

# Bank capital and RoE: erroneous beliefs and financial instability

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## **Abstract:**

Since the crisis, banks' beliefs regarding optimal capital levels and performance objectives have clearly not changed significantly. Yet a substantial body of academic research on bank capital has shown that the banks with the highest capital levels are more resilient to shocks, are more efficient, gain more market share and command the highest valuations on the stock market. Similarly, return on equity (RoE) remains the key metric of banking performance and for bank executives' bonuses. However, empirical evidence has shown that RoE encourages greater risk-taking by banks. This behaviour is detrimental to shareholders during banking crises and does not boost value creation in normal times. These beliefs affect banks' choices in terms of asset allocation and financial policy, and distort their strategic planning. A decade after the financial crisis, a change in these beliefs would be desirable – especially as research has shown that there is no antagonism between the private interests of bank shareholders and the general interest of society at large.

Banking crises cause substantial losses for the economy and society. The recent financial crisis in 2007-2009, regarded as the most serious since 1929, generated huge losses estimated at between \$6 trillion and \$14 trillion (Atkinson, Luttrell and Roseblum, 2013). These figures illustrate the magnitude of negative externalities that bank failures pass on to society. Thus, the banking system's stability is not just a matter for the shareholders, clients and employees of banks; it also concerns all citizens. An especially shocking feature of the most recent crisis was the fact that it was caused by excessive risk-taking by banks. This behaviour has often been ascribed to loose monetary policy or poorly-calibrated risk evaluation models.

A bank's level of risk-taking basically depends, however, on choices made by its executives, who act according to their incentives. These incentives can be connected to specific objectives or guided by more general beliefs. A decade after the financial crisis began, we are forced to admit that there is still no consensus on crucial bank governance issues, with sharp divergences between academics and professionals. This is especially true with regard to the optimal level of bank capital and the steering of banks' asset allocation based on RoE.<sup>2</sup> Academic research has revealed the persistence of certain erroneous beliefs that stand in the way of a transformation in the views of the banking business. This article endeavours to show that a change in these views would be beneficial in terms of value creation for shareholders and reducing externalities.

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<sup>2</sup> RoE is calculated by dividing a bank's net profit by its total shareholders' equity.

## **Bank capital: beliefs and empirical facts**

The impact of bank capital levels has been a very controversial topic for the past decade. Bank capital requirements are a crucial part of banking sector regulation aimed at both preventing excessive risk-taking and increasing banks' capacity to absorb losses. Banks put forward two major arguments against higher capital requirements: 1) such requirements cause profitability to fall, thus weakening banks; and 2) they have a negative impact on credit distribution, thus dampening the economic recovery.

What does empirical research say?

The findings of a study by Berger and Bouwman (2013), to cite just one example, are quite interesting. The authors examined the impact of bank capital levels on banks' market share and survival probability, regarded as two key factors of banking performance. This study looked at all US banks over 1984-2010, thus covering "normal" periods, as well as periods of banking or non-banking crises. It also took account of the size of banks. The findings clearly show that higher capital improved the market share and survival probability of small banks in all circumstances, and of mid-sized and large banks during banking crisis periods.

As summarised by Thakor (2014), empirical research has shown that better-capitalised banks lend more, create greater liquidity, increase their market share more, command higher valuation levels and are more likely to survive a financial crisis. In addition, the negative impact of higher capital requirements on credit availability and cost is either nil or slight and short-lived. All in all, banks' arguments against increasing their capital are more rhetorical device than scientific evidence. Higher capital is ultimately in the interests of banks, their shareholders, their clients and overall financial stability.

Of course, the transition towards higher capital is an issue that must be considered. The best way to increase capital is to reduce dividends, but very few banks agreed to this approach during the crisis, or only did so when forced to. However, as for any company, a reduction in dividends is not a problem per se provided that the retained earnings are used to finance value-creating projects. Several leading institutional investors have understood this, and are currently calling on companies to stop their single-minded focus on earnings per share and to scale back share buybacks or dividend hikes.<sup>3</sup> However, as long as bank executives have a biased view, it will be hard to change the perception of the broader environment. As is often the case, beliefs are self-fulfilling and trap the system in a sub-optimal balance that only changes when forced to.

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<sup>3</sup> See, for example, Quintin Price, "Shareholders are not the sole criterion on which CEOs are judged", *Financial Times*, 18 March 2018.

## **Reasons behind the opposition to higher capital levels**

It is striking to observe that despite the wealth of analysis on bank capital levels, banks continue to view higher capital requirements as a hurdle to their growth and not as a factor for competitiveness.

Aside from the issue of beliefs, several reasons have been put forward to explain banks' opposition to higher capital levels. Among these reasons, there is a political explanation whereby banks attempt to oppose regulatory constraints as part of a bargaining process between bankers, regulators and policymakers (Thakor, 2014). The work of certain lobbyists – who tirelessly repeat the same messages, regardless of advances in knowledge – is undoubtedly a part of this bargaining process whose aim is to oppose regulation because it is deemed restrictive by its very essence, even if such regulation is in banks' own interest.

A second reason is related to the fact that banks' debt is subsidised, either because it enjoys favourable tax treatment (see Tröge and Roe, 2018, and Tröge in this issue), or because it is backed by an implicit or explicit government guarantee in the event of default. It has been proven that changing the tax system by restoring a balance in the taxation of equity and debt has a positive effect on banks' capital levels (Schepens, 2015; Martin-Florès and Moussu, 2017). However, to eliminate the bias of the implicit government guarantee, policymakers would have to commit to never rescuing a troubled bank – and such a commitment is impossible.

A third reason is that any increase in capital would result in a transfer of wealth from shareholders to creditors (Admati, DeMarzo, Hellwig and Pfleiderer, 2010) or to taxpayers (Moussu and Petit-Romec, 2012). Lastly, a final reason is related to the central focus given to banks' RoE, a metric that automatically declines when capital increases.

## **Bank RoE: the origins of an omnipresent performance metric**

Another persistent myth for banks is the belief that RoE is a valid performance metric that ensures long-term value creation for banks' shareholders. A straightforward criticism of RoE (Admati *et al.*, 2010; Goodhart, 2013; Moussu, Ohana and Tröge, 2012; Thakor, 2014, etc.) is that it is an incentive to maximise leverage, with all the adverse effects studied previously. Yet RoE actually has even more detrimental effects (Moussu, 2014).

RoE is omnipresent in banks, both as a metric of overall performance and to allocate capital amongst the various business lines. This focus on RoE is connected to banks' risk management approach. Under this approach, a capital charge is defined for each asset based on its risk. This capital charge, intended to cover potential losses, is set either by the regulator or internally. At the bank level and within each division, the objective is to maximise profits for a given amount of economic capital. Thus, RoE automatically becomes a performance metric for banks.<sup>4</sup>

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<sup>4</sup> Guill (2009) reports that in February 1979, Bankers Trust sent a letter to the banking supervisor at the Federal Reserve Bank of New York, stating: "The resources management department has been working on ways of allocating capital to businesses with different risk characteristics [...] The truly scarce resource is equity, not assets, which is why we prefer to compare and measure businesses on the basis of return on equity rather than return on assets." The objective of maximising RoE had just been created.

A bank is, by its very essence, an institution in which knowledge is specific to each business line and decisions are made in a decentralised fashion. This specific organisational setup naturally strengthens the emphasis on RoE, which enables the allocation of economic capital to be compared both horizontally and vertically. It is important to note that this risk management approach appealed to regulators because it was “scientific” and allowed risk to be managed at the overall bank level. In fact, an initial criticism focused on the scientific nature of models: Can future risk be assessed based on past estimates? What about extreme risk, systemic risk, etc.? A second criticism is that, by becoming a key metric, RoE is transformed into a target. And as Goodhart has stated so elegantly: “When a measure becomes a target, it ceases to be a good measure.”

As for bank capital levels, the question of RoE’s value as a bank performance metric is an empirical one. Numerous observers – including financial analysts, bankers and even academics – generally connect RoE with shareholder value creation. But this connection does not actually exist. RoE is a static performance metric that is different from the creation of actual monetary value for shareholders. As for any business, a performance metric is only valid if it drives appropriate incentives that work towards long-term value creation for the business and its shareholders. Therefore, the empirical question is:

Does RoE work in the interests of banks’ shareholders?

## **RoE: the “false prophet” of bank performance**

In an initial article, Moussu and Petit-Romec (2017) show that while RoE is used to measure banks’ performance, it is in fact an excellent risk indicator. Banks are by definition not transparent, and their actual level of risk materialises and is observable during crisis periods. Referring to the 1998 and 2008 banking crises, the authors show that the pre-crisis RoE levels of banks are very closely correlated to lost shareholder value during the crisis and to several systemic risk metrics. Interestingly, this effect cannot be found in other industrial sectors. Therefore, banks are “special” in that their business model is based on a performance metric that can be manipulated through excessive risk-taking. This fact is all the more problematic as RoE is a central part of bank governance and executive pay. Indeed, a review of pay incentives for bank executives in the US, France and elsewhere in Europe shows that absolute or relative RoE targets are included in the bonus criteria for bank executives. This is consistent with the observations of Bennett, Gopalan and Thakor (2016) for the US and Moussu and Petit-Romec (2017) for a sample of international banks, showing that executive pay was highly sensitive to RoE.

In a second article, Moussu and Petit-Romec (2016) focus on the impact of RoE on shareholder remuneration outside periods of banking crisis. If RoE is correlated with greater risk, resulting in losses during crisis periods, perhaps it also drives higher performance for shareholders outside crisis periods? Here again, the results are striking. RoE is correlated with very short-term outperformance for banking shares, followed by underperformance over one, two or three years. There is also a positive correlation between RoE and the level of risk for shareholders. Lastly, a ranking of banks by RoE shows that high RoE does not create any additional value for shareholders. In fact, adjusted for shareholder risk, only banks with low RoE outperform!

## **Belief-driven effects**

Banks' determination to minimise their capital and maximise their RoE creates distortions in asset allocation. Firstly, it encourages regulatory arbitrage, whereby banks endeavour to focus their business on activities that have lower capital requirements. However, taking advantage of regulatory loopholes is by no means a guarantee of optimal asset allocation, as shown by the example of European banks that piled into Greek debt because it offered returns a few basis points higher for zero capital charge...

Likewise, the focus on maximising RoE is a significant factor for securitisation. In 2005, two years before the financial crisis began, the head of securitisation at a major French bank explained this as follows: "Top management pushes the bank networks to distribute credit. As soon as we have a €30m loan pool, we launch a securitisation deal. It's good for my department and for my bonus. Lastly, the bank's profits increase and capital stays the same. Top management is happy because RoE is higher."

Quite interestingly, Purnanandam (2011) has shown that US banks, which were more active in the securitisation of mortgage loans before the crisis, tended to grant loans of lower quality. This effect was even stronger for banks with lower capital levels. This finding suggests that risk selection and monitoring is generally less stringent in securitisation processes. Yet these functions are the very foundations for banks' informational rent extraction. Ultimately, we see clearly that beliefs lead to deep changes in banks' "business model". They shift from a model based on relationships to one based on transactions ("originate to distribute"). The superiority of this new business model in terms of value creation has yet to be proven, whereas its weakness was clearly demonstrated during the crisis.

## **Conclusion**

A decade after the financial crisis, the aim is no longer to express outrage at the extreme behaviour of some banks that "privatised profits and socialised losses", to borrow the popular expression. Banks play an important role in the economy and remain key financial stakeholders. Despite considerable academic research to understand the causes of the financial crisis, beliefs have obviously not changed significantly. Banks continue to view more stringent capital requirements as value destructive and to use RoE as a performance metric. Yet lower capital levels and higher RoE are well-documented factors for risk-taking by banks.

The work done by academics should be regarded as an opportunity, not a threat. Banks with higher capital levels are more resilient to shocks and command higher valuations in both crisis and non-crisis periods. Higher RoE means higher losses for shareholders during banking crises and no outperformance during non-crisis periods. Therefore, there is no antagonism between shareholder value creation and financial stability. Hence it is important to continue to deconstruct erroneous beliefs and distorted incentives in the banking sector. In particular, capital requirements should not be relaxed and RoE-based pay incentives should be done away with. Lastly, regulators must better anticipate the effects that regulations have on beliefs. For in the end, beliefs give rise to a more or less resilient banking business model.

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