Comment on the Paper by Thomas Gehrig «Capital Adequacy Rules: Implications for Banks’ Risk Taking»

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GEHRIG raised doubts about the appropriateness of capital adequacy rules as a means of reducing banks’ risk taking. And in many points I share his opinion. But, as a discussion would be boring, or rather not a discussion at all, if everybody taking part held the same opinion, I shall try to raise a few doubts about GEHRIG’s arguments.

I would like to start with a few remarks concerning the aim of banking supervision. GEHRIG pointed out that regulators do not always give clear-cut statements about what the purposes of banking supervision are, but – as is common in the discussion about banking supervision – GEHRIG took the view that banking supervision is largely motivated by the aim to reduce the risk of individual banks failing – not because a bank failure per se is disastrous but because a bank failure might have external effects and trigger chain reactions which endanger the whole financial system. Therefore, GEHRIG seems to agree that the ultimate goal of banking supervision is to support the functioning of the financial system, which in turn gives rise to the aim of reducing bank failure risk (NIETHAMMER 1990).

Capital adequacy rules are intended to serve the aim of reducing bank failure risk. Their design seems to indicate two or even three different – but of course interrelated – ways in which they try to achieve this. First, they fix a minimum level of equity (relative to the volume of assets) as a buffer against losses. Second, given the volume of the equity buffer, they try to fix a maximum standard for risk taking by weighting the assets according to their risk. And last but not least, they are supposed to create an early warning system. As GEHRIG said, they can be seen as a kind of warning bell which (hopefully) rings when a bank starts to ail but before it is insolvent. Why is it important to distinguish between these three closely interrelated functions? It is important because in the discussion about capital adequacy rules their function as an early warning system might be underestimated.

The criticism of capital adequacy rules as an instrument of banking supervision often runs along the following lines – and in this respect GEHRIG is no exception: Critics try to prove (and they are successful at least in a model world) that capital adequacy rules in their present form might under certain conditions not reduce but actually raise the failure risk which an individual bank is ready to take. Thus, the impact of capital adequacy rules may run counter to the purpose they seek to achieve.

The criticism of capital adequacy rules centres around their second function, namely that of reducing banks’ risk taking (and indirectly their first function is also called into

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question, because the equity buffer might not be large enough to cover the induced higher risk). But failure to reduce risk taking does not, in my opinion, necessarily mean that capital adequacy rules miss the ultimate goal of banking supervision, namely to safeguard the functioning of the financial system, altogether. To show this, one would not only have to prove that capital adequacy rules potentially induce riskier behaviour than would occur if they did not exist, but one would also have to show that they malfunction as an early warning system. For: even if capital adequacy rules had an adverse influence on the risk taking behaviour of banks in reality and thus tended to increase the failure probability of these banks, this would not matter much as long as the warning bell rang early enough.

Please do not misunderstand me. I do not wish to imply that capital adequacy rules do function well in detecting ailing banks with a high risk of insolvency. But at least capital adequacy rules set a stricter critical limit for starting off the alarm than the limit set by the German insolvency law, which waits until the equity is used up totally. I do not know if the limit set by capital adequacy rules is strict enough, but I consider it important to discuss banking supervision more along these lines. Because if the warning-bell function is fulfilled adequately the supervisory authority could step in early enough (if regulatory risk is absent and they do step in when they ought to). Stepping in early and taking over control on behalf of depositors might be the most effective mechanism for preventing a failure or at least ensuring that the bank is closed in an orderly fashion, so that the closure does not endanger deposits and does not bring with it the danger of uncontrollable chain reactions in the whole financial system. Additional risk taking caused by capital adequacy rules under the precondition of a functioning early warning system would have the effect that the warning bells would ring more often; but the important thing is that they ring at all.

My second remark is more directly concerned with GEHRIG'S argument that capital adequacy rules produce incentives for riskier behaviour. I wonder if the critics do not overestimate the incentive effects of capital adequacy rules on management's risk taking behaviour.

In the discussion about excessive risk taking induced by capital adequacy rules, it is essential to be aware of the incentives of those who actually have control over the bank's policy. As a rule, bank managers are the ones to whom the control rights are assigned, and not the owners. Quite often in the discussion about capital adequacy rules it is implicitly or explicitly assumed that managers act on behalf of owners, although in fact the interests of owners and managers do not always coincide. Owners often lack the power and/or the necessary information to steer management behaviour in their preferred direction, especially if the equity is widely dispersed, as is the case with the big German banks. Therefore, I think, the whole discussion on the incentive effects of capital adequacy rules should pay more attention to the preferences of bank management; and if it did so, it perhaps would see the problem of excessive risk taking induced by capital adequacy rules as less severe.
The managers’ preferences for risk taking might be quite different from, or might coincide more or less with, the interests of owners depending on the degree of solvency of their bank. To illustrate this, let us first imagine a situation in which a bank is ailing and insolvency is very likely to occur. In this situation it is plausible that bank managers do not need any further incentives to act in the best interests of equity holders because not only the owners are on the verge of losing everything but also the management. Gambling for resurrection (DEWATRIPONT, TIROLE 1995) through excessive risk taking is a likely response; and this is exactly what banking supervision wants to prevent. Stepping in early enough – before gambling for resurrection starts – is therefore what regulatory standards should aim at.

The critics of capital adequacy rules, however, mainly point to the necessity of disciplining the risk taking behaviour of bank management ex ante, before the worst case has actually occurred. This assumes implicitly that bank managers would also prefer a higher risk level than the banking supervisor in «normal business», when the failure risk is low. I agree that the equity owners who hold well diversified portfolios might prefer a higher level of risk in the strategy of their bank than the bank’s depositors or the bank supervisors. But I doubt that bank management would actually share the equity holders’ preference in a situation in which there is no need for gambling for resurrection. Of course, as GEHRIG mentions, the incentives for bank managers also depend on the established remuneration system, but – at least in the German context – I find it difficult to conceive of a bank manager’s remuneration system in which bank failure is not an undesired event with serious consequences, such as the loss of one’s position and reputation or at least an interruption in one’s career. Therefore, in a «normal» business situation without excessive competition and no imminent danger of insolvency, the preferences of bank managers could be closer to those of depositors and bank supervisors than to those of bank owners. As long as the banking business allows the bank to make acceptable profits, the management will avoid failure risk if it can, even if that means that the bank’s profit and dividends are on average a bit lower than they would have been if management had acted totally in accordance with the wishes of bank owners. Therefore, the fear that capital adequacy rules may produce adverse incentives for excessive risk taking ex ante, i.e. before the case of insolvency has actually or almost occurred, might be overestimated in a «normal» business situation where the pressure to earn extra profits is low. Rather – in such a situation – capital adequacy rules might be seen as an instrument which helps the bank management to successfully pursue its own interests against the interests of the owners. For instance, consider the problem of dividend policy. The preference of managers for internal finance and against the distribution of profits, which is often pre-supposed in the discussion about agency problems of equity, is favoured by a norm which does not allow a bank’s volume of total assets to grow, unless the equity grows as well.

The buffer against losses which capital adequacy rules establish therefore might create moral hazard problems, but moral hazard problems which first of all affect the owners. They run the risk that the equity buffer against losses is used to cover up organizational
slack which does not put the existence of the bank at risk but reduces banks' profits (and therefore may reduce the effectiveness of the financial system as a whole). In my opinion, many of the arguments which GEHRIG presented under the heading of the incentive effect of capital adequacy rules fall into this category, e.g. the argument that the capital adequacy rule might induce less monitoring. The severe losses induced by the insolvency of the real estate-business of Jürgen Schneider, for example, never endangered the solvency of the big German banks involved, but the case was an excellent example of inadequate monitoring. For the bank management the severe losses were just «peanuts», because – not least thanks to the existence of capital adequacy rules – the buffer against losses was big enough.

A totally different story has to be told however – and here I come to my third and last remark – when capital adequacy rules are designed in a way that forces a bank management to take risks it would not otherwise have taken. This may be the case – as GEHRIG pointed out – if capital adequacy rules are only applied to banks but not to non-banks even when they perform essentially the same business, so that bank management can only meet the excessive competitive pressure by taking excessive risks. I would like to point out a different problem, however, which might be underestimated. Capital adequacy rules are often criticised because they do not take account of diversification; and therefore have a bias against hedging. This criticism is certainly correct. But what would happen if supervising authorities were actually to prescribe a system of risk measurement for all types of assets held by banks incorporating all the currently available knowledge of financial theory? Most likely, the portfolios of banks would become more homogeneous. But in this way, the «common» system of risk assessment might also raise the level of systemic risk (HELLWIG 1994, 1995), because it could only take account of those risks which are known and open to assessment. Therefore a bit of «false» risk measurement in the light of the present knowledge of risk assessment might serve to diversify those risks we are not aware of yet and are quite unable to measure. Nothing could be worse than a bank’s management feeling safe because it believes it is measuring risks «correctly», a management which has a naive trust in financial theory and is therefore unmotivated to use the superior knowledge or better intuition about banks’ risk taking which it might have.
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NIETHAMMER, T., 1990, Die Ziele der Bankenaufsicht in der Bundesrepublik Deutschland, Berlin.
Summary of the Discussion of the Paper by Thomas Gehrig

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At the beginning of the discussion of GEHRIG’s paper, SPREMANN made clear that the statistical distribution is a very crucial factor which needs to be considered in order to evaluate risks adequately. For instance, there seems to be a great deal of evidence that the risks of derivatives do not follow a normal distribution, whereas assuming a normal distribution is essential for certain results derived in GEHRIG’S paper.

Referring to the Italian experience, BRUNI pointed out that sound supervision by authorities and monitoring by shareholders are at least as important as capital adequacy rules to ensure the soundness of the banking system.

In emphasising that capital requirements might induce banks to take excessive risks, BIRCHLER mentioned one important drawback of capital requirements. Concerning the KIM and SANTOMERO model, upon which GEHRIG bases some of his findings, BIRCHLER doubts that the underlying assumption of constant debt costs, reflecting the US experience in the debt insurance market, could be easily justified when applied to other countries. Specifically, the efficiency frontier is unlikely to become more convex by the introduction of capital adequacy rules if debt costs are not constant. Finally, BIRCHLER disagreed with ZIMMERMANN’s comment stating that the ROE (Return on Equity) is a sensible aim for supervisors and managers.

In his statement, BOLTON pointed out that specific capital adequacy rules for banks cannot be justified by excessive risk taking since these incentives exist for non-financial institutions as well. BOLTON believes that the imposition of capital requirements is largely due to regulators who want to preserve their stakes in the banking industry originating from deposit insurance and the bail out process. For him, a well managed bail out process seems to be more promising than capital requirements because it would circumvent the adverse effects typical to the latter.

HELLWIG feels theoretical reasons justify doubting any positive incentive effects emanating from capital adequacy requirements. If no positive incentives are created, there is no justification for regulations. Taking into account this uncertainty concerning the incentive effects, regulators should be very careful about the exact specification of capital adequacy requirements.

According to MILDE, safety net provisions (e.g. <too-big-to-fail> policies and deposit insurance) are due to asymmetric information, for one on the part of depositors vis à vis managers. In his opinion, cumulative regulatory interventions can only be avoided if one manages to avoid taking the first step. Capital requirements only help to reduce

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distortions introduced by deposit insurance. He believes that an inside equity ratio would be a better regulatory instrument for setting the right incentives for managers since they would hold shares of their employers in this case. Unfortunately, Milde had to admit that the question of how to supervise the supervisors remains unanswered.

Geiger's comments closed the discussion. In contrast to the regulatory aims discussed in the paper by Gehrig, Geiger strongly believes that the main goal of capital adequacy requirements should be to avoid losses for unsophisticated depositors. In this case, there may emerge different questions and conclusions from the discussion of bank's risk taking.