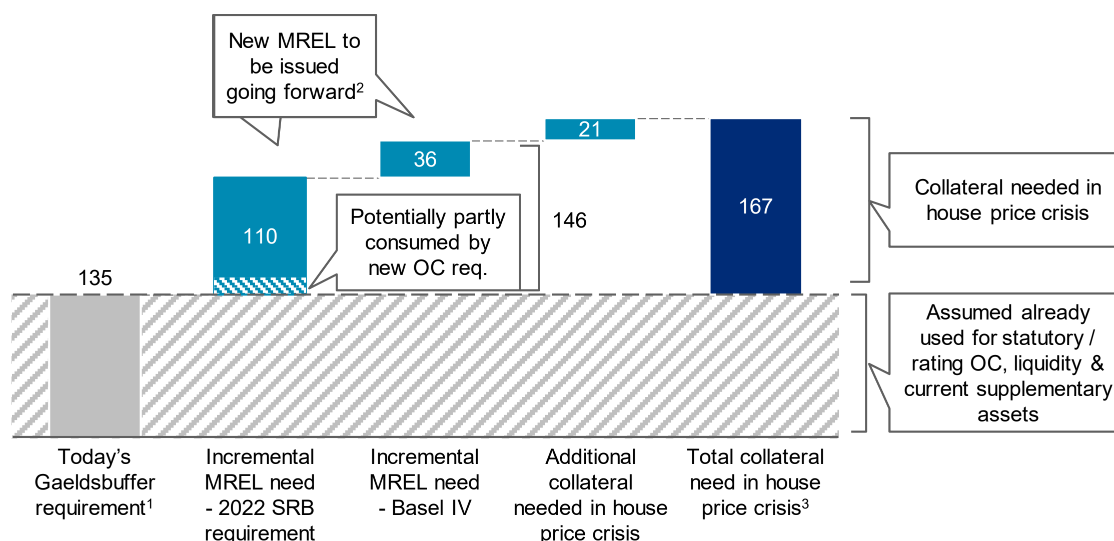
do have higher risk weights and capital charges. This would be operationally challenging for the MCIs but could relieve additional collateral requirements.

Figure 14: MREL available across all MCIs to meet supplementary collateral needs in a crisis (2018, DKK Bn)



1. As of 2018; before considering phase-in of requirements; 2. For compliance with phase-in of higher debt buffer and capital requirements as well as the 8% TLOF minimum; additional needs for higher requirement in Basel IV; 3 As estimated by Danmarks Nationalbank. Sources: Annual reports, cover pool statistics, risk reports, solvency reports of Danish top 5 MCIs, Oliver Wyman analysis

Investor demand and capacity to hold covered bonds

Banks and MCIs in Denmark constitute a significant part of the investor base for covered bonds. The banks are also essential to the covered bonds market as market makers, i.e. acting as intermediaries between the MCIs and the non-bank investor base. Given the lack of DKK denominated high quality assets outside this market, the holdings of covered bonds from other institutions play an important role in liquidity portfolios – including market making – and meeting the LCR (especially the currency based requirements), as well as supplementary assets. To that effect Denmark has opted to exempt covered bonds from counting towards large exposure limits and increased the proportion of covered bonds that can be included in liquidity buffers. While other SSM countries have also excluded covered bonds from large exposure limitations, the concentrated Danish market (five MCIs issue covered bonds) could come under scrutiny from the SSM. As illustrated in the analysis above there could be need for additional issuance of debt from the MCIs in an SSM environment and these exemptions need to be considered in this light.

Conclusion and recommendation

In conclusion, we can see that the refinancing risk for MREL in a housing price crisis arises when considering the MCIs contribution to the Group level requirements. With the introduction of Basel IV, the refinancing needs in normal times will go up and be further increased in a crisis. As stated above, this analysis only assumes a stress to the MCI and the full effect to the banking groups should be further investigated using bank internal data.

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On the supplementary assets side, the additional MREL holdings, even in the SRB scenario, cover the additional requirements from a housing crisis. However, if large exposure exemptions were to be lost, this would place an additional burden on meeting LCR requirements as alternative liquid assets in DKK would need to be found. This would also weaken the covered bonds market having negative consequences for the mortgage lending model.

If Denmark wants to maintain the current mortgage lending model whilst enjoying the additional benefits of Banking Union, then Denmark should ensure that:

- The banks, together with public authorities, perform a detailed assessment of the effect of the MCIs being subject to MREL using internal data both in normal environment and in a housing crisis;
- Given this system is so highly interdependent, exemptions or extra regulation that might restrict MCIs should not be considered in isolation, without a risk of unintended disruption, or unexpected mitigants are already in place in the system;
- Work closely with the ECB supervisors and SRB to ensure that the tools that are used to supervise universal banks do not create outcomes that inadvertently make the MCI model untenable;
- The functioning of the full system, complete set of exemptions and incoming regulation are well understood as a package by the JST before Denmark join the Banking Union.

5.4. SUPERVISORY APPROACH

SSM objectives and the drive for harmonisation and a level playing field

The SSM has three core objectives, which are to[46]:

- Ensure the safety and soundness of the European banking system;
- Increase financial integration and stability;
- Ensure consistent supervision.

In the pursuit of these objectives the SSM is subject to international public scrutiny, and democratic accountability at both the EU and national levels; this necessitates a focus on independence in supervision.

To deliver these objectives, the ECB focuses on creating a level playing field through harmonisation (where appropriate) in supervision. This approach will have implications for the four banks that will be supervised directly by the ECB in Denmark[47] and the longtail of smaller institutions whose ongoing supervision by the Finanstilsynet will also be influenced by the guidance of the ECB.

Impact of objectives on supervisory approach

To drive harmonisation in supervisory approach and a level playing field, the ECB takes an analytical approach based on best practices and quantitative benchmarking. Best practices are subject to a continuous review process, based on comparisons with international standards and internal

[46] Guide to Banking Supervision. European Central Bank. November 2014

[47] Nordea Kredit MCI already supervised by ECB through Nordea Abp, based in Finland

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scrutiny. The benchmarking methodology is key in allowing the ECB to directly supervise 119 banks[48] with a wide range of business models in different jurisdictions.

Similarly, the ECB looks to drive harmonisation through establishing a Joint Supervisory Team (JST), consisting of independent and external representatives of the ECB and other relevant national supervisors, as well as representatives of the national competent authority (NCA). These independent representatives seek to establish their own view of the prudential risk each market presents.

Outside of ongoing supervisory processes, the SSM also undertake deep dives into 'hot' topics, reflecting the strategic priorities of the SSM. Given their focus on harmonisation, the topics can sometimes be an area of concern in every country where the deep dive is executed. Recent hot topics include Brexit, treatment of non-performing loans, and a review of data and models, in a process called the Targeted Review of Internal Models (TRIM). Credit institutions newly joining the Banking Union may also be subject to reviews on previous focus areas.

Experience of ECB supervisory model

In our experience, the ECB supervisory approach can be more intrusive than home supervisors as a result of the number of people involved in the JST and onsite inspection teams, and the lack of familiarity with the specifics of the institution's model. The size of the JST depends on the size, business model and risk profile of the firm but typically ranges from around 25-50 people for major multinational banking groups (e.g. Nordea, Danske) to around 5 people for the smallest supervised banks. Typically, around a half of the JST will be from the Home NCA.

The MCI business model is different on paper from the typical universal bank (which represent the majority of the currently 119 supervised entities) and Denmark will need to prepare and commit resources to onboarding the JST to the specificities of the model. The ECB representatives have already been through this process in many other locations so will be primed to learn about the particulars of the market – including the differences and special conditions due to the fact that the Danish financial system is a non-EUR / small local currency area.

The JST is supported by experts in the ECB's ten horizontal and specialised divisions, who help with defining methodologies and providing specialist support. These divisions have dedicated experts on all issues facing credit institutions, and will utilise external experts as required to ensure a high level of oversight. The scale of the ECB allows for this deep expertise beyond what local supervisors can support, creating a new challenge for credit institutions.

Experience of deep dive exercises

The TRIM exercise, as an example deep dive applied to all directly supervised institutions, illustrates the level of involvement and scrutiny that these processes require. A model focused TRIM typically lasts 10-12 weeks, with a self-assessment and data request sent to the institution around 8 weeks beforehand. During the on-site visits, data, documentation and impact analyses need to be provided in 24-48 hours. The inspection team typically consists of 8-12 individuals with a range of different skills including a credit expert, model expert, governance expert and data specialists. In our experience, the credit institution structures a team of 10-15 people across all

[48] https://www.bankingsupervision.europa.eu/press/pr/date/2018/html/ssm.pr181214.en.html

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core affected departments including IT, risk, credit and internal validation, placing pressure on supervised credit institutions.

Experience of benchmarking and data driven supervision

In the current state, the Finanstilsynet consider mainly the Danish market in supervisory decisions. In contrast, the ECB representatives will approach supervision from the Eurozone perspective, which of course, includes a number of countries where a financial crisis has started with the mortgage market (e.g. Ireland and Spain). Benchmarking Danish MCIs against all other credit institutions across the Banking Union will bring a new perspective to supervision of this model and the ECB will want to see Denmark being willing to engage on how best to supervise this model, and ready to change where appropriate.

The quantitative benchmarks support forward looking supervision, with upfront identification and mitigation of issues. The analytical approach to supervision, however, commonly also creates a challenge for newly supervised firms, who find the ECB have a prodigious demand for greater quantities of higher quality data. These demands extend beyond the significant directly supervised entities, as the ECB also conduct general oversight for less significant institutions by collecting and processing information from the NCA.

Experience of credit institution headcount in core functions

In response to shifts in the supervisory approach and demands from deep dives on hot topics from the SSM, banks have adjusted their operating model and headcount in the most affected functions. In small functions, such as the supervisory interface unit, the headcount may double, but this represents only a small absolute change. The greater effect is seen in specific teams within finance, risk and data teams, which have to meet an increased volume, quality and speed of supervisory requests. A doubling of these teams after transition to ECB supervision is not inconceivable.

Experience of activities to transition to ECB supervision

In addition to the establishment of a JST, since the SSM establishment in 2014, banks joining have undergone a Comprehensive Assessment. The key component of this is the Asset Quality Review which reviews a credit institution's balance sheet with the aim of enhancing transparency of bank exposures and assessing the capital levels (see Figure 15). In our experience, during this process credit institutions are subjected to considerable scrutiny from the ECB. Dedicated resources on the central AQR team are usually in the order of 6-12 people for 6 months. The broader team working on the AQR can be considerably greater size, for instance we have seen double this number working on the AQR from the data quality team alone. Overall involved internal and external support, e.g. from consultants and auditors, can add an additional 100 headcount in project teams. Depending on the findings, banks may find themselves continuing at a similar pace as during the AQR for several years.

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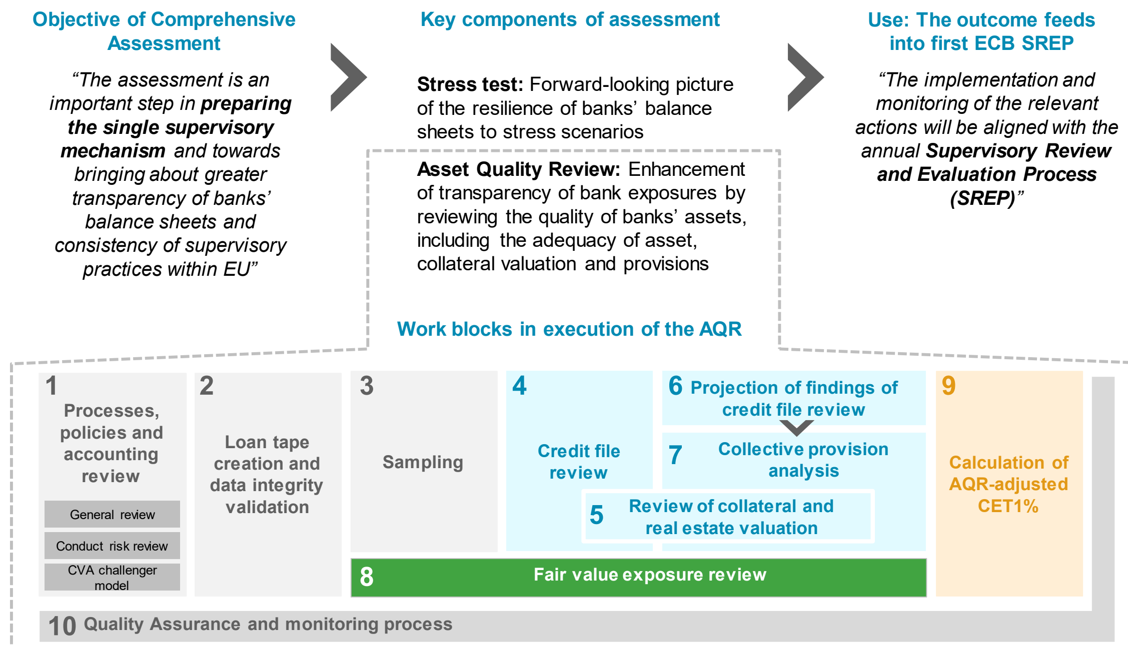
Figure 15: The asset quality review



Source: "Note on Comprehensive assessment", ECB, October 2013; ECB Note on the 2015 Comprehensive Assessment, ECB AQR Manual, June 2018

Conclusion and recommendation

In conclusion, the cost of compliance from transition activities, such as the AQR, and implementing and informing the JST, will be significant for Danish MCIs. We also expect the new supervisory model to be more arms-length and analytically driven, and Danish MCIs can expect no special treatment. As such, they will need to make commensurate changes to their operating model. These changes will drive operational cost which will be passed on to consumers.

If Denmark wants to maintain the current mortgage lending model whilst enjoying the additional benefits of Banking Union, then Denmark should secure sufficient time for MCIs to prepare for the transition to new supervisory model and ensure clarity on the expectations around this new model.

During transition, experienced Danish supervisors should be appointed to the JST to ensure the mortgage lending model is well understood, especially within the context of the Danish economy. Denmark should also consider negotiating for ECB support and input with how to manage the Comprehensive Assessment. For instance, a pre-emptive mini-AQR could be run to allow firms to learn and prepare, developing "muscle memory" ready for transition, which helped some jurisdictions in 2014 to go through the original ECB-led AQR exercise for the first time. A first stage could imply:

- Use the ECB challenger models on the Credit Valuation Adjustment and Collective Provisioning to estimate the discrepancies to ECB estimations and prepare response;
- Prepare for loan tape production on key parts of the portfolio;
- Check the definition of defaults and forbearance are in line with the ECB;
- Investigate a small number of the largest single credit files to look for discrepancies in approach.

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6. CONCLUSIONS

We have investigated the potential effect on MCIs, the Danish mortgage lending model and the Danish financial system if Denmark were joining the Banking Union. While this analysis has been non-exhaustive, illustrated through four 'hotspots' of impact, it is clear there are a range of scenarios for the impact. As the majority of Danish mortgage loan holders opt for MCI mortgage lending, changes to the MCI business model could impact a wide range of Danish consumers, potentially challenging the transparency, cost effectiveness, mutualisation of risk and product benefits. Further, as the Danish mortgage lending model is an important cog in the fine machinery of the Danish economy, there are potentially wider implications of disruption to the model. The covered bonds for instance function as a key source of Danish Krone denominated liquid assets for investment, in a non-Euro currency country. The bond market is the largest of its kind in Europe, dominated by five MCIs and their banks, who also function as the largest bond traders. This reliance on covered bonds as assets, plus the relative concentration in the market, creates a fine balance in the Danish economy and a potential economy-wide vulnerability to regulatory policy changes affecting the Danish covered bond mortgage lending model.

In the least disruptive scenario, where the proposed mitigants are secured, the potential cost impact for consumers could be relatively minor (see Table 7) and this additional cost would not materially affect the benefits that this model delivers to consumers.

Table 7: Least disruptive scenario and impact for Danish consumers

LEVERS IN THE LEAST DISRUPTIVE SCENARIO	CONSUMER IMPACT
Changes to the supervisory model on an ongoing basis, including additional headcount in supervisory engagement, risk and model build and validation teams	Additional <5bps of margin for consumers For a mortgage loan of DKK 2m, this equates to up to DKK 1,000 cost per year
Cost of transition to new supervisory model e.g. from Comprehensive Assessment and subsequent remediation	
Addition of a single digit AVA capital charge	
Additional contributions to Resolution Fund	

This scenario, however, only considers the current regulatory environment. The interaction between the SRB definition of MREL, which is risk-sensitive, and the introduction of Basel IV presents a challenging scenario that should be carefully managed to avoid an increase in refinancing costs and risks for MCIs.

There also exist more disruptive scenarios. As an example of this, the ECB could take a more extreme view of the market valuation approach and impose additional capital requirements, such that MCIs consider accounting assets and liabilities using amortised costs. This would introduce significant fluctuations in the profit and loss statements, which would be considered a red flag to investors who would find this lack of predictability disconcerting, challenging the ability for MCIs to cost effectively raise investment. New investors external to Denmark may be needed, and these investors could be more likely to shift their investment as the market moves. Volatility would also make it untenable for MCIs and banks to play the dual roles of market maker and issuer for the bonds. If the MCIs and banks were required to withdraw from market making in combination with changes in the large exposure regime, this would challenge the entire mortgage lending system.

Another potentially disruptive scenario is where covered bonds are no longer fully exempt from bail-in. This would potentially have negative consequences for the rating assessment of the covered

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bonds. Any change to the rating of the Danish covered bonds being the main source of liquid DKK-denominated assets could create wider systemic risk.

Unless appropriately mitigated, these tail risk scenarios therefore have the potential to significantly disrupt the covered bond mortgage lending model and lead to a transition to a universal bank model seen in other Nordic countries.

If Denmark wants to maintain the current mortgage lending model, whilst enjoying the additional benefits of Banking Union, it should seek to mitigate these scenarios by securing the continuation and/or clarification of regulatory treatments identified together with the ECB. In summary, our recommendations are:

1. Danish authorities and politicians at an appropriate level should secure continuation and/or clarification of regulatory treatments, including:
   - The intended accounting treatment for asset / liabilities ensure that more volatile and / or conservative valuation is avoided
   - The treatment of covered bonds under large exposure regime
   - The resolution approach and whether covered bonds can be fully protected from bail-in
2. Work closely with the ECB to ensure refinancing risk in a crisis scenario is assessed and adequately addressed. Banks and public authorities should perform a detailed assessment of the MCIs being subject to MREL using internal data
3. Prepare for supervisory transition
   - Engage with the ECB to inform supervisors on details of the MCI model
   - Agree sufficiently long transition periods, allowing time for changes to capital and other resources and adjustment to new supervisory approaches
   - Run fire-drill exercises to prepare, e.g. an advance min Asset Quality Review

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