
Status on Basel III – Liquidity and Capital

Borka Babic, Financial Markets

INTRODUCTION AND SUMMARY

In December 2010, the Basel Committee on Banking Supervision, BCBS, published the new international regulatory framework for credit institutions (Basel III). The new framework entails stronger liquidity and capital requirements. The intention is to strengthen the resilience of the financial sector to economic and financial turmoil and thus to reduce the risk of a negative real-economic impact. Basel III comprises requirements for the individual credit institutions and it is addressing system-wide risks that may build up in the sector.

Basel III is not binding on Danish financial corporations, but will be implemented – after more or less adjustment – via EU legislation. In 2011, the European Commission is expected to present proposals for amendments to the EU capital adequacy framework in the areas covered by Basel III. The Commission's proposal will then be considered by the Ecofin Council and the European Parliament.

Before the publication of Basel III, the BCBS and the EU performed quantitative impact studies, QISs, of the impact of the new rules on the capital and liquidity of the credit institutions. The results were published in December 2010.

This article discusses the four principal areas of Basel III: introduction of quantitative liquidity requirements, strengthening of the quality and quantity of capital, introduction of capital buffers and a leverage ratio.¹ The QIS results are also discussed.²

Basel III contains two quantitative liquidity requirements: a requirement to ensure sufficient liquidity buffers in the financial sector and a stable funding requirement. The BCBS has restricted the use of mortgage bonds in the liquidity buffer. This is not an appropriate approach, given the high liquidity of Danish mortgage bonds. The liquidity buffer should be based on actual liquidity rather than criteria that discriminate issuers without considering the liquidity. It should be possible to include mortgage bonds alongside government bonds in the liquidity buffer.

¹ Basel III also includes amendments to the rules on counterparty credit risk which will not be discussed in this article.

² The BCBS' original proposals from December 2009 are described in Babic og Rasmussen (2010).

The stable funding requirement should give the institutions an incentive to choose longer-term funding. Consequently, it is expected to address, to a certain extent, the refinancing risk of the very widely used adjustable-rate loans, which is an important risk in the Danish financial system.

The QIS results show that the liquidity requirements will have a substantial impact on Danish credit institutions. However, many aspects of Basel III remain to be clarified, so it is difficult to assess the ultimate impact on the institutions' liquidity management.

Implementation of the new capital requirements, including the buffer and leverage ratio requirements, is expected to entail higher capital requirements for Danish credit institutions, but the length of the transitional period will, in general, leave room for orderly adjustment.

QUANTITATIVE LIQUIDITY REQUIREMENTS

In the liquidity area, Basel III introduces two quantitative requirements, Liquidity Coverage Ratio, LCR, and Net Stable Funding ratio, NSFR.¹

Liquidity Coverage Ratio

The purpose of the LCR is to ensure adequate liquidity buffers in the financial sector. The LCR is a measure of the stock of high-quality liquid assets that an institution is required to hold in order to handle the net cash outflows in a scenario with intensive, short-term liquidity stress. The volume of liquid assets to be held by each institution will thus depend on the liquidity risks faced by the institution.

The liquidity buffer will primarily consist of cash, central-bank reserves and government bonds (Level 1 assets). Other assets, including covered bonds (Level 2 assets) may account for up to 40 per cent of the LCR. These assets are subject to a haircut of at least 15 per cent, i.e. only 85 per cent of their value counts in the compilation of the LCR.

Moreover, Basel III contains an exception for countries with insufficient amounts of Level 1 assets. They have the three following options:

- Establishment of contractual committed liquidity facilities from the relevant central bank. Such facilities will be available to credit institutions for a fee.
- Supervisors may allow credit institutions to hold foreign currency liquid assets.

¹ Basel Committee on Banking Supervision (2010a). Basel III is based on a proposal from December 2009 and the press releases published by the BCBS in July and September 2010.

- Countries with sufficient amounts of Level 2 assets may raise the cap on inclusion of these assets to more than 40 per cent. The haircut on these assets must be higher than the haircut on the Level 2 assets that may be included in the stock of liquid assets at up to 40 per cent.

The BCBS has not yet established criteria for the use of these exceptions. This will happen during the observation period from 1 January 2011 to mid-2013. In this period, the BCBS will be able to adjust the design of the LCR if the current design proves to be inexpedient. Whether the rules will be adjusted also depends on the results of the quantitative impact studies that will be performed on the basis of data from end-2010 and mid-2011.

As from 1 January 2012, credit institutions are to report to the national supervisory authorities on their compliance with the requirements. The LCR will be introduced on 1 January 2015.

The BCBS puts a cap on inclusion in the LCR of mortgage bonds in general without taking into account the liquidity of the bonds. The Danish market for mortgage bonds is large and liquid, and mortgage bonds are virtually as liquid as government bonds.¹ The rules do not provide a true and fair picture of the liquidity of the various assets that may be used to meet the requirement. It should be possible to include mortgage bonds, which play a key role in the liquidity management of Danish credit institutions, in the LCR alongside government bonds.

Net Stable Funding Ratio

The objective of the Net Stable Funding Ratio, NSFR, is to promote more medium-term and long-term funding of the assets and activities of credit institutions. The NSFR establishes a minimum acceptable amount of stable funding based on the liquidity characteristics of an institution's assets as well as the potential drawings on liquidity as a result of credit commitments and other off-balance-sheet items.

Stable funding is defined as funding that can be expected to be stable over a 1-year horizon. The BCBS is considering a certain degree of inclusion of funding with a term to maturity of less than one year in stable funding. The expediency of this will be tested during the observation period from 1 January 2011 to mid-2016. The treatment of short-term financing with matching assets and liabilities will be evaluated and an incentive for longer-term funding within a maturity of one year will be created – e.g. to recognise that 9 month funding is preferential to 3 month funding.

¹ See the article "Liquidity in Danish covered and government bonds" in this *Monetary Review*.

In this area as well, QISs will be performed on the basis of data from end-2010 and mid-2011. As from 1 January 2012, credit institutions are to report to the national supervisory authorities on their compliance with the requirements. By the end of the observation period, in 2016, the definition of the NSFR will be in place, and it will be introduced on 1 January 2018.

Introduction of the NSFR is a relevant way of addressing the refinancing risk of the very widely used adjustable-rate loans, i.e. long-term loans financed by issuing short-term bonds. Even though the deadline for implementation is a long way into the future, the Danish credit institutions should prepare well in advance for issuance of new products without refinancing risk, also with a view to reducing any transitional problems with the large outstanding volumes of adjustable-rate loans.

QUALITY AND QUANTITY OF CAPITAL

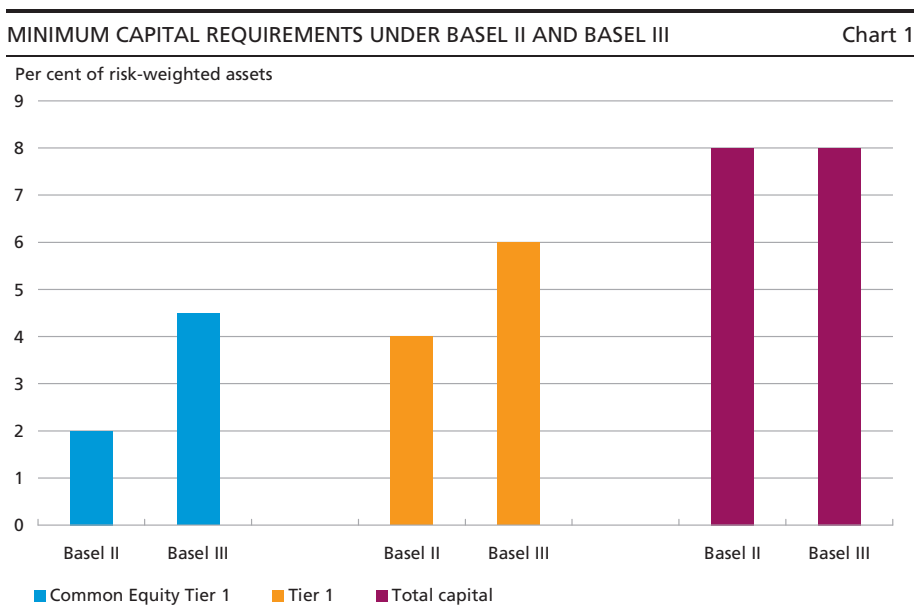
Basel III also comprises higher minimum requirements and requirements of higher quality of the credit institutions' capital.¹ Chart 1 illustrates the new and the existing minimum capital requirements concerning Common Equity Tier 1 capital, Tier 1 capital and total capital. The categories are described in Box 1.

The total capital requirement is 8 per cent, i.e. unchanged from the existing rules, while the minimum requirements for Tier 1 and Common Equity Tier 1 have been raised to 6 and 4.5 per cent, respectively. The existing rules to the effect that Tier 2 may not exceed half of the total capital and that hybrid capital may not exceed half of Tier 1 will be revoked.

The new Tier 1 requirements will be phased in gradually from 1 January 2013 until completion by 2015.

In addition, the BCBS has set out a number of criteria for each capital category. The strictest requirements apply to Common Equity Tier 1. In principle, the Common Equity Tier 1 of joint stock companies will comprise solely common shares and reserves. Non-joint stock companies may use other types of capital which meet the same criteria. It will be possible for supervisory authorities to take into account the specific constitution and legal structure of the enterprise when applying the criteria.

¹ Basel Committee on Banking Supervision (2010b). Basel III is based on the BCBS consultation document of December 2009 and the BCBS press releases issued in July and September 2010.



Additional Tier 1 must meet 14 criteria, and the requirements have been strengthened relative to the existing rules.¹ For example, it should be possible to write down Additional Tier 1 capital or convert it into common shares when a predefined event occurs. Moreover, Additional Tier 1 must be perpetual, i.e. with no maturity date, and with no step-ups or other incentives to redeem.

Nor must there be any incentives to redeem Tier 2, which must have a minimum original maturity of at least 5 years. Inclusion in the capital base of the credit institution during the last five years before maturity will be reduced gradually. It must also be possible to write down and/or convert Tier 2 into common shares if the credit institution reaches the point of non-viability.

The capital base of the credit institutions must be of high quality, so it is adjusted for a number of deductions, e.g. deferred tax assets and goodwill. The value of deferred tax assets and goodwill is small or non-existing when the institution is performing poorly, so they cannot be expected to absorb losses. Basel III harmonises the deduction rules. The deductions applicable under Basel III are generally already being applied in Denmark. The new aspect relative to the current Danish rules is that

¹ The current criteria for hybrid capital have been defined in connection with the amendments to the EU's capital adequacy rules adopted in 2009. Under these rules, capital that does not meet the criteria may be included, in full or in part, in the institution's capital until 1 January 2040. The Basel III rules on phasing-in are much stricter. See European Parliament and the Council (2009) and Committee of European Banking Supervisors (2009).

CAPITAL CATEGORIES	Box 1
<p>The total capital¹ of the credit institutions consists of three elements:</p> <ul style="list-style-type: none"> • Common Equity Tier 1 • Additional Tier 1 and • Tier 2 <p>The first two taken together form the Tier 1 capital of the credit institutions. The total capital is thus made up of Tier 1 and Tier 2 capital.</p> <p>The three types of capital may take different forms, but the focus of Basel III is not on the form, but primarily the characteristics of the capital. The BCBS has set out a number of criteria for each type of capital: 14 for both Common Equity Tier 1 and Additional Tier 1 and 9 for Tier 2². These criteria determine whether a debt instruments can be included as capital and in which category. The criteria are strictest for Common Equity Tier 1, followed by Additional Tier 1, while they are mildest for Tier 2.</p> <p><i>Common Equity Tier 1</i> typically consists of common shares and reserves, including retained earnings. Non-joint stock companies cannot issue common shares, and their Common Equity Tier 1 may include other forms of capital that meet the criteria. Examples of non-joint stock companies are savings banks, which issue guarantee capital, and cooperative banks, which issue cooperative capital. Common Equity Tier 1 is regarded as capital of the highest quality. If an institution is to be wound up, this is the capital type first used to cover losses, i.e. the most subordinated form of capital.</p> <p><i>Additional Tier 1</i> consists of loans (bond loans or other types) raised on special terms. Under Basel III, the loan must be perpetual, it must be possible to cancel distributions/payments, and it must be possible to convert capital into common shares or write it down. The aim of the strict requirements are to ensure that the capital can absorb losses to enable the institution to continue as a going concern. In the event of liquidation, this capital ranks immediately after Common Equity Tier 1 and before all other loans.</p> <p><i>Tier 2</i> also consists of loans raised by the credit institution. It is subject to a number of criteria, which are, however, less strict than those for Common Equity Tier 1. For example, this type of capital may have a maturity date, and there are no requirements as to cancellation of payments to service the loan. This is due to the nature of this type of capital as gone concern capital, which is to cover losses when the bank is unable to survive on market terms. In the event of liquidation, Tier 2 ranks after Common Equity Tier 1 and Additional Tier 1.</p>	

¹ The Box mentions the capital that can be included in the institution's calculation of its regulatory solvency requirement. The institution may have capital which is not eligible for inclusion in a regulatory context.

² In January 2011, the BCBS announced that it should be possible to write down and/or convert to common shares all capital when the institution reaches point of non-viability. The capital should also meet this criterion.

deductions will generally be applicable to Common Equity Tier 1, while they are applicable to more categories of capital today.

The instruments that fail to meet the criteria will be phased out gradually from 2013 when 90 per cent of their original value can be included in the capital base. The new rules will be fully phased in by 2022. If there are incentives to redeem capital, and that capital does not meet one or more of the other criteria, it will not at all be eligible for inclu-

sion after the effective maturity date (interest-rate step-up date). Government capital injections that do not meet the criteria, e.g. the Danish injections under Bank Rescue Package II, will be eligible for inclusion until January 2018.

The ability of the total capital to absorb losses is enhanced by strengthening the quality of the credit institutions' capital and raising the minimum requirements of the size of the Tier 1 capital (including and excluding hybrid capital). Consequently, it is important to apply the same criteria to non-joint stock companies to the largest possible extent, but the future rules should take into account the special characteristics of these companies.

BUFFERS

The Basel III rules contain requirements to introduce two types of buffer:

- a capital conservation buffer and
- a countercyclical capital buffer.¹

The buffers should be added to the minimum capital adequacy requirement of 8 per cent, cf. Chart 2. These requirements are designed to ensure that credit institutions hold capital to withstand periods of substantial losses.

The capital conservation buffer should be equivalent to 2.5 per cent of risk-weighted assets. In addition, a countercyclical buffer of 0-2.5 per cent must be held in periods when systemic risk is building up, e.g. when lending growth is high.

The national authorities should impose requirements of countercyclical buffers on the credit institutions under their supervision. For internationally active institutions, the buffer should be calculated as a weighted average of the institution's geographical exposures. The authorities may choose to impose a buffer exceeding the maximum of 2.5 per cent. Foreign supervisors are only obliged to apply a buffer of 2.5 per cent to the credit institutions under their supervision.

Restrictions on distribution of dividend, share buy-backs or bonus payments will be imposed on credit institutions when they do not comply with the requirements. The less the compliance with the buffer requirement, the larger the restriction on allocation of earnings, cf. Table 1.

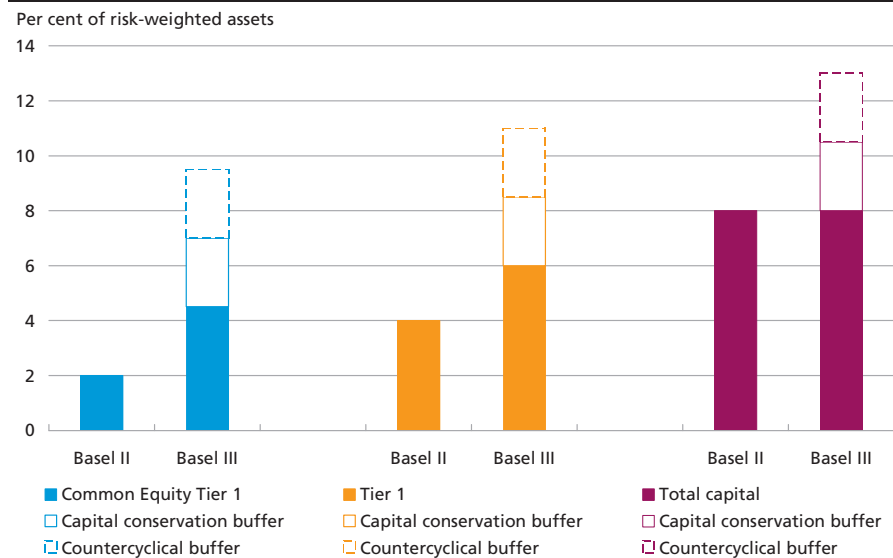
The capital conservation buffer and the countercyclical buffer must be met with Common Equity Tier 1.²

¹ See also Mads Peter Pilkjær Harmsen (2010).

² The BCBS is considering whether to permit other fully loss-absorbing capital for the countercyclical buffer and is planning to publish guidelines to this effect later.

CAPITAL REQUIREMENTS INCLUDING BUFFER REQUIREMENTS UNDER BASEL II AND BASEL III

Chart 2



The countercyclical buffer is to cover system-wide risks. These risks are among those that, under the existing rules, can be covered under Pillar II, which stipulates the individual capital need. To avoid duplication of requirements for the sector, this risk type should not be covered by Pillar II in future, according to the BCBS. Other bank-specific risks, e.g. concentration risk, will still be covered by Pillar II.

The BCBS has provided room for the discretion of national authorities in the calculation and the release of countercyclical buffers, including as regards the variables and information to be used for the buffer decision. The changes over time in economic and financial structures are thus taken into account. Ideally, implementation of the countercyclical buffers will be as harmonised across national borders as possible in order to ensure optimum transparency.

INDIVIDUAL BANK MINIMUM CAPITAL CONSERVATION STANDARDS

Table 1

Common Equity Tier 1 (incl. other fully loss-absorbing capital)	Minimum capital conservation requirements (percentage of earnings)
Within the 1st quartile of buffer	100
Within the 2nd quartile of buffer	80
Within the 3rd quartile of buffer	60
Within the 4th quartile of buffer	40
Above top of the buffer	0

Source: Basel Committee on Banking Supervision (2010b).

The countercyclical capital buffer should be imposed correctly to act as an efficient macroprudential instrument. Moreover, it is important that the buffer is determined by a politically independent authority in order to avoid political pressure for not building up the buffer in good times.

In order for the buffer requirements to be effective, the market must be aware that they are not minimum requirements that must be met at all times. Perception of the buffer as a minimum capital requirement may trigger a market reaction already with an institution's capital is approaching the buffer zone. In that case, the buffer would give a false sense of security. There is also the risk of crowding out the voluntary buffer previously held by the institutions, and the risk that the total buffer of the sector is not improved to any significant extent.¹

LEVERAGE

A leverage ratio will be introduced as a supplement to the risk-based capital requirements and in order to contain excessive leverage in the financial sector.

The leverage ratio will be a measure of the ratio between the Tier 1 capital and the institution's assets and off-balance-sheet items. The focus is on Tier 1, but the effect of applying the total capital and Common Equity Tier 1 in the calculation of the leverage ratio will also be examined during the transitional period. All on-balance-sheet items, including derivatives, repurchase agreements and off-balance-sheet items such as loan commitments, credit cards and unutilised liquidity facilities, will be included in the calculation. Generally, the items are not risk-weighted.

The BCBS has fixed a leverage ratio of 3 per cent, which will be tested during a transitional period from 1 January 2013 to 1 January 2017. As from 1 January 2015, the credit institutions must disclose the leverage ratio and its composition. On the basis of experience from the transitional period, the BCBS will, in the 1st half of 2017, make adjustments, if required, with a view to introducing the leverage ratio as a minimum capital requirement (Pillar I requirement) in January 2018.

Basel III does not distinguish between various loan types, nor does it take collateral into account. The role of collateral varies with the business model applied. For example, Danish mortgage banks have large amounts of collateral for their lending, which is thus less risky than ordinary uncollateralised lending. Uniform application of the leverage

¹ See also Danmarks Nationalbank's responses in connection with the consultations initiated by the BCBS and the European Commission, respectively, as regards the countercyclical buffer at <http://www.nationalbanken.dk/dndk/presse.nsf/PrevHearingReplyPerYear.HTML!OpenView&Start=1&Count=1000&Expand=2#2>

ratio to all credit institutions would, all things being equal, require the mortgage banks to hold the same amount of capital as institutions with a large proportion of uncollateralised loans. Consequently, it is important to test, during the transitional period, the impact of the new rules on the various business models.

RESULTS OF QUANTITATIVE IMPACT STUDIES OF BASEL III

During 2010, both the BCBS and the Committee of European Banking Supervisors, CEBS¹, conducted quantitative impact studies, QISs, of Basel III.² 23 countries (263 institutions) participated in the BCBS QIS³, while 21 EU member states (246 institutions) participated in the CEBS QIS. Several Danish institutions participated in the CEBS QIS.

The calculations show the impact of the rules if fully implemented in 2009, which does not take account of transitional arrangements. Moreover, the QIS results do not reflect the full impact of Basel III as some elements were not known when the calculations were made.

Liquidity

On average, the LCR and the NSFR are lower for credit institutions in the EU than in the BCBS member jurisdictions. In addition, the large institutions are further from compliance with the requirements than the smaller institutions, cf. Table 2.

According to the QIS results, the BCBS members are 1,730 billion euro of liquid assets from meeting the LCR requirement and 2,890 billion euro of stable funding from meeting the NSFR requirement.

For the Danish institutions that participated in the QIS, the average LCR is 55 per cent, while the NSFR averaged 74 per cent. Their LCR and NSFR are thus lower than the EU averages and particularly lower than the average for the BCBS members. The low LCR reflects the less favourable treatment of mortgage bonds relative to government bonds. The low NSFR reflects, *inter alia*, a large share of adjustable-rate loans. The ultimate effect on the banks' liquidity management is, by nature, not known before the final design of the rules is in place and they have been adopted by the EU. New quantitative impact studies of Basel III will be conducted on the basis of data from end-2010 and mid-2011.

¹ On 1 January 2011, the CEBS became the European Banking Authority, EBA.

² Basel Committee on Banking Supervision (2010c) and Committee of European Banking Supervisors (2010).

³ The BCBS has 27 members.

COMPLIANCE RATIOS REGARDING THE TWO LIQUIDITY REQUIREMENTS Table 2

Per cent	LCR	NSFR
<i>BCBS</i>		
Large credit institutions	83	93
Small credit institutions	98	103
<i>CEBS</i>		
Large credit institutions	67	91
Small credit institutions	87	94

Note: Large credit institutions have a Tier 1 capital of more than 3 billion euro and are well diversified and internationally active. The calculations are based on consolidated figures for 2009.

Source: Basel Committee on Banking Supervision (2010c) and Committee of European Banking Supervisors (2010).

Capital

The impact of Basel III on the credit institutions' capital is shown in Table 3. The impact is strongest on large institutions, and slightly larger on credit institutions in the EU relative to the BCBS members.

According to the BCBS estimate, the large credit institutions are 165 billion euro from compliance with the 4.5-per-cent requirement for Common Equity Tier 1. The institutions are a further 577 billion euro from compliance with the additional requirements of a capital conservation buffer (i.e. the 7-per-cent requirement). The large EU credit institutions are 53 and 263 billion euro, respectively, from compliance with the two requirements. The need to raise capital is markedly lower for the small credit institutions as their degree of compliance is already higher, among other reasons.

The capital ratios of the Danish credit institutions, calculated according to the new rules, are higher than the averages of the BCBS members and the EU credit institutions. A key factor affecting the Danish institutions is

BASEL III EFFECTS ON CREDIT INSTITUTIONS' CAPITAL Table 3

Per cent	Common Equity Tier 1, new rules (Common Equity Tier 1, existing rules*)	Tier 1, new rules (Tier 1, existing rules)	Total capital, new rules (total capital, existing rules)
<i>BCBS</i>			
Large credit institutions	5.7 (11.1)	6.3 (10.5)	8.4 (14.0)
Small credit institutions	7.8 (10.7)	8.1 (9.8)	10.3 (12.8)
<i>CEBS</i>			
Large credit institutions	4.9 (10.7)	5.6 (10.3)	8.1 (14.0)
Small credit institutions	7.1 (11.1)	7.6 (10.3)	10.3 (13.1)

Note: Large credit institutions have a Tier 1 capital of more than 3 billion euro and are well diversified and internationally active. The calculations are based on 2009-figures. The figures show the total impact of Basel III on the capital of the credit institutions, i.e. not only the effect of strengthening the quality and quantity of capital, but also the effect of adjusting risk-weighted items in accordance with amendments of the rules for management of trading-book risk, counterparty risk, etc. *Common Equity Tier 1, existing rules is not adjusted for deductions.

Source: Basel Committee on Banking Supervision (2010c) and Committee of European Banking Supervisors (2010).

the strengthening of the criteria for Additional Tier 1 and Tier 2, but the relatively solid starting point and the length of the transitional period leave room for the necessary adjustment.

Leverage

According to the calculations of the BCBS, the leverage ratio of the large credit institutions is 2.8 per cent, while that of the small institutions is 1 percentage point higher, implying that the small institutions are less leveraged. The leverage ratios of the large and small institutions in the EU are 2.5 and 3.5 per cent, respectively.

The results of the EU QIS exercise show that the leverage of the Danish credit institutions largely corresponds to the BCBS average. Among other factors, the results reflect the effect on the institutions' capital of the strengthening of the criteria for Additional Tier 1. In this area as well, the length of the transitional period leaves room for adjustment.

THE FURTHER PROCESS

As appears from the above, the Basel III rules are in some respects not yet finalised (including in the liquidity area), so further specification is expected.

Moreover, the BCBS is processing the proposal concerning a special type of debt (contingent capital) that is automatically converted into common shares or written down when a predefined event – e.g. the solvency of the credit institution drops below a certain percentage – occurs. This will make it possible promptly to recapitalise a credit institution in difficulties. The BCBS is considering this type of capital, *inter alia*, in relation to extra capital requirements that are expected to be imposed on systemically important financial institutions, SIFIs.

Measures for SIFIs go beyond the extra capital requirements that are expected to be proposed jointly by the BCBS and the Financial Stability Board, FSB, in 2011. They comprise, *inter alia*, more extensive supervision and orderly resolution of ailing SIFIs. The FSB report, published in October 2010, outlines the overall framework and time frame for the work of reducing SIFI-related risks.¹

The BCBS will develop a method for identifying systemically important institutions. In consultation with the BCBS and other bodies, the FSB and the national authorities will in mid-2011 identify the institutions that will initially be subject to the FSB recommendations. These will be large, global, systemically important institutions, G-SIFIs. Cross-border coordin-

¹ Financial Stability Board (2010).

ation will be established as regards e.g. assessment of risks related to G-SIFIs and resolution of insolvent G-SIFIs.

Initially, the focus on G-SIFIs means that no Danish institutions are expected to be included. However, extra requirements are also expected to be imposed on national systemically important institutions.

LITERATURE

Babic, Borka and Anne-Sofie Reng Rasmussen (2010), Regulatory initiatives in the financial sector, Danmarks Nationalbank, *Monetary Review*, 1st Quarter.

Basel Committee on Banking Supervision (2009), Enhancements of the Basel II framework, July.

Basel Committee on Banking Supervision (2010a), Basel III: International framework for liquidity risk measurement, standards and monitoring, December.

Basel Committee on Banking Supervision (2010b), Basel III: A global regulatory framework for more resilient banks and banking systems, December.

Basel Committee on Banking Supervision (2010c), Results of the comprehensive quantitative impact study, December.

Basel Committee on Banking Supervision (2010d), Guidance for national authorities operating the countercyclical capital buffer, December.

Basel Committee on Banking Supervision (2010e), Group of Governors and Heads of Supervision reach broad agreement on Basel Committee capital and liquidity reform package, Press release, 26 July.

Basel Committee on Banking Supervision (2010f), Group of Governors and Heads of Supervision announces higher global minimum capital standards, Press release, 12 September.

Basel Committee on Banking Supervision (2011), Basel Committee issues final elements of the reforms to raise the quality of regulatory capital, 13 January.

Buchholst, Birgitte Vølund, Jacob Gyntelberg and Thomas Sangill, Liquidity of Danish government and covered bonds – before, during and after the financial crisis – Preliminary findings, Danmarks Nationalbank, *Working Papers*, No. 70.

Committee of European Banking Supervisors (2009), Implementation guidelines for hybrid capital instruments, December.

Committee of European Banking Supervisors (2010), Results of the comprehensive quantitative impact study, December.

Danmarks Nationalbank (2010), *Stress tests*, 2nd half.

European Parliament and the Council (2009), Directive 2009/111/EC of the European Parliament and of the Council of 16 September 2009 amending Directives 2006/48/EC, 2006/49/EC and 2007/64/EC as regards banks affiliated to central institutions, certain own funds items, large exposures, supervisory arrangements, and crisis management.

European Parliament and the Council (2010), Directive 2010/76/EU of the European Parliament and of the Council of 24 November 2010 amending Directives 2006/48/EC and 2006/49/EC as regards capital requirements for the trading book and for re-securitisations, and the supervisory review of remuneration policies.

Financial Stability Board (2010), Reducing the moral hazard posed by systemically important financial institutions, FSB Recommendations and Time Lines, October.

Danish Financial Supervisory Authority (2010), Bekendtgørelse om kapitaldækning (Executive order on capital adequacy – in Danish only), October.

Harmsen, Mads Peter Pilkjær (2010), Basel III: Macroprudential regulation by means of countercyclical capital buffers, Danmarks Nationalbank, *Monetary Review*, 4th Quarter.