FINANSTILSYNET

Banks

Market developments 2015

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Summary

In 2015, banks' earnings improved, but the improvement was driven by reductions in impairment charges. However, a number of banks with large exposures to agriculture still have high impairment charges.

Core earnings are under pressure from low interest rates and increasing competition. To some extent, falling net interest income is being counteracted by rising fee and commission income. However, much of this increase is attributable to extensive remortgaging of mortgage-credit loans in early 2015.

This pressure on earnings could encourage banks to increase risk. In autumn 2015, the Danish FSA conducted an extraordinary survey of new lending for home purchases in Copenhagen and Århus. The survey indicated that, to a certain extent, banks are relaxing their credit standards in order to gain market share. On the other hand, there are no immediate signs that banks are generally increasing their market risk.

Banks continue to be better capitalised and the sector in general is robust. Both capital levels and the quality of capital are improving. However, some banks have yet to recover fully from the financial crisis.

Improved results and limited growth in lending have meant that some banks have started paying dividends to shareholders again. History has shown that it can be costly to raise capital in difficult times. Banks should therefore consolidate themselves in the good years and be cautious about excessive dividend payments and share repurchases.

Bank liquidity is robust. In recent years, dependency on market funding has fallen considerably, and a large deficit of deposits has been reversed to a surplus. Moreover, all banks now meet the new LCR requirement that took effect in October 2015.

New rules for resolution of failing banks have also entered into force. The rules will ensure that a failing bank has sufficient eligible liabilities and own funds to absorb losses and recapitalise the bank so that critical functions can be continued without using public funds. Denmark has yet to decide on a framework for resolution strategies and the new requirements. The first resolution plans and requirements for eligible liabilities are expected to be set before the end of 2016. Even though time will be allowed for banks to comply with the new requirements, the requirements will pose a challenge for some banks.

This is yet another reason for caution in paying dividends and repurchasing shares.

Income statement

Banks' annual financial statements for 2015 show total profits before tax of DKK 28.5 bn. compared with DKK 16.4 bn. last year, see table 1. However, note that Danske Bank made a large impairment charge on goodwill in its foreign activities in 2014. Actual headway is therefore considerably less. Improvements are still being driven by reductions in impairments and positive value adjustments. Net interest income is falling considerably, on the other hand, but this is being outweighed to some extent by increasing fee and commission income.

Impairments on loans

Impairment charges fell again in 2015 and totalled DKK 5.6 bn., which is less than half the size of the 2014 figure, see table 1. Impairment is therefore at the lowest level since the start of the financial crisis. The impairment loss ratio for the year for the sector as a whole was 0.3% in 2015, against 0.6% in 2014. A number of banks have even reversed previous impairments. There is still a large spread between banks and among other things this reflects the differences in the composition of portfolios. Impairment charges have increased for Group 3 and Group 4 banks (see appendix 2) as these usually have a higher percentage of lending to agriculture. Impairments remain high for these banks.

Table 1: Income statement (extract), all the sector, individual bank level

DKK mill.	*2011*	*2012*	*2013*	*2014*	*2015*
Income statement items (extract)					
Net interest income	51,536	50,331	47,399	47,748	44,807
Dividends from shares etc.	890	1,170	2,485	2,916	1,456
Net fee and commission income	18,412	19,563	20,748	23,400	25,702
Net interest and fee income	70,837	71,064	70,632	74,064	71,965
Value adjustments	2,094	7,988	4,097	-2,295	2,555
Staff costs and administrative expenses	48,123	48,801	47,359	47,250	46,468
Impairments on loans etc.	24,287	27,180	17,170	12,510	5,636
Income from associates and group undertakings	4,587	6,034	7,736	10,757	11,332
Profit before tax	3,590	7,220	16,103	16,386	28,491
Tax	1,636	3,668	2,789	2,202	4,515
Net profit for the year	1,954	3,551	13,314	14,184	23,976

Source: Reports to the Danish FSA.

Note: The income statement is an extract and therefore not all items are shown. The profit before tax in 2014 and in 2015 was affected by impairment of goodwill by Danske Bank of DKK 9.0 bn. and DKK 4.6 bn. respectively.

Net interest income

Net interest income for 2015 totalled DKK 44.8 bn., representing a drop of DKK 2.9 bn. or 6.2% compared with the previous year, see figure 1. Both interest income and interest expenses have fallen because of the general decreases in interest rates. Interest expenses have fallen by significantly less than interest income in absolute terms.

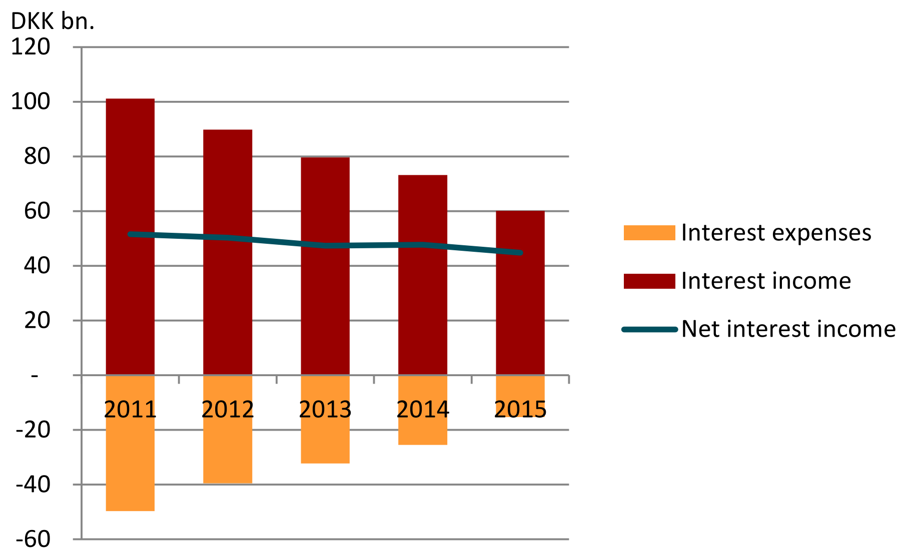
The low interest rates combined with the drop in lending has put pressure on banks' earnings. Banks have traditionally earned money by taking deposits at a lower interest than the market rate and then supplying services for customers either for free or at a low cost. They have also earned money by receiving short deposits and lending at a slightly longer term in a world where the market interest rate usually increases with the term. Today, banks receive deposits at a higher rate than the market rate and the return from receiving short deposits and lending at a slightly longer term is very limited. For example, banks receive negative interest from Danmarks Nationalbank (Central Bank of Denmark) on a significant deposits surplus (difference between deposits and lending), but they are reluctant to charge customers negative interest on their deposits.

The drop in interest income has occurred with the backdrop of more or less unchanged lending. Interest income on lending has fallen most for Group 1 banks. This could be because large corporate customers of the largest banks have better financing alternatives and therefore they are in a stronger negotiating position regarding interest terms than small enterprises and private customers, who represent a relatively larger part of the portfolio of smaller banks.

Interest expenses on deposits have also fallen most for Group 1 banks. However, the largest banks finance themselves through longer bonds issues for which interest expenses have not fallen by nearly as much. This is partly due to larger issuance volumes, but also interest rates fixed for longer periods. Overall, interest expenses for Group 1 banks have therefore not fallen by more than for other groups.

Net interest income has therefore fallen by most for Group 1 banks, see appendix 2.

Figure 1: Interest income and expenses, sector 2011-2015

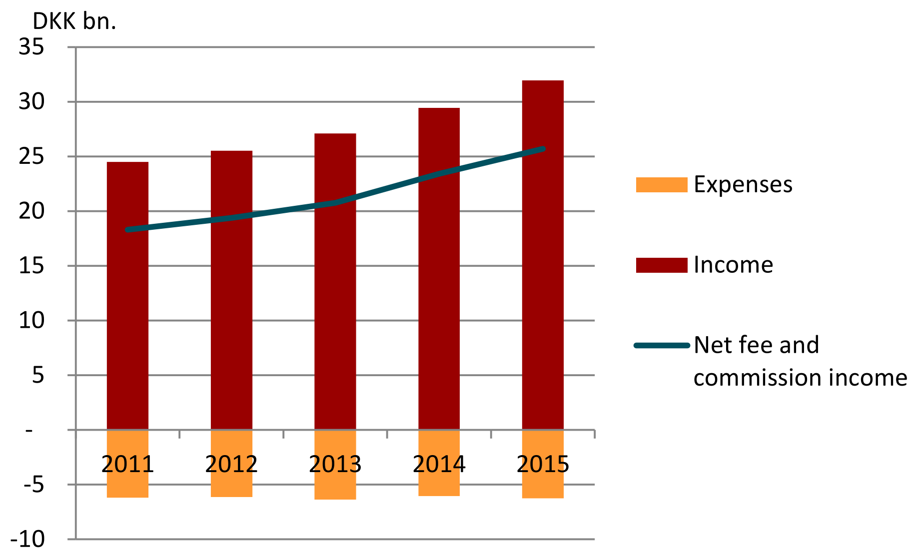


Source: Reports to the Danish FSA.

Net fee and commission income

The falling net interest income is to some extent compensated for by increasing net fee and commission income. Net fee and commission income increased by DKK 2.3 bn. from DKK 23.4 bn. to 25.7 bn., see figure 2. The increase is generally attributable to the extraordinarily large number of loan conversions at the start of the year. The inflow of currency when the DKK exchange rate came under pressure caused a drop in interest rates on mortgage credit loans and caused a wave of conversions. Remortgaging of mortgage credit loans provided higher earnings from conversion fees and securities trading, see the section on banks' earnings below. In addition, banks have also had higher trading earnings because investors have rebalanced their portfolios because of market turbulence.

Figure 2: Fee and commission income and expenses, sector 2011-2015



Source: Reports to the Danish FSA.

Value adjustments

Negative value adjustments of DKK 2.3 bn. in 2014 were reversed in 2015 to positive adjustments of DK 2.6 bn. Although there were losses on bonds portfolios for all groups, Group 1 banks received even greater returns from value adjustments on issued bonds. For the other groups, positive stock markets at the start of 2015 made a significant contribution, so that total value adjustments for the year were either positive or break-even.

Staff expenses and costs of administration

Staff expense and costs of administration continued their falling trend and in 2015 totalled DKK 46.5 bn., or DKK 0.8 bn. less than the preceding year. This drop reflects efficiency improvements, among other things through closing branches and introducing internet solutions in Group 1 banks, while staff and administrative expenses increased in the other groups.

Depreciation and other operating income

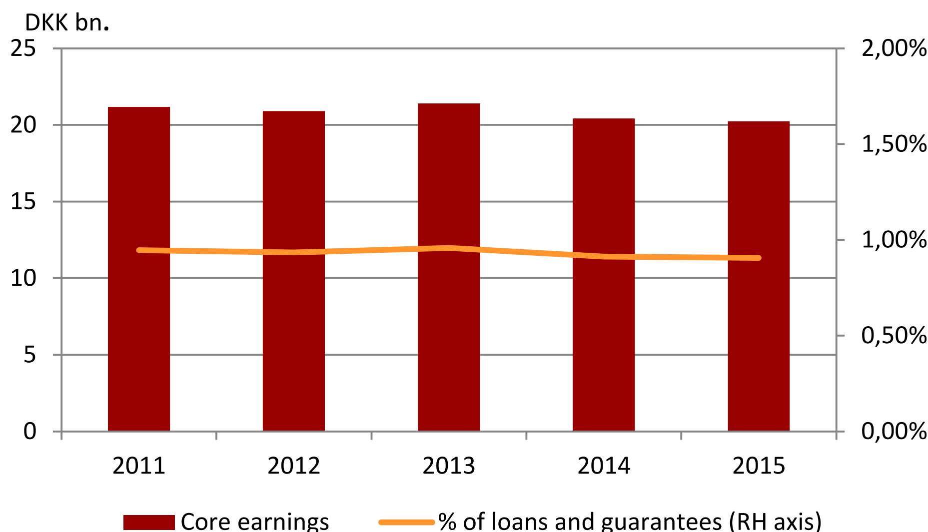
Amortisation and impairment on intangible assets fell from DKK 13.2 bn. in 2014 (when Danske Bank wrote down goodwill by DKK 9.0 bn.), to DKK 7.2 bn. this year. Amortisation and impairment charges in 2015 were also very high.

Other operating income in 2015 totalled DKK 3.1 bn. This was at a more normal level than in 2014, when extraordinary income from sales of shareholdings in Nets Holding and in connection with the takeover of BRFkredit by Jyske Bank caused a significant rise in the item which amounted to DKK 8.0 bn.

Bank earnings

Core earnings (calculated as net interest and fee and commission income and other operating income less staff and administration costs, depreciation costs and other operating expenses) for the sector as a whole were stable, see figure 3.

Figure 3: Core earnings, sector 2011-2015



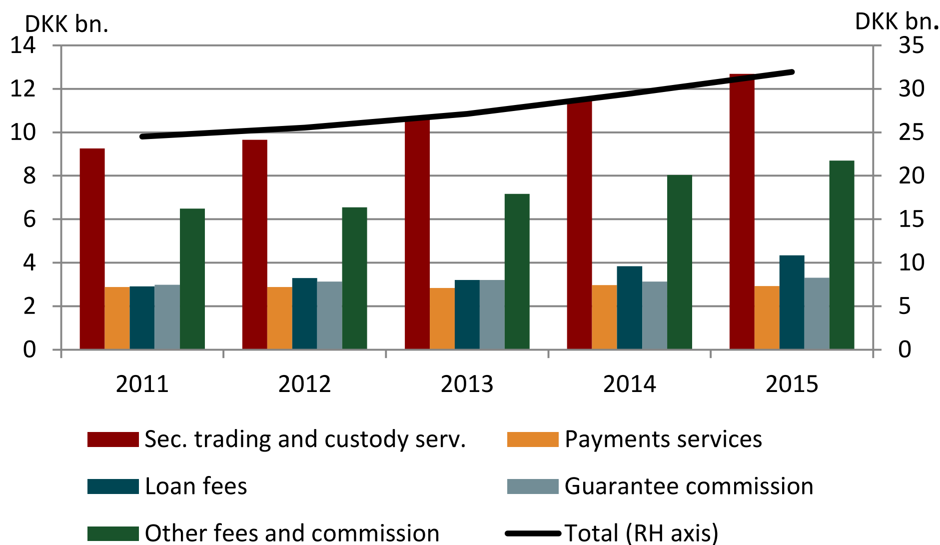
Source: Reports to the Danish FSA.

Core earnings should be able to cover the expected losses on the lending portfolio over a normal economic cycle, whereas the main purpose of capital is to absorb large, unexpected losses.

However, core earnings are under pressure from falling net interest income. Even though increasing net fee and commission income has to a large extent counteracted the drop in net interest income, it is questionable whether much of the increase in net fee and commission income is sustainable. A not insignificant proportion of the increase in net fee and commission income is attributable to higher earnings from remortgaging of mortgage-credit loans, see figure 4. Remortgaging do not just increase earnings at mortgage-credit institutions, they also give a boost to banks in service fees and from buying and selling mortgage-credit bonds (covered bonds). Larger scale remortgaging generally results from large

changes in interest rates, as happened in early 2015, while remortgaging will be a more modest in periods of stable interest rates. Increasing house prices and the associated increases in mortgage lending also trigger increased commissions for banks. Increases in house prices are also driven to some extent by falling interest rates. Continued low and stable interest rates will therefore entail continued pressure on net interest income, although they will not necessarily continue to generate increases in net fee and commission income.

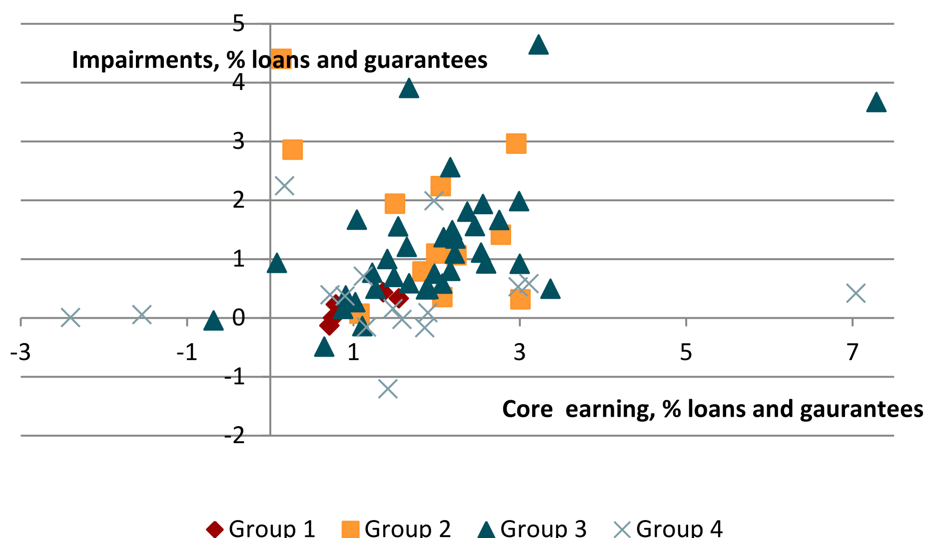
Figure 4: Break-down of fee and commission income, the sector 2011-2015



Source: Reports to the Danish FSA.

There is a large difference in core earnings (measured in terms of loans and guarantees) between individual banks, see figure 5. To some extent, the differences reflect the credit risk on the lending portfolio. If core earnings are relatively high, for many banks this means that there are higher interest margins on more high-risk lending, and average impairments are also high. Banks with a cautious credit policy require lower core earnings than banks offering more risky loans, such as consumer credit, in return for higher interest. However, there are also many banks with low impairment charges among banks with high core earnings.

Figure 5: Core earnings and impairment charges as % of loans and guarantees - individual bank level, 2015



Source: Reports to the Danish FSA.

Banks with the lowest core earnings generally also have low impairment charges. Only very few banks have low core earnings and low impairments. Some of these are newly established banks or banks with a business model in which earnings come from other sources that traditional lending activity and for which core earnings are therefore a poor measure of profitability. Banks for which low core earnings and high impairments cannot be explained by the above factors should, even though they are well-capitalised, consider whether there are temporary challenges or whether, if the opposite applies, they should make the required strategic choices.

Pressure on core earnings can encourage banks to increase credit risk and relax credit standards. Banks may be tempted to grant loans to weaker customers in return for higher interest, or generally to increase lending to high-risk sectors or sectors with higher interest margins.

The Danish FSA regularly conducts surveys of new lending by banks with a view to assessing whether they are accepting larger or new risks, see box 1. The survey of new lending for home purchases in Copenhagen and Århus conducted in Q4 2015 indicates that new lending for property in growth areas is increasing and that banks are relaxing their credit standards to win market share.

Box 1: Survey of new lending for home purchases in Copenhagen and

In Q4 2015, the Danish FSA conducted a survey of new lending by a number of banks to purchase homes in Copenhagen and Århus. The banks in the survey are all experiencing a relatively high rate of growth in lending, much of which is to private customers.

The background for the survey was the low level of interest rates and price developments in the housing market, in particularly in Copenhagen and Århus. The Danish FSA reviewed the 50 most recent new loans granted by the banks to purchase freehold and cooperative homes in Copenhagen and Århus in order to assess the decision basis and the specific loans.

The survey also included a review of the banks' credit policies and procedures for financing freehold and cooperative properties, and these were compared with the actual practices observed in new lending.

The survey confirmed the Danish FSA's impression of instensifiedcompetition between banks to finance home purchases in Copenhagen and Århus. The review of the most recent loans granted by the banks revealed examples of banks deviating from their own price lists.

The review also showed indications that, when assessing creditworthiness, banks are not focusing on customers' debt ratio particularly critically, if customers otherwise have a satisfactory disposable income. In many cases, banks exceeded their own internal limits, and often without justification.

Competition seems to be particularly tough for lending for cooperative flats in the Copenhagen area. There were a number of examples in the survey of loans of 100% of the value of cooperative flats and of banks not completing thorough assessments of the value of a specific cooperative flat or the cooperative association. There does not seem to be a critical approach to assessor valuations of properties, and there were examples of valuations based on a requirement for returns of around 2% that were not commented. This is especially critical, as financing for cooperative property is residual financing, after loans taken out by the cooperative association itself.

In general, the survey did not indicate a cautious approach by banks, although it is not assessed as irresponsible. The review of loan documents therefore left an impression of banks acting in haste for new lending for freehold and cooperative homes and this is also reflected in the creditworthiness requirements.

The survey was conducted before the guidelines from the Danish FSA on credit assessments for home loans in growth areas entered into force in January 2016. The survey confirmed the assessments forming the basis for the guidelines.

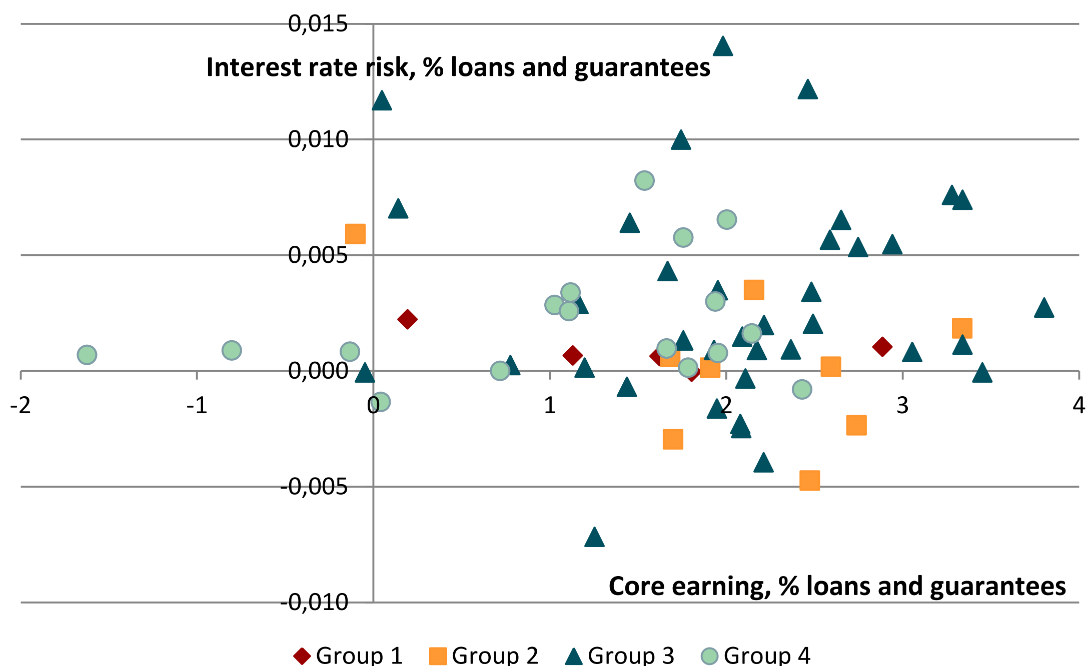
Banks can look for alternative sources of income, including by increasing their interest-rate risk. There are no indications that banks with low core earnings in general have higher interest-rate risk than banks with high core earnings, see figure 6. However, some banks with low core earnings have a very high interest-rate risk. Not surprisingly, banks with a very high deposits surplus have a high interest-rate risk, as the deposits surplus is invested in bonds and, in some cases, long-term bonds.

As the yield curve rises, longer terms mean higher interest income. If interest rates increase, however, the bank will suffer a capital loss which may prove higher than the higher interest income.

The trend is that banks reduce their trading portfolios – especially their bond portfolios. This is to generate more stable earnings on securities trading, which is increasingly based on fees rather than position-taking. These trends should also be seen in light of the changed regulations, see the section below on market liquidity.

Generally, banks have increased their equity exposures. However, the overall equity exposures are still small.

Figure 6: Core earnings vs. interest-rate risk, 2015



Source: Reports to the Danish FSA.

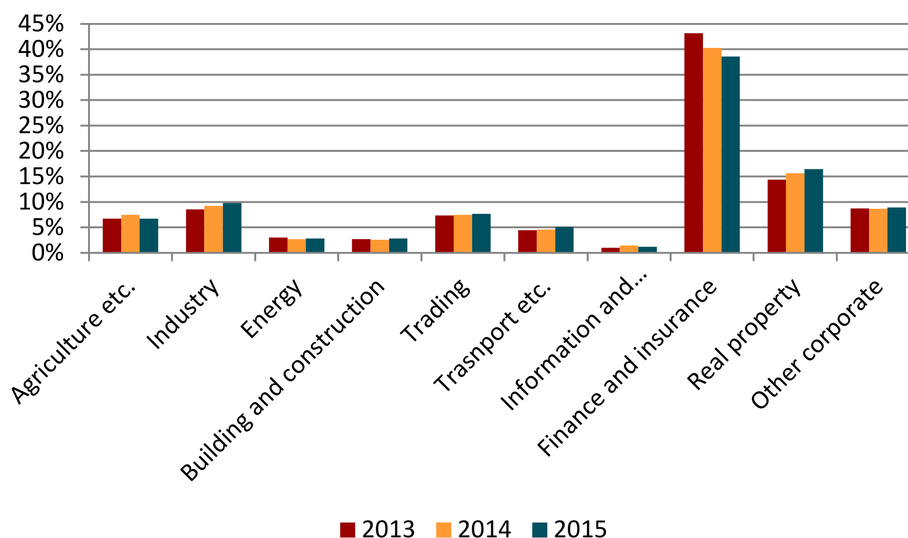
Loans and guarantees

Bank's total lending, excluding repo transactions, came to DKK 1,354 bn. at the end 2015; a small increase of 0.9% compared with the previous year. Guarantees increased from DKK 378 bn. to DKK 410 bn. which is an increase of 8%.

Loans and guarantees (in the following: lending) are broken down as 64% to businesses, 33% to private customers and 3% to the public sector. Lending to private customers and businesses increased by 1.0% and 3.6%, respectively.

There are considerable differences between trends in lending within individual sectors. With more than 39% of lending at the end of 2015, the finance and insurance sector is the largest sector; this is largely unchanged compared with 2014. Lending for industry and real property increased most in absolute and relative terms but there were also good increases within transport and trading, see figure 7. However, lending to agriculture etc. fell to 2013 levels. Bank's lending to agriculture came to DKK 92 bn. at the end of 2015 corresponding to 4.3% of total lending or 6.7% of all corporate lending.

Figure 7: Loans and guarantees by sector, in % of total corporate lending, 2013-2015



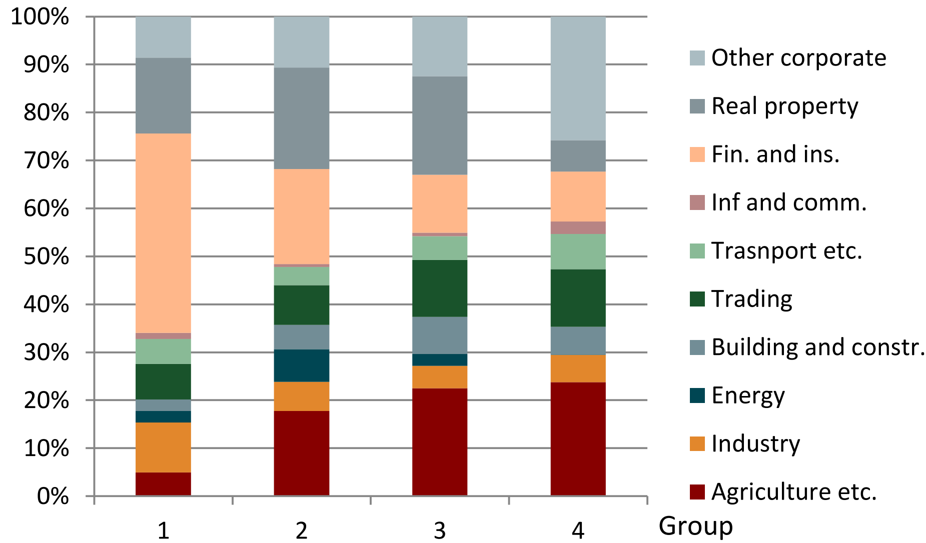
Source: Reports to the Danish FSA.

The composition of loans varies greatly between large and small banks. Corporate lending accounts for the majority of lending by large and medium-sized banks (Group 1 and 2 banks) at 66% and 58%, respectively, whereas lending to private customers is more prevalent in Group 3 and 4 banks. Here, lending to private customers accounts for 50% and 63%, respectively.

The composition of corporate lending also varies. Lending to agriculture is prevalent in smaller banks, and lending to industry, and in particular lending to financial undertakings are prevalent in the largest banks, see figure 8. The largest banks act as liquidity providers

to smaller banks that take out short-term loans against bond lending (so-called repo transactions).

Figure 8: Corporate lending and guarantees by sector broken down by groups, 2015

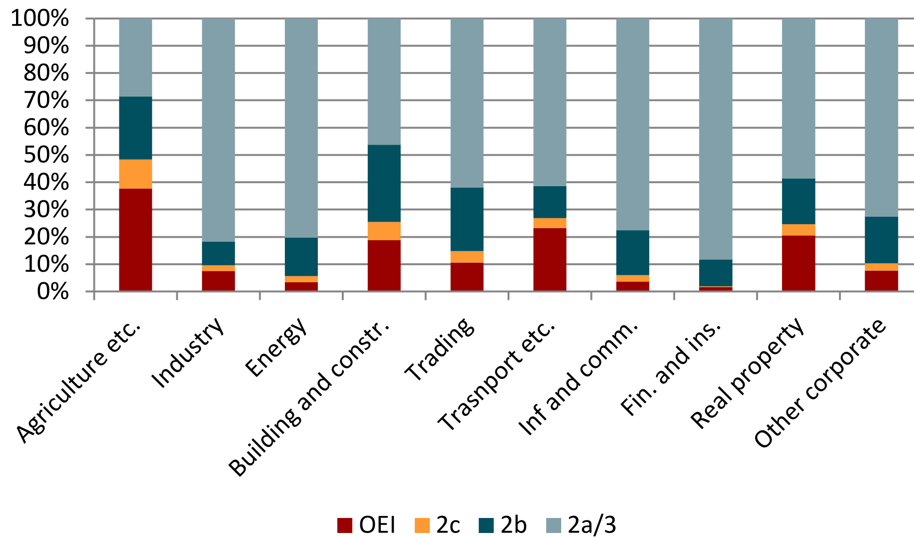


Source: Reports to the Danish FSA.

Credit quality and impairment charges

Credit quality reflects the risk of losses on the loan portfolio and it varies considerably within the individual sectors and industries, see figure 9. The percentage of lending with objective evidence of impairment (OEI), and on which it is most often necessary to make impairment charges, is highest within property-related industries, where banks are still weighed down by distressed loans granted up to the financial crisis. Moreover, there is a high percentage of weak loans with OEI within the transport sector, which is often challenged in weak periods of the economic cycle, as well as within parts of the agricultural sector which are struggling with high debt.

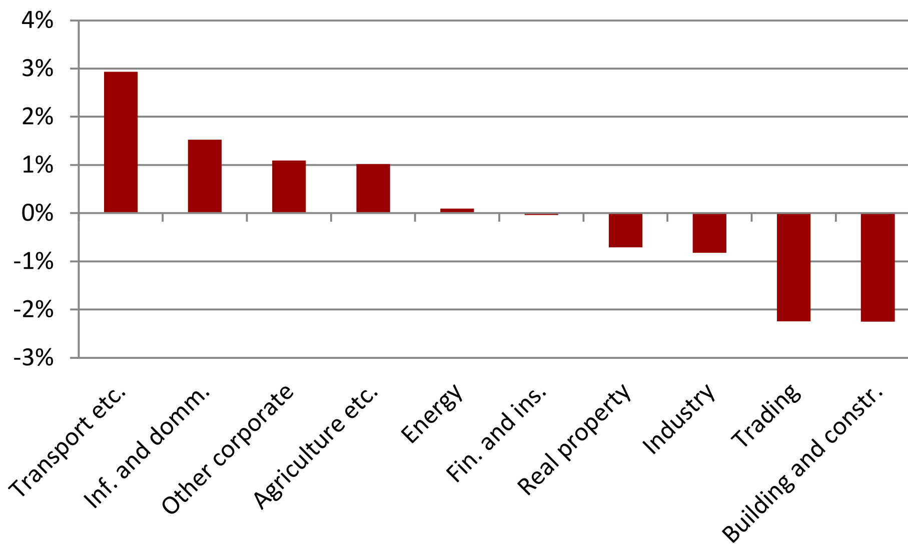
Figure 9: Credit quality by industry



Source: Reports to the Danish FSA.

The percentage of bank's total lending portfolio with OEI was largely unchanged compared with 2014. However, within some sectors, there was an increase in the percentage of loans with OEI, see figure 10. The percentage of the weakest lending in the transport sector increased by 2.9 percentage points to 23.2% of the total loan portfolio for this sector. The percentage of weak lending to agriculture continues to increase, and agriculture is thus by far the most challenged sector. The percentage of agricultural loans assessed to have OEI increased to 37.6%. Added to this is a large percentage of credit rating 2c loans at 10.7% to which the banks have typically taken solvency reservations for potential losses later on.

Figure 10: Change in loans assessed to have OEI - 2014-2015

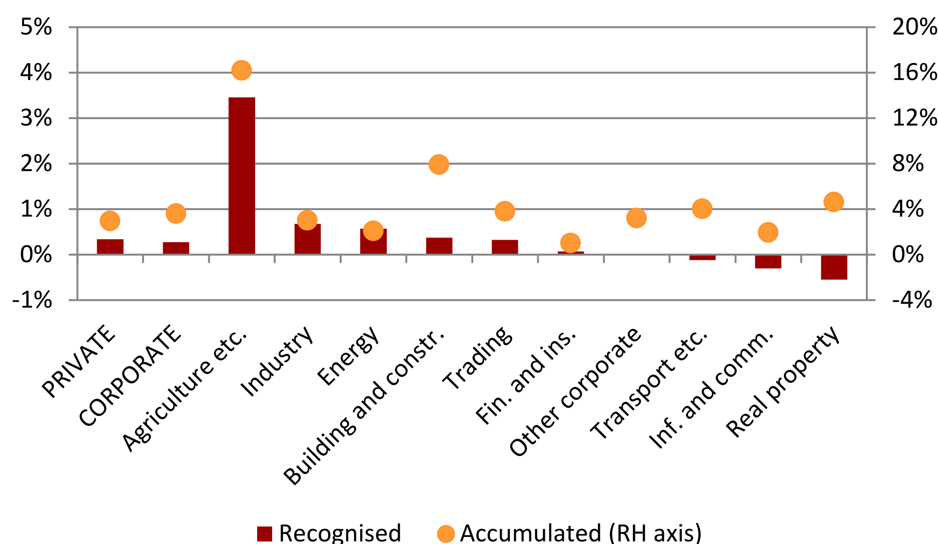


Source: Reports to the Danish FSA.

In recent years, impairment charges have fallen on loans to private and corporate customers as a whole. The agricultural sector is still hard-pressed, however, and this is reflected in both the weak credit rating and in the impairment charges. Impairment charges recognised in 2015 came to 3.5% of lending to the sector against 3.0% in the previous year. Banks have thus written down 16.2% of total lending to agriculture, see figure 11.

In other sectors, including the real property sector, banks have been able to reverse previous impairments on loans. Reversals are a natural consequence of improving economic trends and increasing values of collateral.

Figure 11: Impairment charges by sector, 2015



Source: Reports to the Danish FSA.

The capital situation

Whereas core earnings should be able to cover expected losses, capital should be able to absorb large unexpected losses, thus securing the continued operations of the bank.

The sector has consolidated further throughout 2015. The total capital ratio increased in all groups, apart from Group 3 banks where the total capital ratio is largely unchanged, see table 2. The largest increase in total capital ratio is in Group 4 banks, which are already the best capitalised banks. The same applies to the Tier 1 capital ratio of banks.

	Group 1			*Group 2*			*Group 3*			*Group 4*		
DKK mill.	*2014*	*2015*	*Change*	*2014*	*2015*	*Change*	*2014*	*2015*	*Change*	*2014*	*2015*	*Change*
Tier 1 capital	231,384	246,148	6.4%	35,348	35,650	0.9%	15,913	15,648	-1.7%	616	717	16.4%
Capital base	266,573	276,283	3.6%	37,788	38,871	2.9%	16,327	16,326	0.0%	618	718	16.2%
Risk-weighted items	1,218,874	1,203,068	-1.3%	214,009	210,838	-1.5%	94,327	94,041	-0.3%	2,494	2,504	0.4%
Total assets	3,558,956	3,144,019	-11.7%	320,423	302,610	-5.6%	131,182	135,042	2.9%	3,727	4,054	8.8%
Common Equity Tier 1 capital	215,600	224,124	4.0%	32,803	33,339	1.6%	14,740	14,500	-1.6%	605	706	16.7%
Tier 1 capital ratio	19.01	20.46		16.52	16.91		16.68	16.64		24.67	28.62	
Total capital ratio	21.86	22.96		17.68	18.44		15.64	15.42		24.77	28.65	

Source: Reports to the Danish FSA.

Excess solvency, calculated as the total capital ratio less the individual solvency need of banks (the regulatory capital requirement) largely increased over the previous year. The average excess capital thus increased from 7.2 percentage points to 7.6 percentage points, see table 3. Furthermore, 90% of the banks had excess solvency of 4.6 percentage points at year end 2015 against 2.7 percentage points at the same time in the previous year. Excess solvency in the best capitalised banks fell slightly, however.

Table 3: Spread in capital buffers at individual bank level, 2014-2015

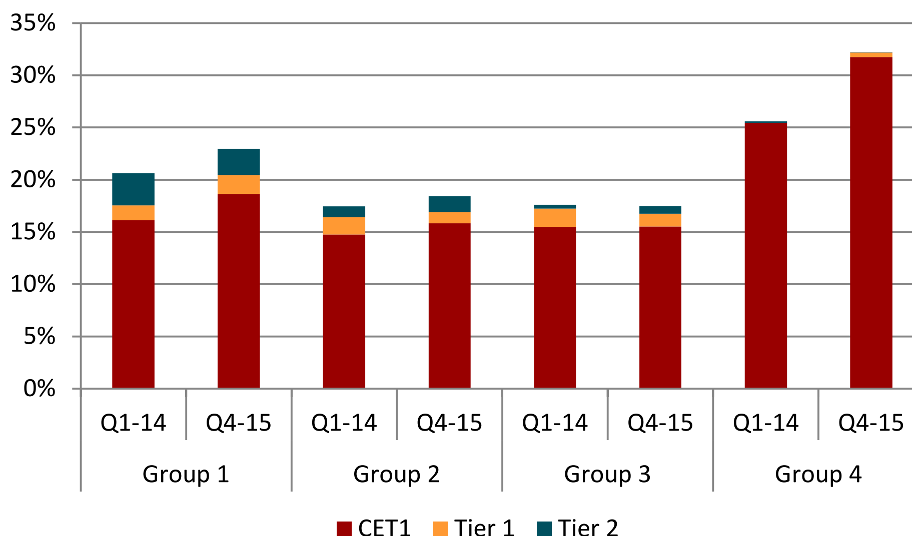
Year	*Fractiles*					*Average (weighted)*
	10%	*25%*	*Median*	*75%*	*90%*	
2015	4.6%	5.6%	8.2%	11.1%	15.7%	7.6%
2014	2.7%	5.2%	7.6%	11.4%	16.5%	7.2%

Source: Reports to the Danish FSA.

The new capital adequacy rules (CRR/CRD IV), which were introduced as a response to the financial crisis, aim at strengthening the own funds of banks. This strengthening should take place through more and better capital, see also Pengeinstitutternes regnskaber 1. halvår 2013 (in Danish only), the Danish FSA.

Since entry into force of the new regulations at the end of 2014, banks have increased their own funds, and they have generally improved their composition of capital such that, today, Common Equity Tier 1 capital is more prevalent than at the beginning of 2014, see figure 12. Among other things, banks' state hybrid capital taken up in connection with the financial crisis has now expired and is therefore no longer reflected in the 2015 figures. Note that already before the new regulations took effect, banks had undergone a process, and therefore the adaptation is actually higher than shown in the figure.

Figure 12: Capital composition in banks, 2014 Q1-2015 Q4



Source: Reports to the Danish FSA.

Bank dividends

Banks' dividend payments and buy-backs of own shares increase as banks make a profit. At the same time, banks step up their expectations for return on equity. High dividends can be attractive to the shareholders. However, high dividends may also undermine capital, to the detriment of shareholders and financial stability.

High targets for equity may also generate an expectation of high future dividends. This may pressure banks to pay out high dividends, even if earnings fail.

Solvency can be maintained intact even with high dividends when the return on equity is high and lending growth is low, as it is today. If expectations for a high return on equity are not met - and there is actually a genuine risk that they will not be met (see the section on banks' earnings above) - high dividends will dilute the capital, also with moderate lending growth.

This is illustrated in figures 13a and b, which show developments in the total capital ratio at different values of lending growth and dividend rate. In both figures, it is assumed that the bank has an initial capital corresponding to 15% of its risk-weighted exposures.

Figure 13a: Development in total capital ratio with return on equity of 15%

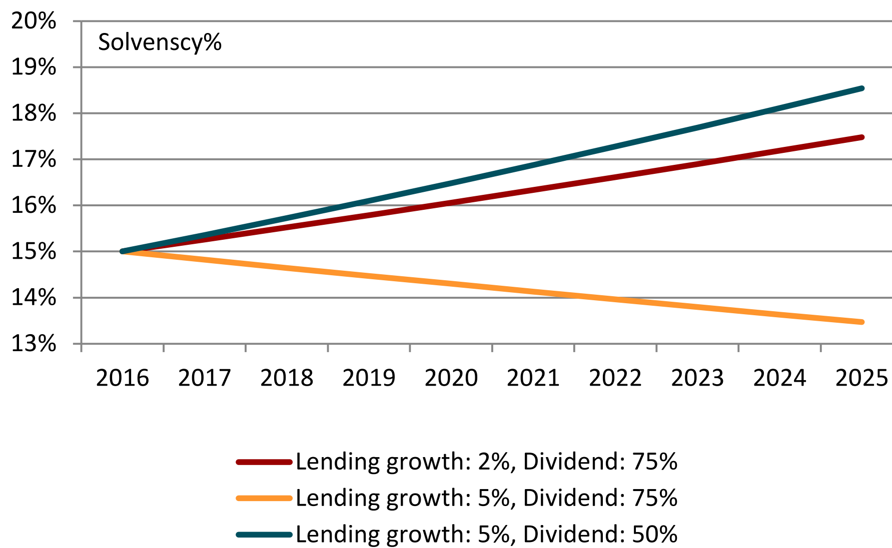
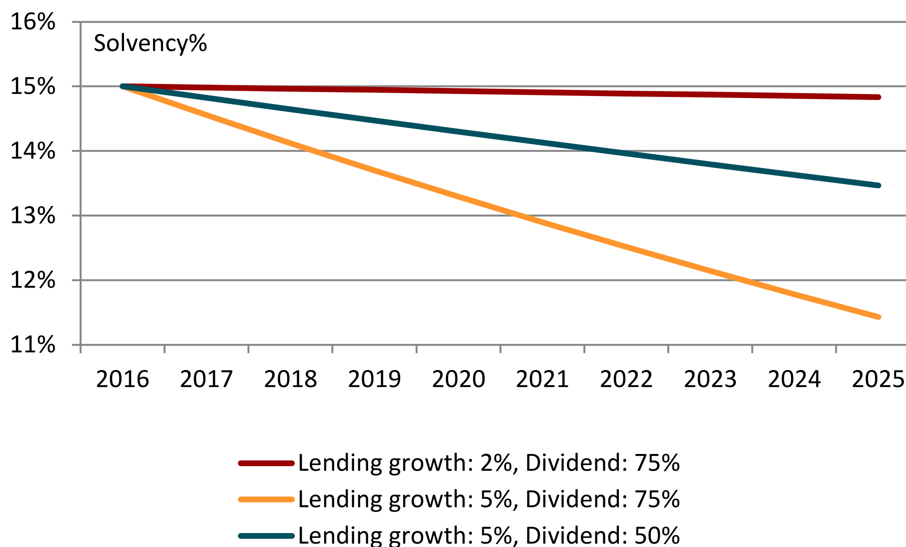


Figure 13b: Development in total capital ratio with return on equity of 7.5%



As illustrated in the above figures, there is a point that tips the balance, where a combination of unfulfilled targets for return on equity, continued high dividends and growth in the risk-weighted exposures of the bank result in falling solvency and weaker resistance.

History has shown that it can be costly to raise capital in difficult times. Banks should therefore consolidate themselves in the good years and be cautious about excessive dividend payments and share repurchases.

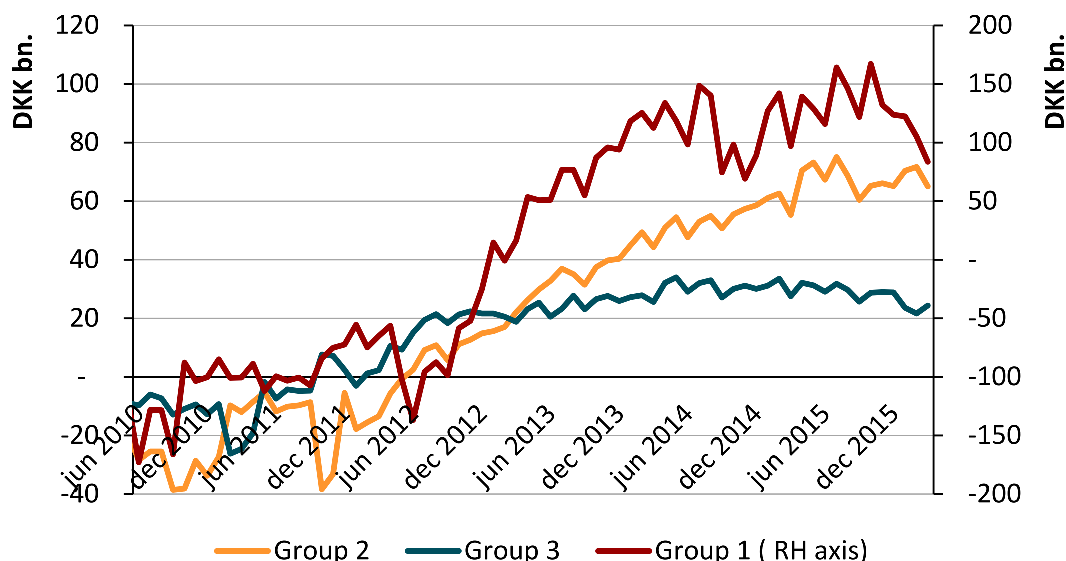
Bank liquidity and funding

Banks' lending and other assets are financed primarily through deposits, issues of various debt instruments as well as lending from other credit institutions and central banks. The composition of the different sources of finance is crucial for the liquidity risks of banks.

In the years leading up to the financial crisis, Danish banks developed a significant deficit of deposits. In 2013, this was turned into an overall deposits surplus. At the end of 2015, the deposits surplus was DKK 221 bn.

Generally, the low-interest-rate environment does not seem to have had significant negative consequences for the deposits base of banks.

Figure 14. Deposits surplus excl. repos – by Group, 2010-2015

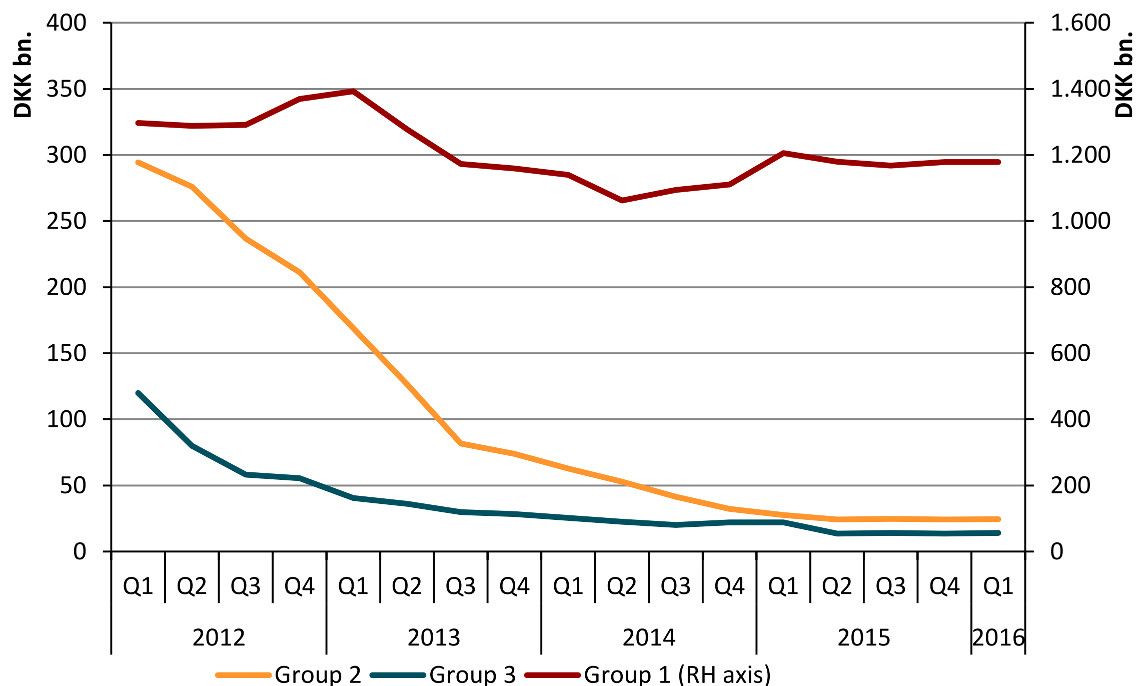


Source: Reports to the Danish FSA.

The trend with increasing deposits surplus has meant changes in the financing structure of banks, as the need for other sources of financing has been reduced. Banks' need for market financing has thus been significantly reduced. The issuance volume for banks in Groups 2 and 3 in particular has been significantly reduced, see figure 15. The significant fall in the issuance volume for Groups 2 and 3 banks is primarily due to maturity and early

redemption on issuances with individual state guarantee (the scheme has ceased). In the assessment of the Danish FSA, the smaller dependence on market-based funding has created a more sustainable financing structure for many banks.

Figure 15: Issuance volume (outstanding balance)[1] in Groups 1, 2 and 3, 2012-2015



Source: Reports to the Danish FSA.

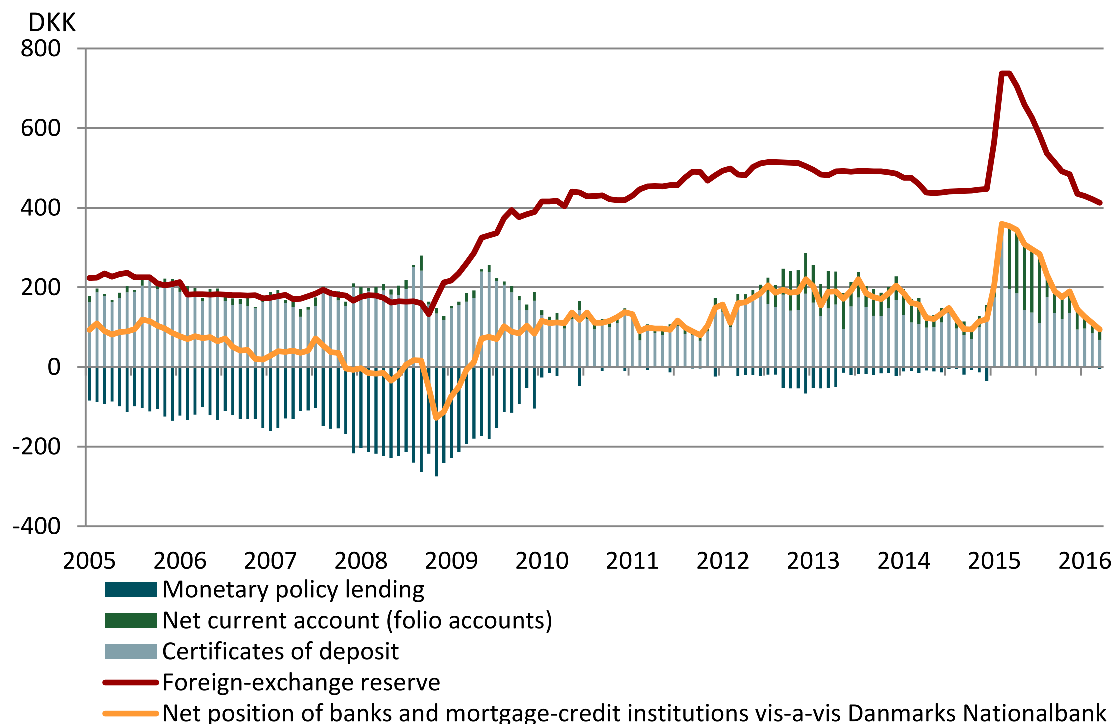
It should also be noted, however, that recent years' adjustment to the balance-sheet structure of banks are closely linked to the general macro-economic developments in society as well as to actions by Danmarks Nationalbank (Central Bank of Denmark). Developments in the relationship between deposits and lending in the bank sector thus depend on factors which the banks themselves may influence, and a number of external factors which is beyond the control of the banks..

The total liquidity of banks is thus affected by currency interventions by Danmarks Nationalbank (Central Bank of Denmark). Danmarks Nationalbank (Central Bank of Denmark) meets the Danish fixed exchange rate policy goals against the Euro by regularly buying and selling Danish kroner against currency on the market.. Liquidity is consequently regularly added or absorbed by the Danish banking sector. The foreign exchange reserve has increased considerably in recent years, and this has given rise to relatively plentiful liquidity

[1]Calculated at individual bank level, i.e. not at group level. Includes banks' market-based financing with original maturity of more than 1 year.

in the sector, and the sector's net position in relation to Danmarks Nationalbank (Central Bank of Denmark) has increased, see figure 16.

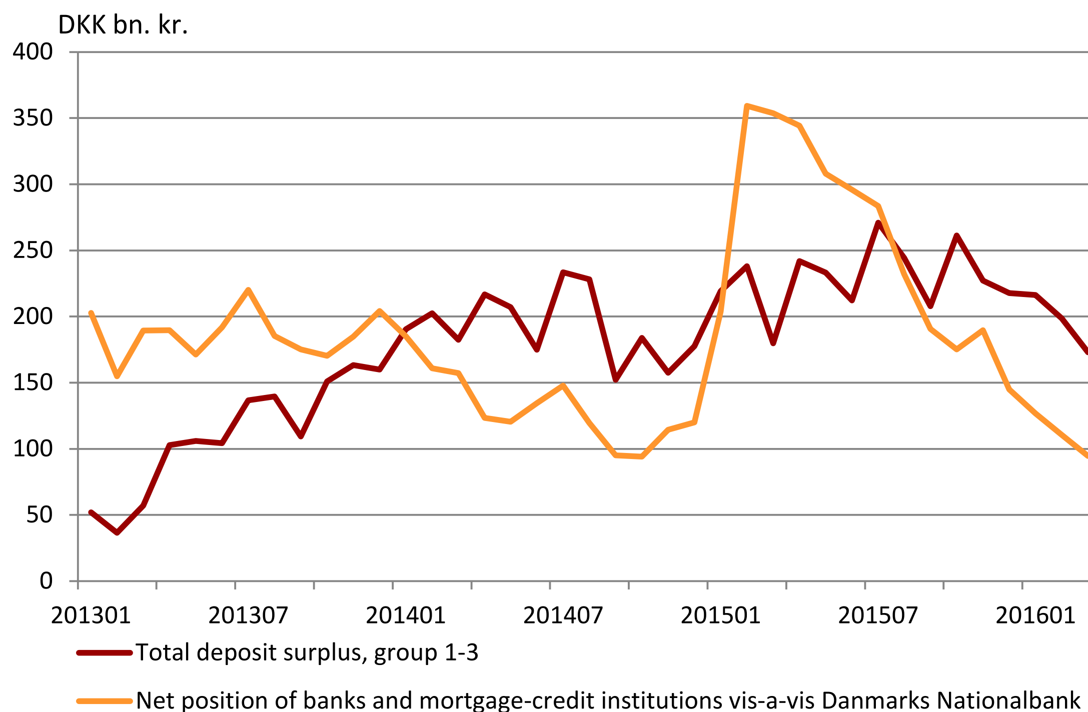
Figure 16: Development in the foreign exchange reserves and net position in relation to Danmarks Nationalbank (Central Bank of Denmark)



Source: The statistics bank of Danmarks Nationalbank (Central Bank of Denmark), the table, Specification for the Balance Sheet of Danmarks Nationalbank (Central Bank of Denmark) by specification and instrument.

The deposits surplus of the sector is closely linked to the net position in relation to Danmarks Nationalbank (Central Bank of Denmark), see figure 17. Therefore, it is important that banks not only focus on the liquidity effects of their own behaviour, but also on the liquidity effects of external factors such as the currency interventions by Danmarks Nationalbank (Central Bank of Denmark) and other money policy operations.

Figure 17: Sector deposits surplus and net position in relation to Danmarks Nationalbank (Central Bank of Denmark)



Note: The Group 1 banks are all SIFI banks. The data must be interpreted cautiously, as the two time series in the figure have been calculated differently as a consequence of different statistical definitions to the data of Danmarks Nationalbank (Central Bank of Denmark) and the Danish FSA, respectively. Source: The statistics bank of Danmarks Nationalbank (Central Bank of Denmark), the table, Specification for the Balance Sheet of Danmarks Nationalbank (Central Bank of Denmark) by specification and instrument, reports to the Danish FSA and own calculations.

The LCR requirement

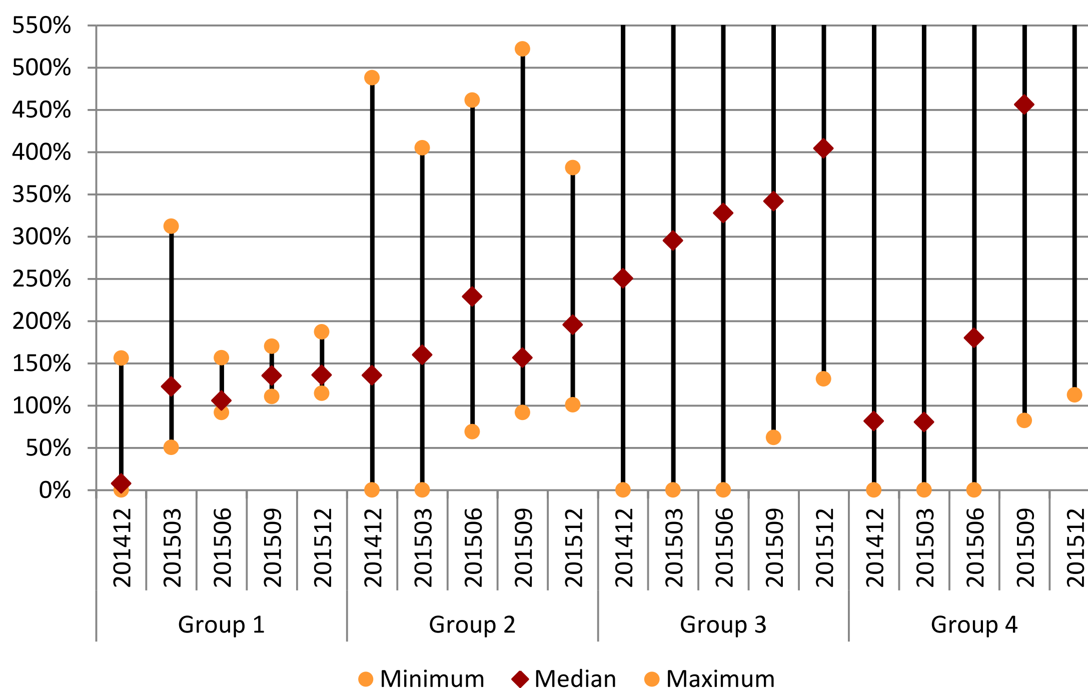
From 1 October 2015, Danish credit institutions have been subject to the new common European liquidity coverage requirement; the LCR. The requirement requires that banks always hold a large portfolio of highly liquid assets to cover possible imbalances between incoming and outgoing cash flows during a 30-day intensive liquidity stress. All the banks meet the new liquidity requirement.

The LCR requirement will be gradually phased in up to 1 January 2018 which means that since 1 October 2015 banks have been subject to an LCR requirement of 60%, and an LCR requirement of 70% since 1 January 2016. From 1 January 2017, the requirement will be 80% and from 1 January 2018, the requirement will be 100%. However, for SIFIs, the LCR requirement was fully phased out (100%) from 1 October 2015 and at the same time, SIFIs are exempt from the special Danish liquidity requirement laid down by section 152 of

the Financial Business Act. For other institutions, the section 152 requirement will be phased out at the end of 2016.

Figure 18 estimates banks' LCR on the basis of the existing data for Groups 1-4 in the period from December 2014 to December 2015. The figure shows that throughout 2015, banks have continuously adjusted their liquidity to be able to comply with the LCR requirement when it entered into force. As at 1 October 2015 all banks thus met the LCR requirement of 60% as a minimum, and as at 1 January 2016 the requirement of 70% was met. It is also stated that SIFIs met the LCR requirement of a minimum 100%.

Figure 18: Median, smallest and largest LCR



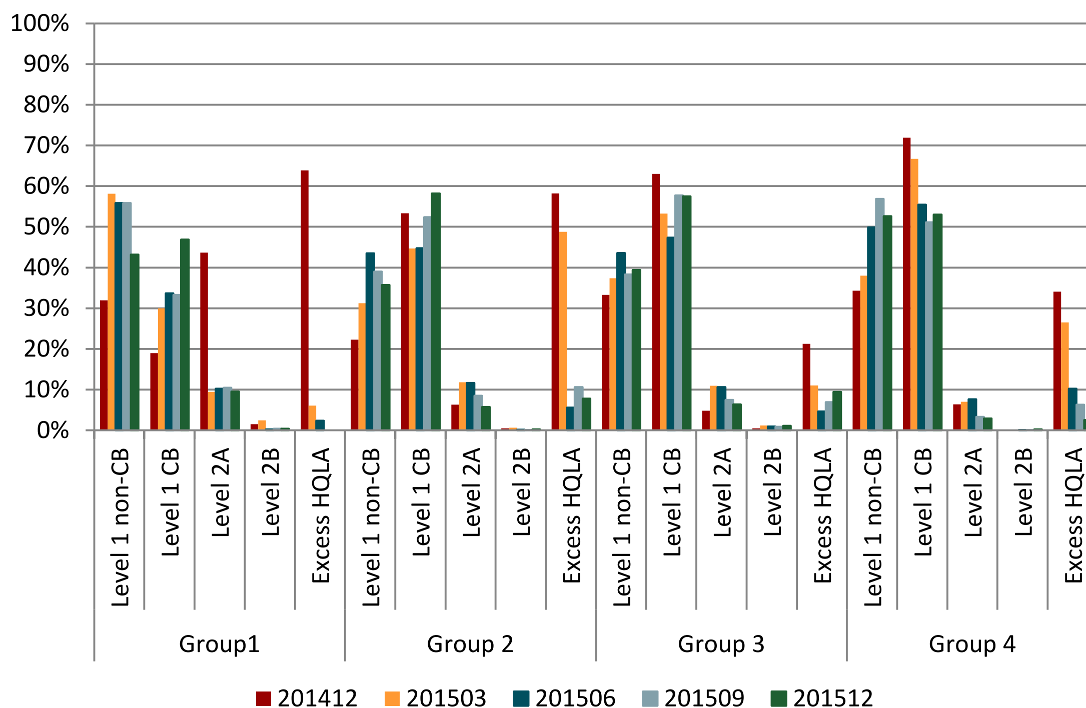
Note: The Group 1 banks are all SIFI banks. For Group 3 banks, the LCR maximum is at a level between 1,000-3,000% and for Group 4 banks between 2,000-400,000%. Source: Reports to the Danish FSA and own calculations.
Source: Reports to the Danish FSA.

The LCR requirement also defines which assets are considered liquid and sets further restrictions as to the share of mortgage-credit bonds that may account for the total liquidity reserve, for further description, see Market Developments, Banks 2014.

Throughout 2015 several banks have had a different distribution of liquid assets than the LCR requirements for the composition of the liquidity buffer. Particularly the requirement of a maximum of 70% of liquid assets to be covered bonds, classified as level 1 covered

bonds[2], is important for several banks. Throughout 2015, a number of banks have thus had to adjust the composition of their liquid assets in order to be able to comply with the LCR requirement, see figure 19. Probably for earnings-related reasons, several banks did not carry out the required change until very close to 1 October 2015. Generally, therefore, banks have had no need to increase their volume of liquid assets in order to meet the LCR requirement. It is noted that there are no requirements that the entire portfolio of liquid assets be included in the LCR, and therefore, for business reasons, some banks may choose to maintain a portfolio of liquid assets that cannot be part of the LCR calculation due to the requirements regarding the composition of the LCR buffer.

Figure 19: The distribution of liquid assets before adjustments [3]



Note: Excess HQLA is surplus liquidity not included in the portfolio of liquid assets, as the composition of liquid assets does not meet the requirements in the LCR Regulation.
Source: Reports to the Danish FSA.

LCR in currency

The LCR requirement applies to the total liquidity position of credit institutions. There are no requirements for the LCR requirement to be complied with in each currency, but there are requirements that the currency of net cash flows and liquid assets must match. This means

[2]For further description of the classification of different assets in relation to the LCR requirement, refer to appendix 7.
[3] When calculating liquid assets, a number of adjustments in relation to the total portfolio of liquid assets of the bank are made in the LCR calculation. When calculating the LCR, adjustments are made for repo transactions with expiry within 30 days and cap limitations in relation to liquid assets.

that credit institutions are to monitor the continuous match between the composition of currency of their portfolio of liquid assets and their cash flows in the LCR-assumed stress scenario, and ensure that there is a sufficient match between them.

Under stressed market conditions, the outgoing cash flows of SIFIs in foreign currencies in particular may be so massive that it may be extremely difficult to counter a potential liquidity flow in a given currency, if the bank does not have sufficient liquid funds in the same currency. Furthermore, experience from the financial crisis is that, during stressed market conditions, it may be difficult for the banks to move from one currency to another. In such situations, options may also be limited, and therefore it is important that SIFIs have sufficiently robust business models to manage currency liquidity risks under stressed circumstances.

Liquidity benchmark of the supervisory diamond

The new common European liquidity requirements "Liquidity Coverage Ratio" (LCR) entered into force on 1 October 2015 to replace the Danish liquidity requirements laid down in section 152 of the Financial Business Act, which will be phased out at the end of 2016. In light of this, the Danish FSA is reassessing the current liquidity benchmark of the supervisory diamond, which is based on the section 152 statutory requirement, such that in future the benchmark will be based on the LCR requirement.

The LCR requirement is a liquidity requirement based on 30 days' liquidity stress and the requirement applies to all banks and mortgage-credit institutions. The Danish FSA is working to develop a new liquidity benchmark for banks going beyond the LCR horizon of 30 days. The Danish FSA is considering a benchmark based on a projection of the LCR requirement, setting a minimum requirement for the duration in which a positive liquidity should be maintained - a "survival horizon". The benchmark will lay down a minimum limit for the duration in which the liquidity buffer is to cover the liquidity need under stressed conditions.

With a view to calibrating such LCR projection and a specific benchmark in the form of a minimum limit for a "survival horizon", the Danish FSA expects to conduct an purpose designed data collection from banks. In the long term, the Danish FSA expects that the coming "Maturity Ladder" where the maturity profile of banks' funding is shown, from the so-called Additional Liquidity Monitoring Metrics, will be able to form the basis for monitoring by the Danish FSA of banks' compliance with the liquidity benchmark.

Market liquidity

The new regulation may have unintended consequences for market liquidity. The LCR requirement in particular has given rise to adjustment of portfolios, see above, as assets which could previously be included to comply with the section 152 liquidity requirement may now only be recognised with certain limitations.

Consequently, banks do not have the same incentive as previously to own e.g. mortgage-credit bonds. In theory, this may mean that banks are less willing than previously to buy large quantities of mortgage-credit bonds from market participants without having a buyer in the other end.

The overall assessment is that the financial markets - including the market for Danish mortgage-credit bonds - continues to thrive, despite the banks having carried out significant adjustments in their portfolios throughout 2015. However, analyses of market liquidity show that market liquidity has become less robust[4].

Adjustments to the product range, including a development towards fewer small bonds series, may be appropriate in relation to ensuring sufficiently large market liquidity. The Danish FSA is positive towards sector initiatives that may improve market liquidity for mortgage-credit bonds in the future and is closely monitoring trends in market liquidity.

Asset encumbrance

Assets are considered encumbered when used as collateral for creditors' claims. This collateralisation may either be used to obtain financing, e.g. through repo transactions, covered bonds or asset-backed securities (ABS) or for trading and risk management, e.g. derivatives and securities lending. Asset encumbrance is thus a natural part of many banks' business model. New common European statutory and reporting requirements in the area entered into force in 2014 and at the beginning of 2015, respectively, see box 2.

[4] See e.g. Committee on the Global Financial System: "Fixed income market liquidity", CGFS Papers No. 55 and Danmarks Nationalbank (Central Bank of Denmark) (2015): "Financial Stability 2nd half-year 2015".

Box 2: Statutory requirement for risk management and reporting of asset encumbrance

Statutory requirements for banks' risk management of asset encumbrance were implemented by the Executive Order on Management and Control of Banks etc. in March 2014. The Executive Order sets requirements that, to an extent corresponding to their size and business, banks must have principles for their approach to asset encumbrance, including management of their encumbrance level and calculation of the extent of asset encumbrance in ongoing internal reporting. In practice this means that all banks must include a point on asset encumbrance in their liquidity policy. Moreover, the banks must have a strategy for management of further asset encumbrance as a consequence of stress, to the extent relevant, as well as relevant procedures and instructions. The statutory requirements show that there is a number of banks with a significant degree of asset encumbrance in relation to their size, as well as a number of banks which have no encumbered assets at all.

The Regulation defines the ratio for calculation of the individual bank's level of asset encumbrance as follows:

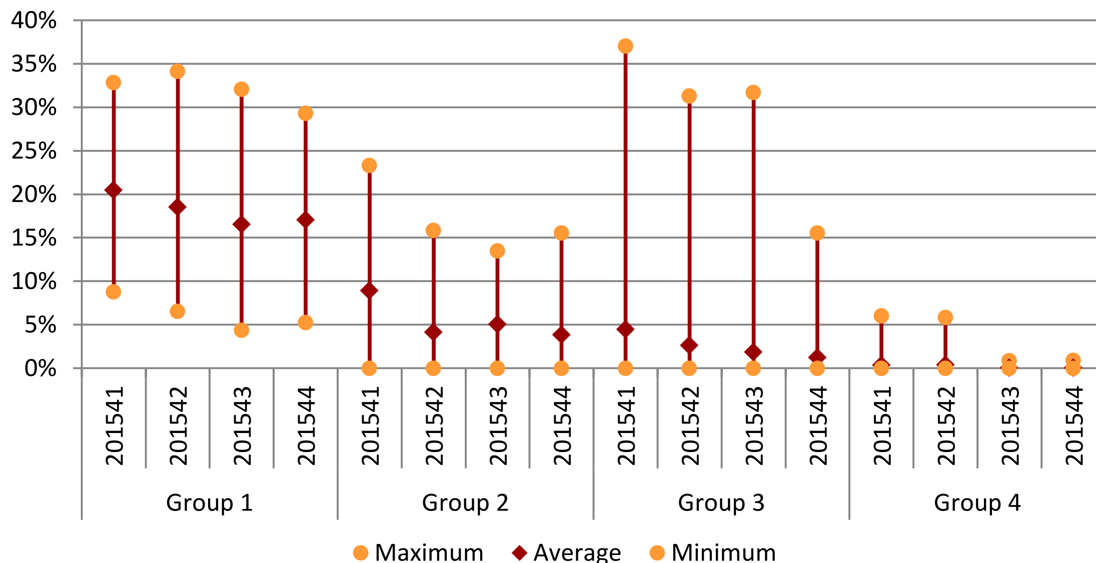
$$\textit{Encumbrance ratio} = \frac{\textit{Encumbered assets and re-encumbered collateral received}}{\textit{Assets in the balance sheet and total collateral received}}$$

In stress situations, encumbrance of assets may be an important tool for credit institutions, as this is a way to obtain liquidity. In contrast, a disproportionally high level of encumbrance has a number of negative consequences. Encumbered assets are thus not available to unsecured creditors, including depositors, if the bank enters into liquidation or goes bankrupt. As potential investors take this into consideration, the level of asset encumbrance influences the bank's future access to the unsecured financial markets. A bank with a high level of asset encumbrance at the beginning of a period of stress may therefore have more difficulty obtaining financing when the period of stress occurs. The bank has fewer assets available which it can use to obtain secured financing. High levels of encumbrance may therefore create liquidity challenges for the individual banks.

Figure 20 shows the average encumbrance ratio of banks in Groups 1-4 and the lowest and the highest encumbrance ratio for each group, respectively. In general, Group 1 banks have higher encumbrance ratios than the smaller banks. Among other things, this is due to a larger extent of repo transactions and derivative contracts, partly attributable to the fact that the largest banks are largely acting as market makers. Banks acting as market makers often use the repo market to 1) cover the short positions of market makers through reverse

repo transactions[5], 2) loan out the long positions of market makers through repo transactions.

Figure 20: Average, lowest and highest encumbrance ratio for Groups 1-4



Note: Calculated at solo level. The Group 1 banks are all SIFI banks.

Source: Reports to the Danish FSA and own calculations.

The smaller banks typically have lower levels of asset encumbrance and the asset encumbrance for these banks is primarily linked to central-bank liquidity. However, many smaller banks do not have encumbered assets at all, neither do they receive collateral.

New regulations for resolution of failing banks

The financial crisis showed a need for a common resolution regime at EU level with tools to effectively manage non-viable or failing banks. The new EU crisis management directive (BRRD[6]) was implemented and took effect in Denmark on 1 June 2015.

The directive provides the authorities with a set of tools to take early and quick action against a non-viable or failing bank. The aim is to ensure the continuity of the bank's critical

[5] A repo transaction is a loan against collateral. One party sells securities to the other party and simultaneously enters into an agreement with the counterparty to buy-back the securities at a later stage. The price at the time of the buy-back reflects the lending rate. A reverse repo is the same transaction, except seen from the party making liquidity available.

[6] Directive 2014/59/EU on establishing a framework for the recovery and resolution of credit institutions and investment firms

functions and at the same time minimising the effects of a bank's failure on the economy and the financial system. Furthermore, the BRRD aims to minimize the costs for tax-payers associated with the resolution of a bank.

The new directive requires countries to establish resolution authorities which are to prepare resolution plans for all banks. The resolution plans are the authorities' plans for the resolution of individual banks if they fail. The resolution plans focus on identifying critical functions, i.e. the functions the discontinuation of which is likely to lead to the disruption of services that are essential to the real economy or to disrupt financial stability. One example is bank customers' access to carrying out their daily transactions.

As part of the resolution planning, a minimum requirement for own funds and eligible liabilities (MREL) must be set. This will ensure that a failing bank has sufficient eligible liabilities and own funds to absorb losses and recapitalise the bank so that critical functions can be continued without using public funds. The new requirement therefore consists of a loss-absorption amounts and a recapitalisation amount.

As in other EU regulation, the European Commission has been mandated to issue delegated regulations under the BRRD. The delegated regulation on MREL has not yet been finalised, and the framework for how Denmark and other EU countries will be setting MREL is thus not final. However, the European Banking Authority (EBA) has published a draft technical standard.

On the basis of the EBA's draft, management of failing banks can be divided into three overall approaches:

- Restructuring of the bank which can subsequently be returned to the market
- Continuation of parts of the bank, typically the critical functions, and resolution of the rest of the bank
- Bankruptcy

The EBA's draft generally sets the loss-absorption amount equal to the bank's capital requirement, including capital buffers, whereas the recapitalisation amount will depend on the resolution strategy.

If a bank is returned to the market, the recapitalisation amount must be sufficient for the bank to meet its solvency need after the restructuring, whilst also maintaining sufficient market confidence. This strategy is expected to be used for the largest banks in Denmark.

If only parts of the bank are continued, the recapitalisation amount and thus the total MREL will be reduced.

If a bank is resolved through bankruptcy, there will not be a need for recapitalisation and, as a general rule the amount will be set at zero. Generally, bankruptcy will not be used for banks in Denmark.

Denmark has yet to decide on a framework for resolution strategies and the new requirements. The first resolution plans and setting of MREL are expected to be completed before the end of 2016. It will be appropriate to allow banks time to comply with the new requirements. Therefore, the requirements are expected to be phased in gradually. Even though time will be allowed for banks to comply with the new requirements, they will pose a challenge for some banks. Therefore banks should consolidate further and prepare for the new requirements.

International regulation

At international level, a number of regulation initiatives with potentially far-reaching consequences for Danish credit institutions are under consideration. The Danish FSA is monitoring these initiatives closely and will exercise influence, particularly where special Danish conditions require special solutions. Often, concerns for the Danish mortgage-credit system require the Danish FSA and other Danish authorities to actively influence ongoing initiatives.

Basel IV - new standard method and floor requirement

Basel IV is the popular title for a number of new initiatives under the Basel Committee. The initiatives are comprehensive and the sections below focus on the elements assessed to be of the greatest importance for Danish banks.

The proposals include changes in the standard method for calculation of the credit risks, market risks and operational risks of banks. In most cases, tighter measures are proposed, but there are also examples of relaxations in relation to the current Basel III standard.

The initiatives cover the introduction of a new floor requirement for the capital of banks and mortgage-credit institutions. The description of the floor requirement has special significance for the banks using internal models to calculate credit and market risk. Banks using internal models typically have a lower estimation of risk than the corresponding calculation

according to the standard method. The floor requirement sets limitations for the size of "rebate" that banks that have invested in advanced internal models may obtain.

The proposals also set limits for the parameters used to calculate the probability of bankruptcy and losses in connection with bankruptcies. This may become important for mortgage-credit institutions in particular, which are today operating with significantly lower loss parameters in connection with bankruptcy than the floor in the existing proposal.

The Basel Committee also proposes a limitation in the use of internal models in areas where the statistical basis is too limited.

Furthermore, the Basel Committee has proposed a change in relation to the gearing ratio. The gearing ratio (or the leverage ratio) sets limits for a bank's assets in relation to capital, taking into account the risk on these assets. The change compared with the current form, which is now being implemented by the EU, means that the systemically important institutions must meet stricter requirements than other institutions.

Denmark is not a member of the Basel Committee and therefore only has indirect influence on the design of the Basel IV standard. The Danish FSA uses both formal and informal channels to pinpoint inexpediencies in the present proposals. The Basel regulations must be incorporated in EU law before they takes legal effect in the EU, and in this connection, Denmark has a more direct opportunity to influence whether and how the standard is implemented in the EU.

The new Basel regulations are expected to be implemented from 2019. The new gearing regulations are expected to be implemented in 2018, however.

Denmark has good experience with early stakeholder involvement. Thus, due to the Danish FSA's active participation in the EBA (European Banking Authority), Denmark has been in a position to exercise significant influence over the shaping of the LCR regulations (which also derive from the Basel Committee). Through this participation, Danish mortgage-credit bonds were given a considerably more lenient treatment than proposed.

NSFR - requirements for bank financing

Together with the LCR, the Net Stable Funding Ratio (NSFR) was introduced by the Basel Committee in 2009. It was revised in 2014 and it was recommended to implement the re-

quirement from 2018. The NSFR aims at ensuring that the institutions have sufficiently stable financing of their assets.

In December 2015, based on the Basel Committee's definition of the NSFR, the EBA published a report on whether and how it should be ensured that institutions use stable sources of financing. Overall, the EBA report recommends that the NSFR, as defined by the Basel Committee, be implemented by EU for credit institutions at consolidated and individual levels.

In addition to specific recommendations, the EBA report on the NSFR includes an impact assessment, which concludes that the introduction of NSFR in the EU generally will have no inappropriate consequences for the banking sector or the lending activity in the EU.

With the EBA report on NSFR as its point of departure, the European Commission must, by the end of 2016, if required, present a legislative proposal to the European Parliament and the Council of Ministers on how to ensure sufficiently stable financing of the assets of institutions.

In Denmark, the design of a stable financing requirement is particularly important for the opportunities of mortgage-credit institutions to be able to offer floating-rate loans, as these products may lead to increased requirements for stable financing, and thus higher costs, for mortgage-credit institutions. The current trend moving away from shorter floating-rate loans, as well as the introduction of the Refinancing Act, will contribute to limiting any challenges of mortgage-credit institutions in connection with a European stable financing requirement.

IFRS9 - New accounting standard
The new international accounting standard IFRS9 enters into force on 1 January 2018. Among other things, the standard introduces a new impairment method for loans measured at amortised cost. In the future, institutions must acknowledge impairments earlier than today.

The new impairment method means that measurement of loans moves from a losses incurred approach to losses expected. Impairments under the new impairment method are broken down into three stages. On first recognition of loans, an expected 12 month loss in the impairment charges is recognised (stage 1). If the credit risk of a loan subsequently increases significantly in relation to the credit risk at the time of the initial recognition, the

loan is transferred to stage 2 where an expected life-span loss of the loan is recognised. Stage 3 includes objective evidence of impairment for individual loans under the current regulations.

The standard must be used by all undertakings which are required to prepare consolidated financial statements according to the IFRS. Danish regulations for other credit institutions are also likely to be changed so that they continue to be IFRS compatible with regard to recognition and measurement of impairment charges. The impairment method in the Danish regulations will therefore be adapted to ensure IFRS compatibility.

Experience from the transition to international accounting regulations (IAS 39) before the financial crisis was that timely impairment charges are crucial for the robustness of the system. Failure to carry out sufficient impairment charges in time makes it very difficult to wind up a bank without causing serious ramifications for the local community, the employees, management and the creditors. Insufficient impairment charges also undermine the credibility of the entire banking sector.

The introduction of new international accounting regulations (IAS 39) in 2005 led to an improvement in the measured solvency of the banks, as impairment charges became lower than previous provisions. Thus, in practice, this was a relaxation in the capital requirement, which increased the lending capacity of institutions.

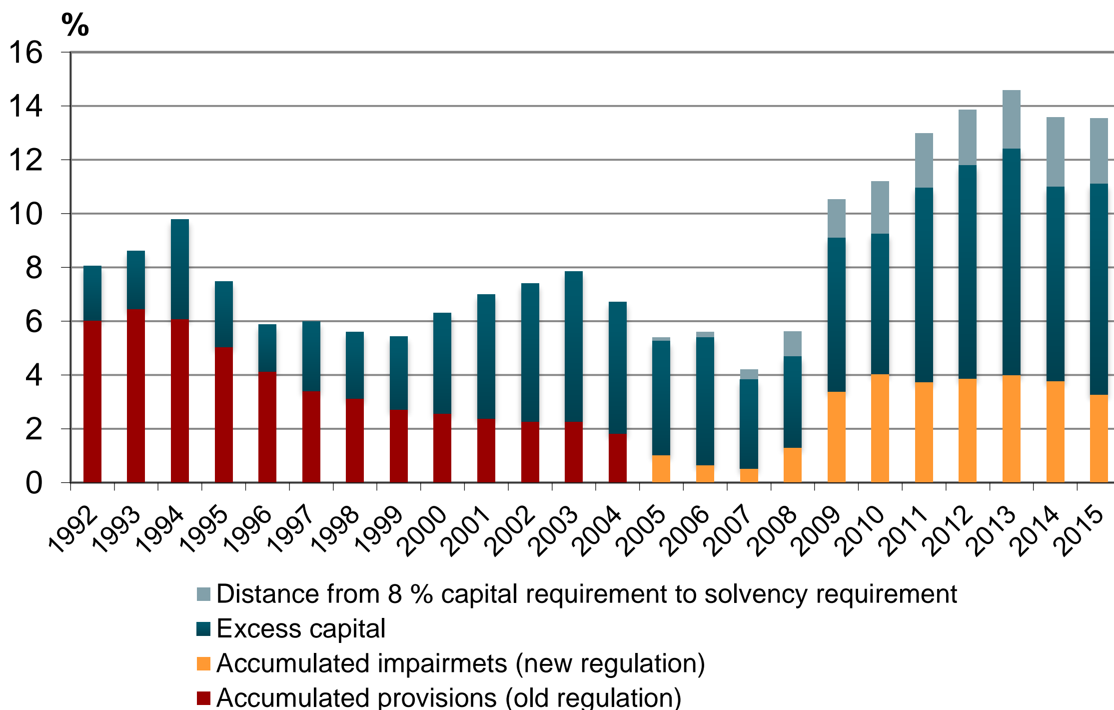
Before 2005, the Danish regulations were based on a principle that meant that write-offs and provisions were to be carried out to the extent that management estimated it to be necessary, and that write-offs and provisions for ascertained and probable losses should be carried out.

In contrast, the IAS 39 regulations from 2005 are based on a principle meaning that exposures are not to be subject to impairment charges until losses have been incurred. Thus, fewer impairment charges needed to be carried out after 2005.

The new regulations meant that institutions could revalue their equity because the new accumulated impairment charges were lower than the previously accumulated provisions. The new regulations also meant that there would be less impairment charges in the future than with the current regulations. Thus the impairment charges were significantly lower in

the years 2005-08 than the provisions in the years before that, see figure 21[7]; this should also be seen in light of the general economic trends.

Figure 21: Impairment charges and excess solvency in % of loans and guarantees



The freed up capital could be used to increase lending and the actual gearing. The expert committee, *Rangvid-udvalget*, estimated that the introduction of IFRS freed up capital to the extent that institutions would be able to increase lending by around DKK 175-350 bn.[8] Later, this triggered the need to generate capital at a time where impairment charges were increasing.

[7] Together with the introduction of IAS 39, the regulations on individual solvency need were introduced. Among other things, the individual solvency need aimed at obligating managements to commit sufficient capital in relation to the individual risk profile of the institutions.

[8] The financial crisis in Denmark - causes, consequences and lessons.

Furthermore, the Danish FSA observed that the banks were using the degrees of freedom in IAS 39 to write down differently otherwise very similar loans. As a consequence, in 2012, new regulations on impairment charges were introduced that limited the degrees of freedom included in IAS 39, see box 3. In the view of the Danish FSA, the new regulations on impairment charges (Annex 10 of the Executive Order on Financial Reports for Credit Institutions and Investment Firms, etc.) and the associated guidelines contributed to limiting the use of optimistic and unrealistic estimates in the impairment calculations, and that it was helpful, not least for smaller banks, that more precise guidelines have been introduced.

Box 3: International accounting regulations and the financial crisis

A lesson learned from the financial crisis is that the IAS 39 accounting regulations gave the individual banks extensive degrees of freedom with regard to impairments on loans. Some institutions made significantly lower impairment charges than other Danish banks on corresponding loans. This was possible within the existing accounting regulations.

The extensive degrees of freedom in IAS 39 meant that if a new management was appointed to a bank with a more conservative view on impairment charges than the former management, this could lead to sudden and enormous impairment charges. This meant that the banks' shareholders, creditors and other customers could be prone to great uncertainty about the level of impairment charges of the individual banks and about the risk for more impairment charges.

Therefore, confidence in the impairment charges and disclosure in the financial statements of Danish banks was limited, thus also limiting confidence in the health of the banking sector. This contributed to a number of banks encountering liquidity challenges.

Therefore, new regulations on impairment charges were introduced in 2012 in the form of a new Annex 10 to the Executive Order on Financial Reports for Credit Institutions and Investment Firms, etc. The regulations on impairment charges are designed such that the IAS 39 regulations still have to be complied with, but there is no longer a free choice between the many options contained in IAS 39. Thus, Danish banks are now making impairment charges according to more uniform principles than before 2012 and their financial statements are thus significantly more comparable. To some banks, the new regulations had no or just a marginal effect on impairment charges, whereas others had to increase their impairment charges.

The pivotal point in the regulations from 2012 is that, in future, loans to property customers in distress must be written down to the value of the property. For example, if the loan is for DKK 100 mill. and the value of the properties pledged as collateral is DKK 60 mill., DKK 40 mill. must be charged in impairment. Previously, the banks could make fewer impairment charges without conflicting with IAS 39.

Appendix

Appendix 1: Banks' financial statements 2011-2015

						Growth per annum	
DKK mill.	*2011*	*2012*	*2013*	*2014*	*2015*	*2011-2015*	*2014-2015*
Income statement items (extract)							
Net interest income	51,536	50,331	47,399	47,748	44,807	-3.4%	-6.2%
Dividends from shares etc.	890	1,170	2,485	2,916	1,456	13.1%	-50.1%
Net fee and commission income	18,412	19,563	20,748	23,400	25,702	8.7%	9.8%
Net interest and fee income	70,837	71,064	70,632	74,064	71,965	0.4%	-2.8%
Value adjustments	2,094	7,988	4,097	-2,295	2,555	5.1%	211.3%
Staff costs and administrative expenses	48,123	48,801	47,359	47,250	46,468	-0.9%	-1.7%
Impairments on loans etc.	24,287	27,180	17,170	12,510	5,636	-30.6%	-54.9%
Income from associates and group undertakings	4,587	6,034	7,736	10,757	11,332	25.4%	5.3%
Profit before tax	3,590	7,220	16,103	16,386	28,491	67.8%	73.9%
Tax	1,636	3,668	2,789	2,202	4,515	28.9%	105.0%
Net profit for the year	1,954	3,551	13,314	14,184	23,976	87.2%	69.0%
Balance sheet items (extract)							
Due from credit institutions	498,453	399,954	349,983	386,238	239,745	-16.7%	-37.9%
Lending	1,786,351	1,760,028	1,683,792	1,655,622	1,645,050	-2.0%	-0.6%
Lending excl. repos	*1,577,450*	*1,478,693*	*1,353,238*	*1,341,485*	*1,354,209*	-3.7%	0.9%
Bonds	955,629	1,001,626	1,003,589	1,041,156	825,072	-3.6%	-20.8%
Shares etc.	25,698	29,047	35,603	26,678	42,073	13.1%	57.7%
Due to credit institutions	797,922	800,141	659,834	648,450	475,945	-12.1%	-26.6%
Deposits	1,625,561	1,722,021	1,744,884	1,800,535	1,677,469	0.8%	-6.8%
Deposits excl. repos	*1,554,746*	*1,563,474*	*1,583,963*	*1,580,015*	*1,615,288*	1.0%	2.2%
Issued bonds	500,427	389,905	310,999	336,877	378,441	-6.7%	12.3%
Total equity	270,069	271,869	282,772	308,024	321,769	4.5%	4.5%
Total assets	4,306,656	4,243,729	3,807,833	4,022,070	3,586,893	-4.5%	-10.8%
Selected financial ratios (individual bank level)							
Total capital ratio	20.1	22.1	22.4	21.0	22.0		
Tier 1 capital ratio	17.2	19.2	19.5	18.5	19.8		
Return on equity before tax	1.4	2.9	5.8	5.5	9.1		
Ratio of operating income to operating expenses	1.0	1.1	1.2	1.2	1.5		
Accumulated impairment loss ratio	3.6	3.9	4.0	3.8	3.3		

Impairment loss ratio for the year	1.1	1.2	0.8	0.6	0.3
Selected financial ratios (group level)					
Total capital ratio	17.4	19.4	19.9	18.3	19.7
Tier 1 capital ratio	14.8	16.6	17.3	16.0	17.6

Note: Income statement and balance sheet figures are at bank level (not group level). Figures are based on the banks which existed in the individual years.
Source: Reports to the Danish FSA.

Appendix 2: Banks' financial statements by group 2014-2015

	Group 1			Group 2			Group 3			Group 4		
DKK mill.	*2014*	*2015*	*Change*	*2014*	*2015*	*Change*	*2014*	*2015*	*Change*	*2014*	*2015*	*Change*
Income statement items (extract)												
Net interest income	34,489	31,913	-7%	8,467	8,414	-1%	4,518	4,348	-4%	132	132	0%
Dividends from shares etc.	1,808	1,232	-32%	1,026	146	-86%	81	77	-5%	2	1	-50%
Net fee and commission income	18,433	19,760	7%	2,640	3,404	29%	2,215	2,412	9%	85	126	48%
Net interest and fee income	54,730	52,905	-3%	12,132	11,964	-1%	6,815	6,838	0%	219	259	18%
Value adjustments	-4,489	1,047	123%	1,860	1,450	-22%	352	59	-83%	13	-1	-108%
Staff and administrative expenses	34,230	33,295	-3%	8,429	8,642	3%	4,305	4,321	0%	177	210	19%
Impairments on loans	7,128	1,651	-77%	3,414	2,214	-35%	1,731	1,763	2%	6	9	50%
Income from associates and group undertakings	9,880	10,950	11%	825	335	-59%	52	48	-8%	0	-1	
Profit before tax	13,590	25,965	91%	2,101	1,881	-10%	865	615	-29%	44	30	-32%
Tax	1,676	4,074	143%	368	271	-26%	189	166	-12%	7	3	-57%
Net profit for the year	11,914	21,890	84%	1,732	1,610	-7%	676	449	-34%	37	27	-27%
Balance sheet items (extract)												
Due from credit institutions	367,778	220,791	-40%	12,138	10,833	-11%	5,047	7,813	55%	457	308	-33%
Lending	1,427,625	1,415,227	-1%	147,934	153,524	4%	75,086	74,377	-1%	1,948	1,922	-1%
Lending, excl. repos	1,114,674	1,129,124	1%	146,749	148,785	1%	75,086	74,377	-1%	1,948	1,922	-1%
Bonds	912,010	717,257	-21%	97,909	78,823	-19%	28,214	28,029	-1%	917	963	5%
Shares etc.	16,896	31,603	87%	6,046	6,618	9%	3,606	3,715	3%	127	138	9%
Due to credit institutions	616,949	455,866	-26%	25,275	14,331	-43%	5,876	5,695	-3%	91	53	-42%
Deposits	1,463,374	1,340,993	-8%	224,906	225,281	0%	104,121	108,054	4%	2,877	3,142	9%
Deposits excl. repos	1,242,854	1,279,181		224,906	224,911		104,121	108,054		2,877	3,142	9%
Issued bonds	335,195	377,067	12%	1,361	1,104	-19%	320	270	-16%	1	0	-100%
Total equity	250,047	262,167	5%	39,858	41,359	4%	16,460	17,357	5%	760	885	16%
Total assets	3,558,956	3,144,019	-12%	320,423	302,610	-6%	132,286	136,061	3%	3,850	4,204	9%
Guarantees	324,104	350,002	8%	33,782	36,866	9%	20,059	22,913	14%	376	427	14%
Other liabilities	178,469	200,840	13%	2,735	2,661	-3%	923	1,130	22%	6	9	50%
Selected financial ratios (individual bank level)												
Total capital ratio	21,86	22,96		17,68	18,44		17,41	17,45		28,25	32,19	
Tier 1 capital ratio	19,01	20,46		16,52	16,91		16,77	16,73		28,16	32,16	
ROE before tax for year	5,68	10,11		5,42	4,63		5,36	3,81		5,98	3,63	
Ratio of operating income to operating expenses	1,25	1,62		1,15	1,16		1,13	1,09		1,22	1,13	
Accumulated impairment %	2,93	2,47		8,98	8,14		7,70	7,61		5,82	5,81	

Impairment for year %	0,40	0,09	1,71	1,07	1,68	1,67	0,25	0,36

Note: The comparative figures take account of mergers and developments in the size of working capital which mean that a bank moves from one group to another. In other words, the groups are locked on the basis of the group allocation in 2015.

Source: Reports to the Danish FSA.

Appendix 3: Banks' financial ratios 2011-2015

	2011	*2012*	*2013*	*2014*	*2015*
Individual bank level					
Total capital ratio	20.08	22.07	22.35	21.01	22.00
Tier 1 capital ratio	17.23	19.17	19.54	18.54	19.75
Return on equity before tax	1.42	2.92	5.83	5.54	9.06
Return on equity after tax	0.74	1.54	4.85	4.77	7.63
Ratio of operating income to operating expenses	1.04	1.10	1.24	1.22	1.47
Interest-rate risk	0.27	0.30	0.83	1.05	1.28
Loans plus impairment charges in relation to deposits	113.91	106.55	100.94	96.00	101.77
Excess liquidity in relation to statutory requirements for liquidity	127.64	170.41	204.51	155.95	193.65
Sum of large exposures	32.45	16.30	8.01	7.28	5.22
Accumulated impairment loss ratio	3.59	3.85	3.98	3.78	3.28
Impairment loss ratio for the year	1.08	1.23	0.81	0.59	0.27
Growth in lending for the year	-6.87	-4.40	-7.39	-0.41	1.60
Loans in relation to equity	6.65	6.44	5.95	5.45	5.09
Group level					
Total capital ratio	17.41	19.38	19.86	18.31	19.65
Tier 1 capital ratio	14.84	16.63	17.32	16.02	17.57
Return on equity before tax	2.25	3.48	7.08	6.46	9.91
Return on equity after tax	1.15	1.46	5.22	4.88	7.57
Ratio of operating income to operating expenses	1.06	1.11	1.26	1.23	1.45
Interest-rate risk	0.44	0.35	1.24	1.32	1.75
Excess liquidity in relation to statutory requirements for liquidity	102.17	145.90	174.80	132.51	155.15
Sum of large exposures	23.52	14.71	6.73	6.43	2.99
Accumulated impairment loss ratio	2.53	2.72	2.73	2.43	2.08
Impairment loss ratio for the year	0.80	0.89	0.54	0.38	0.17
Growth in lending for the year	-3.96	0.79	-4.11	9.49	1.90
Loans in relation to equity	12.01	11.62	10.80	10.71	10.35

Note: Financial ratios are calculated on the basis of the banks which existed in the individual years.

Source: Reports to the Danish FSA.

Appendix 4: Banks' loans and guarantees by sector and industry

	2015	*2014*	*2015*	*2014*
	Loans and guarantees, DKK mill.	*Loans and guarante DK*	*Loans and guaran-tees, %*	*Loans and guaran-tees, %*
Public sector	60,175	104,878	2.83%	4.96%
Corporate				
Agriculture	92,263	98,959	4.34%	4.68%
Industry	134,434	121,563	6.33%	5.75%
Energy supply	38,544	35,784	1.81%	1.69%
Building and construc-tion	38,589	33,809	1.82%	1.60%
Trading	105,000	98,911	4.94%	4.68%
Transport	69,565	60,244	3.27%	2.85%
Information	15,939	18,779	0.75%	0.89%
Financing	528,156	532,431	24.85%	25.18%
Real property	225,434	206,565	10.61%	9.77%
Other corporate	121,748	114,692	5.73%	5.42%
Total corporate:	1,369,673	1,321,737	64.45%	62.50%
Private	695,194	688,235	32.71%	32.54%

Source: Reports to the Danish FSA.

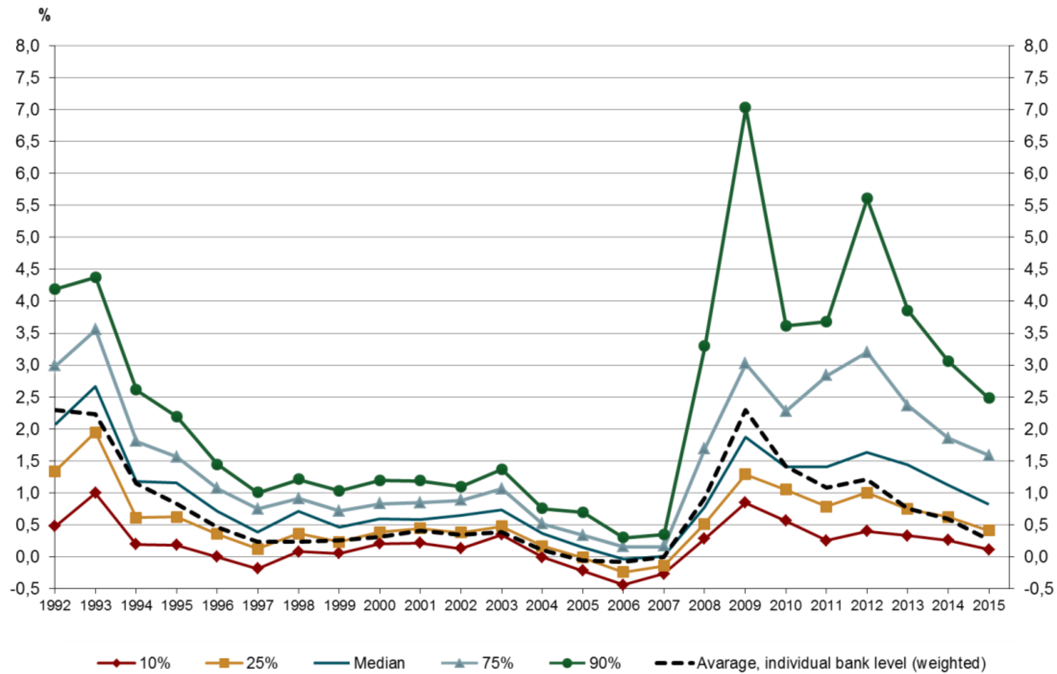
Appendix 5: Loans and guarantees by quality category, 2015

		Quality category							
		1	1 previous year	**2c**	2c previous year	**sum 1 + 2c**	sum 1 + 2c previ-ous year	**2b**	**2a/3**
Total	Corporate	7.9	*7.5*	1.9	*2.0*	9.7	*9.5*	12.9	77.4
	Private	6.1	*6.3*	2.1	*2.6*	8.2	*8.9*	14.7	77.1
	Total	7.1	*6.7*	1.9	*2.0*	9.0	*8.8*	13.1	77.9
Group 1	Corporate	3.6	*3.4*	0.7	*0.9*	4.4	*4.3*	11.1	84.5
	Private	5.3	*5.7*	1.5	*1.8*	6.8	*7.4*	9.3	83.9
	Total	4.0	*3.8*	0.9	*1.0*	5.0	*4.8*	10.2	84.8
Group 2	Corporate	28.1	*29.5*	6.0	*7.4*	34.1	*36.9*	17.3	48.6
	Private	8.5	*7.9*	3.5	*4.6*	12.0	*12.5*	25.8	62.2
	Total	20.3	*20.2*	5.0	*6.2*	25.2	*26.4*	20.6	54.2
Group 3	Corporate	23.9	*27.0*	9.3	*9.0*	33.2	*36.0*	27.9	38.9
	Private	8.4	*9.0*	4.3	*5.1*	12.8	*14.1*	39.0	48.2
	Total	16.9	*19.2*	7.0	*7.3*	23.9	*26.5*	32.5	43.6
Group 4	Corporate	19.7	*15.0*	7.8	*7.6*	27.5	*22.6*	34.7	37.8
	Private	6.8	*7.2*	3.0	*2.5*	9.8	*9.7*	36.7	53.5
	Total	11.4	*9.9*	4.7	*4.3*	16.1	*14.2*	36.0	47.9

Source: Reports to the Danish FSA.

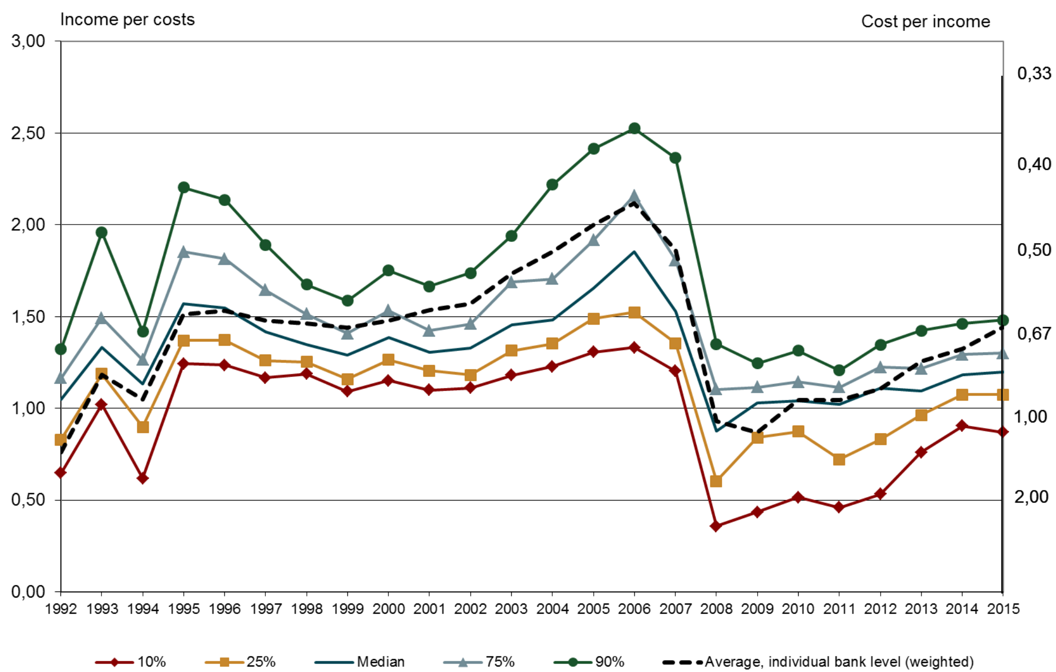
Appendix 6: Dispersion of financial ratios by fractiles

Figure A1: Annual impairment loss ratio (%) on loans and guarantees 1992-2015



Source: Reports to the Danish FSA.

Figure A2: Income/cost ratio 1992-2015



Source: Reports to the Danish FSA.

Appendix 7: Classification of assets in the LCR requirement

According to the LCR regulations, liquid assets are grouped in the following categories on the basis of the liquidity of the assets:

Level 1:
- Level 1 non-covered bonds: Cash, certificates of deposit, central bank assets, government bonds etc. No haircut applied to these assets.
- Level 1 non-covered bonds: Covered bonds (mortgage-credit bonds) with a rating of a minimum of AA- and a series size of EUR 500 mill. as a minimum. A haircut of 7% applies to these assets.

Level 2A:
- Covered bonds with a rating of a minimum of AA- and a series size of EUR 250 mill. as a minimum.
- Corporate bonds with a rating of a minimum of AA- and a series size of EUR 500 mill. as a minimum.
- A haircut of 15% applies to all level 2A assets.

Level 2B:
- Lower rated corporate bonds, covered bonds and assets. This is a wide category covering many types of assets. Haircuts between 25-55% applies to these assets.

Assets issued by the bank itself may not be included in the bank's liquidity buffer. For more information about liquid assets, refer to Articles 10-15 of the LCR Regulation.

Appendix 8: Grouping by size, groups 1-4 at the end of 2015

FSA no.	name				
Group 1 - Working capital more than DKK 65 bn.					
2222	Nordea Bank Danmark A/S	7858	Jyske Bank A/S	8117	Nykredit Bank A/S
3000	Danske Bank A/S	8079	Sydbank A/S		
Total institutions: 5					
Group 2 - Working capital more than DKK 12 bn.					
400	Lån & Spar Bank A/S	7681	Alm Brand Bank A/S		
522	Sparekassen Sjælland A/S	7730	Vestjysk Bank A/S	9380	Spar Nord Bank A/S
1149	Saxo Bank A/S	9070	Sparekassen Vendsyssel	9686	Den Jyske Sparekasse
5301	Arbejdernes Landsbank A/S	9217	Jutlander Bank A/S	10001	FIH Erhvervsbank A/S
7670	Ringkjøbing Landbobank A/S	9335	Sparekassen Kronjylland		
Total institutions: 13					
Group 3 - Working capital more than DKK 500 mill.					
537	Dragsholm Sparekasse	6860	Nordfyns Bank, Aktie-selskabet	9137	Ekspres Bank A/S
755	Middelfart Sparekasse	6880	Totalbanken A/S	9283	Langå Sparekasse
828	Sparekassen Fyn A/S	7230	Østjydsk Bank A/S	9312	Sparekassen Balling
844	Fynske Bank A/S	7320	Djurslands Bank A/S	9354	Rønde og Omegns Sparekasse
847	Rise Sparekasse	7500	Hvidbjerg Bank Aktie-selskab	9388	Sparekassen Djursland
1671	Basisbank A/S	7570	PenSam Bank A/S	9682	Sparekassen for Nr. Nebel og Omegn
5999	Danske Andelskassers Bank A/S	7780	Skjern Bank, Aktie-selskabet	9695	Saxo Privatbank A/S
6102	Landbrugets Finansieringsbank A/S	7890	Salling Bank A/S	9740	Frøs Herreds Sparekasse
6140	Møns Bank, A/S	7930	Kreditbanken A/S	9797	Broager Sparekasse
6471	Grønlandsbanken, Aktieselskab	8099	Nordjyske Bank A/S	9827	Sparekassen Bredebro
6520	Lollands Bank, Aktieselskab	9044	Dronninglund Sparekasse	9860	Folkesparekassen
6620	Coop Bank A/S	9090	Sparekassen Thy	13.080	Frørup Andelskasse
6771	Lægernes Pensionsbank A/S	9133	Frøslev-Mollerup Sparekasse	13.460	Merkur Andelskasse
				28.001	Maj Bank A/S
Total institutions: 39					
Group 4 - Working capital less than DKK 250 mill.					
544	Refsnæs Sparekasse	9135	Klim Sparekasse	13.070	Faster Andelskasse
579	Sparekassen Den lille Bikube	9369	Søby-Skader-Halling Sparekasse	13.100	Københavns Andelskasse
800	Flemløse Sparekasse	9629	Stadil Sparekasse	13.220	Andelskassen OIKOS
1693	PFA Bank A/S	9634	Borbjerg Sparekasse	13.290	Andelskassen Fælleskassen
5125	Leasing Fyn Bank A/S	9639	Fjaltring-Trans Sparekasse	13.330	Andelskassen J.A.K. Slagelse
9124	Sønderhå-Hørsted Sparekasse	9684	Fanø Sparekasse	13.350	J.A.K. Andelskasse Østervrå
Total institutions: 18					

Acquisitions, mergers and institutions closed down in 2015	
Institutions closed down	**Continuing institutions**
6482 BRFkredit Bank a/s	Closed down
7440 Nørresundby Bank A/S	8099 Nordjyske Bank A/S
9212 Hals Sparekasse	9070 Sparekassen Vendsyssel
9627 Ulfborg Sparekasse	7670 Ringkjøbing Landbobank A/S
9690 Vorbasse-Hejnsvig Sparekasse	9335 Sparekassen Kronjylland

New banks in 2015	
28001 Maj Bank A/S	Authorised as at 16 July 2015

Closed down in 2016
10001 FIH Erhvervsbank A/S

Note: Working capital consists of: Deposits, issued bonds etc., subordinated debt and equity. Source: Danish FSA.