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# A Critical Assessment of the New Capital and Liquidity Requirements

## 1 Introduction

Following the collapse of Lehman-Brothers, we have seen an unprecedented effort to save the worldwide financial system from a meltdown. Governments, central banks, and regulators throughout the world have come up with new measures intended to improve the resilience of the financial system with respect to external shocks and endogenous failures. I was asked to contribute to the question whether or not the participants have done enough to reduce the likelihood that the past will not happen again. Yet when curing a disease it is not only an issue of taking enough medicine, but one of choosing the right medication in the first place. Therefore, I will interpret my task a bit more freely and point out some of those implications of the new rules that may give rise to harmful, probably unintended consequences.

At the climax of the crisis, authorities had to act strongly and rapidly. When shaping the new and hopefully more level playing field now, they ought to perform a reasonably detailed cost benefit analysis before implementing the new order. The purpose of my contribution is to raise some concerns. They may simply indicate unavoidable side effects but may also induce us to search for alternative treatments.

## 2 Capital Regulation

The changes in capital regulation developed by the Basel Committee on Banking Supervision (BCBS) and finally codified in the Basel III agreement (BCBS, 2010a) can be divided into three categories: stricter capital definitions, changes in specific capital requirements, and introduction of the leverage ratio. We will examine these aspects in turn.

The basic idea of capital regulation is twofold. On the one hand, more capital means that owners have more at stake and therefore strong incentives to limit risk-taking. On the other hand, more capital means that in a case of default more funds, other things equal, are available to cover creditors' claims.

The natural first question is how we should define capital in order to serve



both purposes as good as possible. The answer is not obvious, not even easy. The Basel Committee has decided that fewer instruments will be recognised as core capital. A number of properties are required to make a capital instrument eligible as core capital (BCBS, 2010a). The required features sound very reasonable: core capital cannot be withdrawn and it must not receive a fixed income, to name but two of them. Unfortunately, the Basel Committee has chosen a principle based approach, but has not adhered to it completely.

As one example consider the cooperative banks as they exist in Germany. At present, their shares are callable by the members within certain periods. Thus, one important requirement for core capital is violated. Consequently, the cooperative banks, who as a group have not really been involved in the re-

cent financial crisis, need to make a number of changes in their bylaws in order to make their shares core capital and thereby protect their successful business model.

In another case, the requirements are also not neutral with respect to the legal form of banks. Certain types of capital are, if a number of requirements are met, acknowledged as core capital for example in the case of state banks, but not for listed banks. It seems questionable to treat capital instruments differently depending on the legal form of the bank (Gaumert et al., 2011).

The amount of core capital needed in the future is rather large, unless banks shift their activities towards less capital-intensive lines of business. The increased capital requirements in combination with other restrictions discussed below make it quite likely that returns on bank capital will go down. This may lower capital supply further. However, a countervailing effect should be observed. An increased capital base makes banks less prone to materialising risks.

The Modigliani and Miller (1958) propositions, derived in a setting of perfect markets, need not hold for banks because their mere existence indicates market imperfections. Still, the reduced risk as stipulated by the new Basel-Accord may be such that investors accept lower bank returns in exchange for less risk. Yet if investors do not accept low returns, banks may be tempted to increase returns by engaging in particularly risky activities, i.e. risk shifting à la Jensen and Meckling (1976). In this case, the societal benefits of forcing banks to hold more capital become less visible.

However, even without this risk shifting a major problem remains: Who can supply the huge amounts of capital needed over the next years? Insurance

companies and pension funds, within the limits of their regulation, are natural candidates. Alas, increased banking stability may be achieved through more and stronger ties with other players from the financial system. Eventually, enhanced stability of the banking system has to be paid for by reducing the stability of the financial system as a whole.

The shortage of bank capital is further increased by a number of changes in capital requirements for different bank activities. As a general feature, capital required for the credit business increases. Therefore, many more firms than today have to look for other ways of access to the capital markets. For some banks, this means that additional opportunities arise because a number of investment banking activities require less capital than loan origination and also carry less risk. Since capital markets are more likely to provide funds for less risky firms, it is conceivable that the average quality of banks' loan portfolios deteriorates over the next couple of years. This would be clearly at odds with the objective of making banks safer.

Reduced credit availability will certainly put an upward pressure on interest rates. This comes along with the effects known from the Stiglitz and Weiss (1981) model of credit rationing. Some firms will increase their risk taking because low risk projects may not be value increasing anymore if interest rates go up. Similarly, firms with little risk may (have to) withdraw their applications for loans altogether. Their real investments then may go down and the usual negative effects of a decline in real investments on the economic well-being of a country would result. To estimate the impact of the new capital regulation, a Macroeconomic Assessment Group was established by the Financial Stabil-

ity Board and the Basel Committee on Banking Supervision. Its report (BCBS, 2010d) finds that most likely only minor effects on GDP growth will result. A study for Germany basically comes to the same conclusion (Deutsche Bundesbank, 2010, pp. 112–113).

Much more capital than before is already needed for the banks' own trading books (BCBS, 2009). This obviously will continue to affect banks' incentives for proprietary trading adversely. In my opinion, this is a side effect of the therapy that should not concern us too much. In many of the market segments where bank trading occurs it is not easy to see why and how a particular bank should be able to forecast price changes systematically better than other players in that market. Given the costs of professional trading departments, the net effect is far from obvious. Reduced proprietary trading would only be harmful for the economy as a whole if the time span in which new information permeates the markets increased.

Significantly more capital will also be needed for over-the-counter (OTC) derivatives. This will most likely induce banks to use exchanges and similar central counterparties to a greater extent. Increased transparency and less default risk are among the desirable consequences, for more see Llewellyn (2010, pp. 69–70).

Trading on exchanges requires more standardisation of contracts. The implications are manifold. Firstly, the volume in those products that are finally available at exchanges will probably increase, meaning that bid/ask spreads should come down. This may at least partly compensate the cost increases implied by the integration of a third party, the exchange. Standardised derivatives also mean that perfect hedges will become more difficult, if

possible at all. Therefore, secondly, firms will have to retain and manage more basis risks than before. Thirdly, many of the more exotic derivatives may vanish completely. For pricing and hedging purposes, they were more or less duplicated by standard derivatives anyway. The combination of several basic derivatives into one product did not necessarily make the administration easier, because each and every product has to be included in all kinds of book-keeping. It is conceivable that some of the more exotic derivatives more or less only exist to exploit regulatory arbitrage or to demonstrate a bank's abilities in financial engineering. The disappearance of such derivatives would not really be a loss.

When assessing the impact of capital requirements, in particular the higher capital charges on OTC derivatives, we must also consider the accounting consequences. Standardised derivatives are less likely to work as perfect hedges, i.e. the efficiency of



hedges declines. Banks following IFRS may not be happy with the resulting effect. In particular, earnings volatility may increase when more and more hedges violate the conditions for hedging effectiveness.

As another measure to increase banking stability, the leverage ratio is

about to be introduced as an additional restriction for banking activities. In a nutshell, it says that banking activities may not exceed a certain multiple of its capital. When calculating the relevant activities, among others, collateral and other instruments for risk mitigation are not taken into account. The idea behind this very conservative approach is evident. Before the financial crisis, many banks had invested into different kinds of securities, including CDOs, ABCPs, and so on, which had been assigned AAA-Ratings. These ratings were interpreted as if the correspond-



ing securities were basically riskless. Over the recent years, we have learned, however, that many of these assessments were wrong. Neither including risk ratings nor accepting risk mitigation apparently is deemed to protect against some kind of model risk. If seemingly riskless facilities for which little capital is needed should once again turn sour largely then the limits posed by the leverage ratio are a second line of defence against bank insolvencies.

If risk weighted capital ratios and the leverage ratio have to be fulfilled at the same time, then this opens another arena for regulatory arbitrage (Blundell-Wignall and Atkinson, 2010). Moreover different business models will feel the restrictions in different ways. In

Germany, for example, specialized banks financing real estate loans would be hit particularly hard because their loans carry relatively little risk but also have low margins such that a high leverage was needed in the past to make this business profitable. Quite generally, holding riskless government bonds (if they should turn out to remain riskless) becomes fairly unattractive, too. It is hard to tell how these effects will eventually rearrange the portfolio compositions of banks, maybe even towards more risk-taking (Gaumert et al., 2011).

### 3 Liquidity Requirements

On perfect capital markets, liquidity is not an issue. Solvent banks with profitable business models will always have excess to sufficient liquidity. During the most recent financial crisis, however, liquidity was a major issue. It turned out that not the solvency, but the perceived solvency of banks mattered for their access to liquidity. Since the allocation of so-called poisonous securities across banks was not known, banks became sceptical with respect to basically all other banks. The default risk of securities materialised in the form of a global liquidity crisis. Thanks to the prompt and competent reaction of the ECB, flooding the capital markets with liquidity and relaxing the conditions for repos, an illiquidity-induced meltdown of the banking system was prevented.

Not surprisingly, regulators want to avoid this to happen again. Therefore, they have come up with a set of rules that are intended to make each bank more resilient with respect to liquidity shocks (BCBS, 2010a and 2010b). To this end, two ratios are introduced as measures of short-term and medium-term to long-term liquidity, respectively. In the short run, liquid funds must be suf-

ficient to cover the one-month net outflow under stress conditions. This requirement is captured in the Liquidity Coverage Ratio, which must always exceed 100 %. In the medium and long term, a bank is required to be in some kind of structural financing equilibrium. The Net Stable Funding Ratio implements this idea. The available stable funding must be greater than or equal to the required stable funding.

Without going into any details here, one can of course say that an increase in a bank's liquidity will very likely contribute to a more stress resistant banking system. But again, there is a price to be paid. One of the basic services banks provide to their customers is maturity transformation. This function, in effect one *raison d'être* for banks, is about to get lost. It is by no means obvious whether or not others are better suited to incur this risk which is the by-product of a higher standard of living (Hellwig, 2009).

The Liquidity Coverage Ratio induces a preference for government bonds over SME loans (Blundell-Wignall and Atkinson, 2010). In addition, the Net Stable Funding Ratio restricts long term lending considerably. For countries like Germany and its SMEs, with a less developed bond market and a long and strong tradition of long-term bank lending, this will most likely be more harmful than for countries where firms directly use the capital markets to obtain long term funding. If the longevity of the funding of real investments constitutes a major concern for firms then the introduction of the Net Stable Funding Ratio may eventually become another obstacle for corporate investments. We do not know yet whether the capital markets, without a financial intermediary be-

tween long-term capital demand and short-term capital supply, can fulfil this role of banks in the future.

#### 4 Summary and Outlook

The tone of my contribution is somewhat sceptical. I have raised a number of more or less serious concerns pointing at potential shortcomings of the new regulatory regime. I am far from sure that the effects on the financial system and the real economy will be as bad as the points I have made suggest and I certainly hope that none of my fears will come true. Indeed, some recent empirical studies (BCBS, 2010c and d; Deutsche Bundesbank, 2010; Slovik and Cournède, 2010) assert that the new regulation will harm economic growth only a little and will overall have a positive net benefit.

Governments, central banks, and regulators had to take a number of actions very fast. They also have come up with a new regulatory setting very fast, maybe too fast. Given the structural changes, which may result from the introduction of new measures, it seems reasonable to me to give the new regulatory framework another close look. Llewellyn (2010) adds a wide range of complementary and substitutional measures, respectively. Some of the proposals, even those that are already part of Basel III, should be reconsidered from a theoretical perspective and backed with more empirical data. If my paper contributes to this endeavour, it has achieved its objective. Issues like a level playing field and the move of previous banking activities to a less regulated or even unregulated part of the financial system are much too serious to be accepted without scrutiny as the necessary price for the restabilisation of the banking system.

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