

The financial crisis

Basel and the illusion of capital strength

Following the financial crisis, few disagree that banks need more capital. Yet before the crisis, Basel capital ratios indicated that banks were well capitalised. What explains the apparent contradiction? And does this suggest a need to change the way assets are risk-weighted under Basel?

In the post-crisis analyses of the financial system, governments and regulators may disagree on the merits of narrow banking or a Tobin-style tax on financial transactions. But all agree that the crisis exposed an under-capitalised banking sector. Under the reforms of the Basel framework, there will be significant increases in the capital banks are required to hold.

The illusion of capital strength

But one of the great ironies of the crisis is that, ahead of its impact, the banking system **appeared** well-capitalised. Banks were reporting capital ratios well above the minimum levels required under Basel 1. And Basel 2, due to be implemented just as the crisis hit, proposed no overall increase in the level of capital held by the banking sector.

Take for example Northern Rock and UBS, two of the banks worst hit by the first phase of the crisis during the second half of 2007. At end 2006, Northern Rock reported a Tier 1 ratio 8.5%, more than twice the regulatory minimum and higher than the 7.7% ratio it reported at end 2005. Meanwhile, UBS reported a Tier 1 ratio of 11.9% at end 2006, one of the highest in the European banking sector.

Why did banks appear so strongly capitalised? Was there a simple flaw in the Basel approach to the risk-weighting of bank assets that contributed to this illusion of capital strength?

Risk-weighting from a ceiling rather than a mid-point

Under Basel, assets are effectively risk-weighted from a 100% **ceiling** rather than around a 100% **mid-point**. Few asset categories are weighted more than 100%, with major asset categories (interbank loans, mortgages) risk-weighted at significantly less than 100%.

Weighting from a ceiling rather than a mid-point has a crucial effect on asset values and capital ratios. It disconnects the total value of risk-weighted assets (RWAs) from the total unweighted value of bank assets (whether valued on the balance sheet at fair value or historic cost).

Crucially, it pushes down the risk-weighted value of assets, so they are significantly **lower** than unweighted asset values. And this in turn disconnects RWA-based capital ratios (such as the benchmark Tier 1 ratio) from the unweighted leverage ratios (for example, equity as a proportion of total balance sheet assets). Risk-weighted capital ratios are significantly **higher** than capital ratios based on unweighted assets.

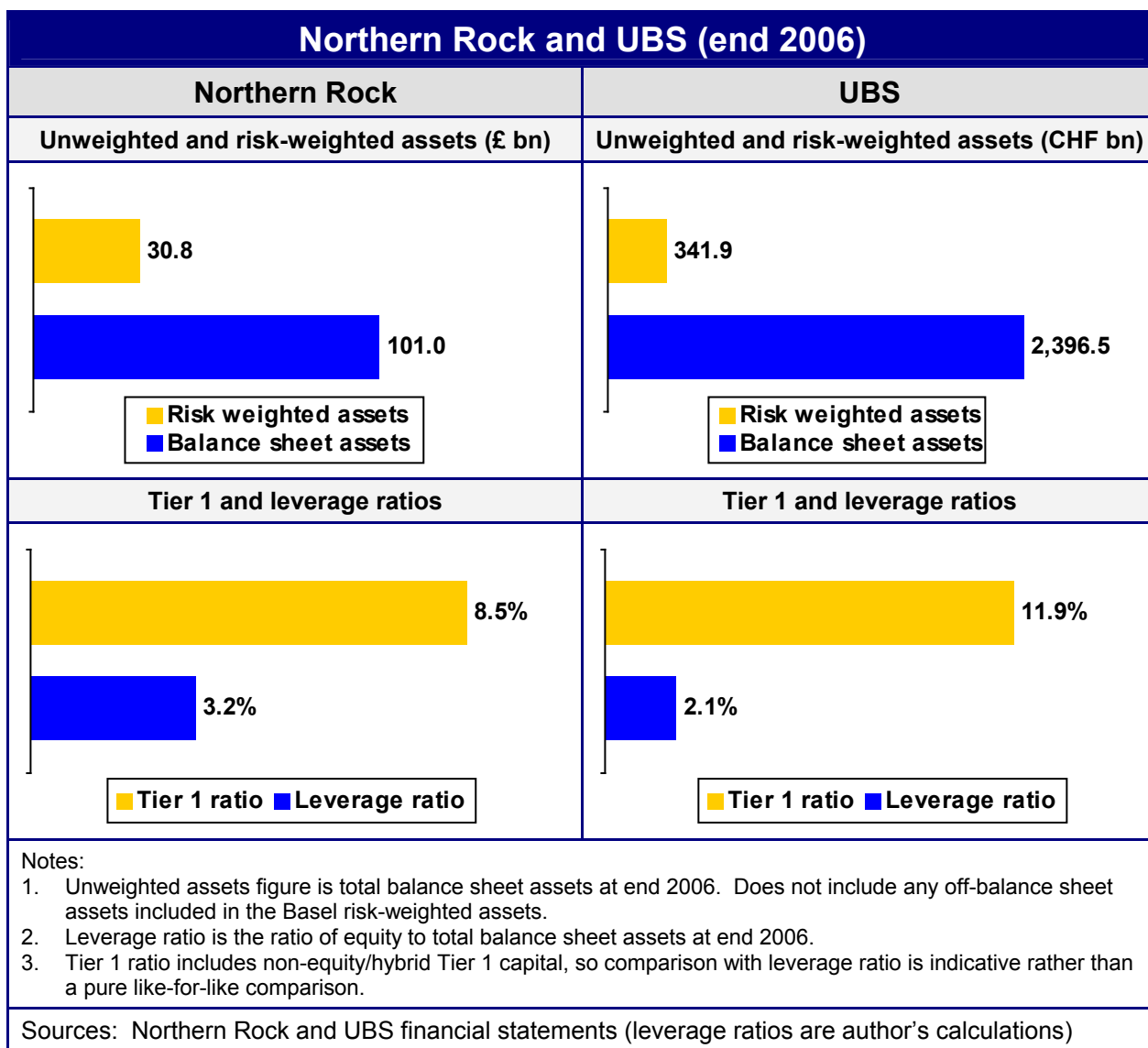
In their reporting, banks tended to focus on their “strong” Basel capital ratios rather than the value of their RWAs. Yet the capital ratios only looked strong because the value of RWAs was so much lower than the value of unweighted assets. As a result, investors and regulators lost sight, or failed to realise that “strong” Basel Tier 1 ratios were compatible with surprisingly low unweighted capital ratios.

Northern Rock and UBS

Northern Rock and UBS were major players in asset categories – residential mortgages and trading book assets respectively – that were only lightly weighted relative to the 100% ceiling under Basel.

As a result, Northern Rock’s RWAs of £30.8 billion at end 2006 were less than a third of its balance sheet assets of £101.0 billion. And its Tier 1 ratio of 8.5% at end 2006 was more than twice as high as its unweighted leverage ratio (equity-to-balance sheet assets) of 3.2%.

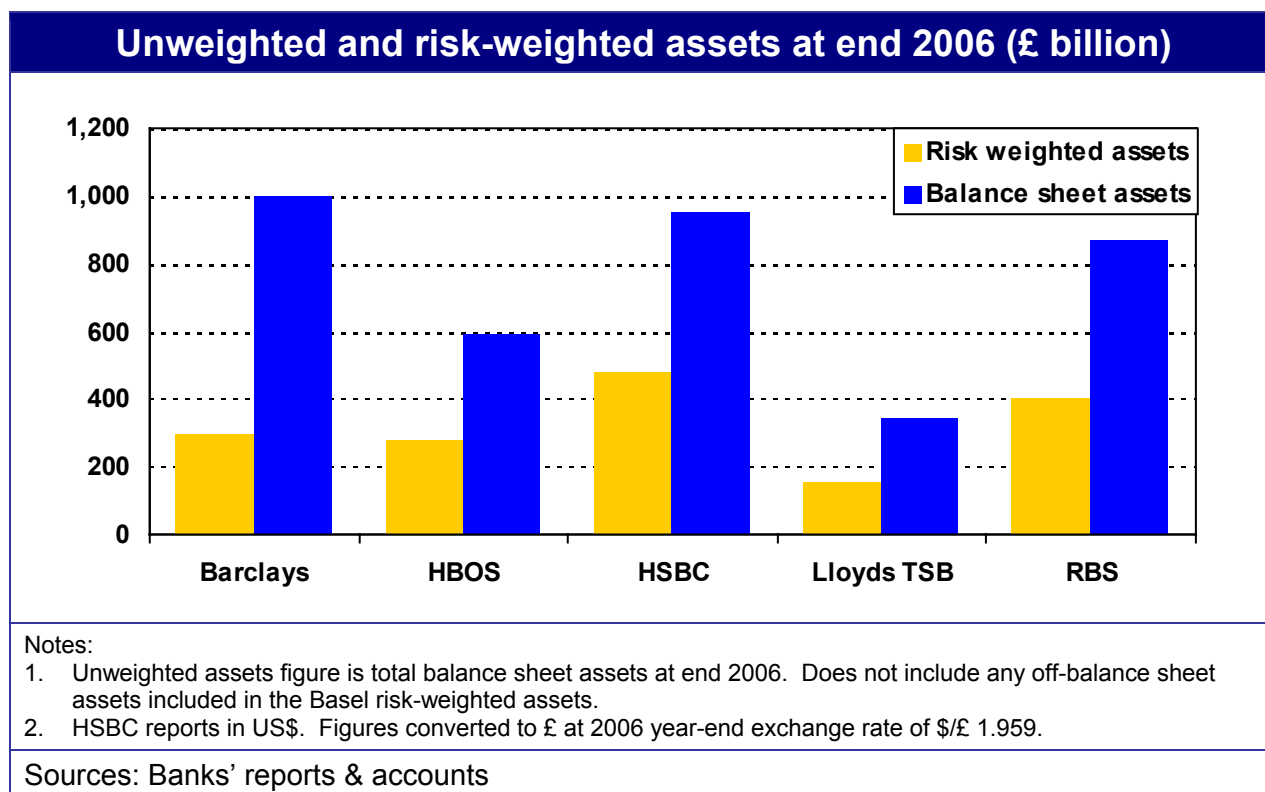
The value of UBS’s total balance sheet assets of CHF 2.4 trillion at end 2006 was an astonishing seven times greater than its RWAs of CHF 342 billion. As a result, its Tier 1 ratio of 11.9% compared with an unweighted leverage ratio of only 2.1%. UBS’s large and lightly capitalised investment bank trading book appears to be the main factor behind the disconnection between unweighted and risk-weighted assets. UBS’s large Investment Banking business accounted for over 80% of its balance sheet.



Major UK banks

But this disconnection between the value of risk-weighted and unweighted assets was not limited to the more specialist mortgage or investment banking players.

Take for example the big five UK-based universal banking groups (Barclays, HBOS, HSBC, Lloyds and RBS). Of the five banks, at end 2006 only HSBC's RWAs were valued at more than 50% of its unweighted balance sheet assets. And even in the case of HSBC, the value of its RWAs was only 50.4% of its balance sheet assets. Overall, for the five banks combined, RWAs were valued at only 43% of unweighted balance sheet assets. And this may slightly understate the extent of the disconnection given that some RWAs are off-balance sheet.



In conclusion, almost everyone agrees that the Basel risk-weightings need to be re-calibrated to increase banking sector capital. As part of that reform, the risk-weighting valuation framework should be reconfigured so that 100% becomes a mid-point rather than a ceiling. This would significantly improve transparency by connecting the total value of RWAs in the banking system with the unweighted value of those assets. And crucially, it would also enable users to compare more easily Basel capital ratios with balance sheet leverage ratios, which many now favour introducing as a backstop to Basel.

A version of this bulletin is due to appear as a Capco Institute Bulletin, written with Professor Paul Klumpes of Imperial College Business School. The ideas will be pursued in more depth in a forthcoming article in the Capco Journal of Financial Transformation.

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