

The financial crisis and bank KPIs

With the benefit of hindsight

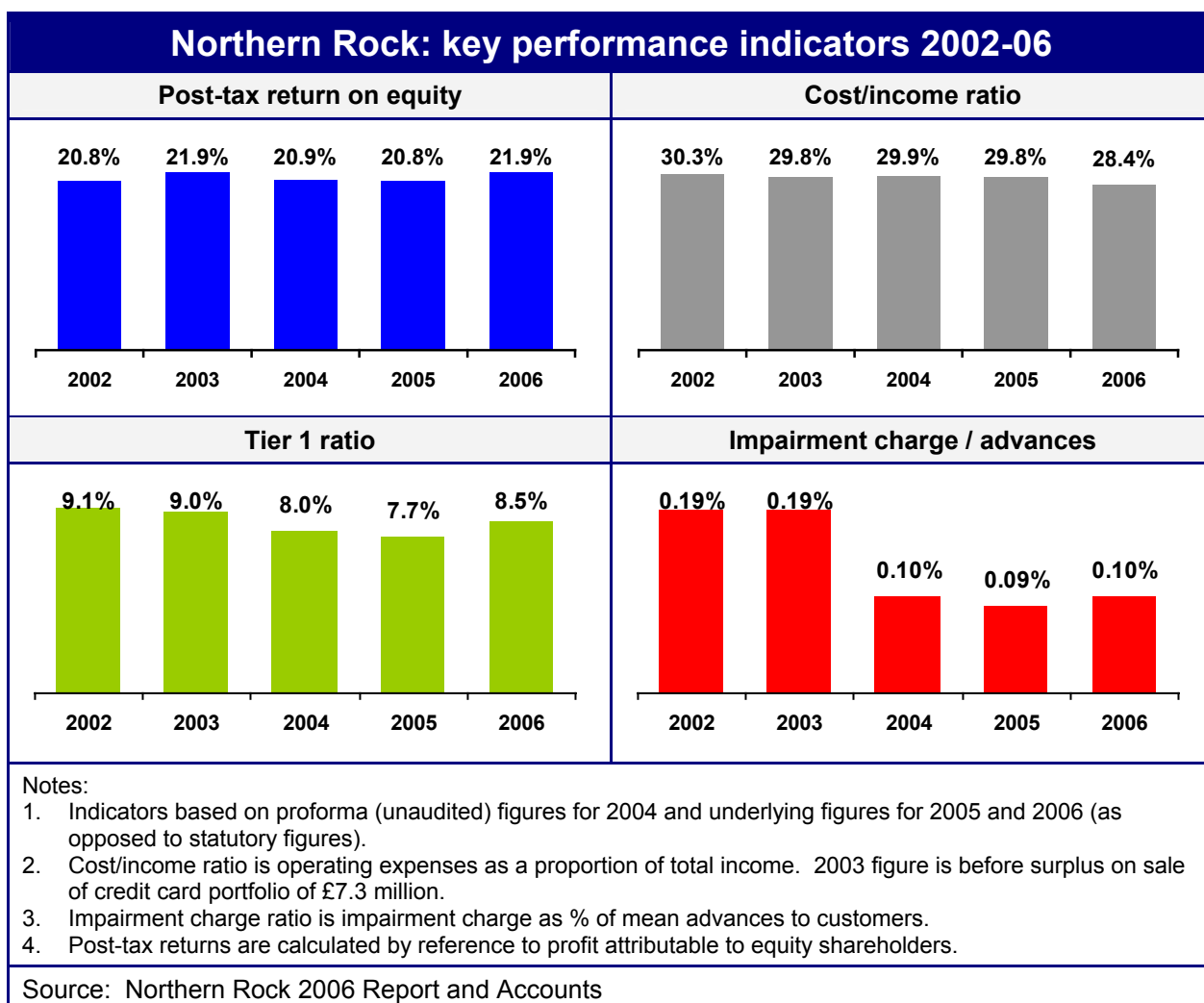
Ahead of the financial crisis, banks appeared to be in good financial health. They were reporting strong returns on equity, high capital ratios and low loan loss ratios. Yet these widely used indicators gave little warning of what was to come. Are there other indicators might have given greater insight?

Looked at from this angle.....

Imagine a bank that for 2006 was able to report:

- a return on equity of more than 20%
- a Tier 1 capital ratio more than twice the regulatory minimum
- a cost/income ratio of less than 30%, and
- an impairment charge of only 0.1% of customer advances.

In fact, we can put a name to this bank ... Northern Rock. Indeed, the UK mortgage lender had been delivering a consistently strong performance as measured by these metrics for the preceding five years. Yet within a year, this apparently profitable, efficient and well-capitalised bank with a high quality loan book would become one of the first victims of the financial crisis.



Why did these performance metrics give a misleading impression of Northern Rock's financial performance? Much ink could be spilt answering this question. But in brief, the following points appear relevant:

As already noted in a previous bulletin¹, Tier 1 capital ratios were flattered by the risk-weighting of assets from a ceiling rather than a mid-point. In reality, Northern Rock like many other banks was much more leveraged than its Tier 1 ratio superficially indicated. Its unweighted leverage ratio at end 2006 was less than half its Tier 1 ratio.

As for the low impairment charge ratio, this is a lagging indicator given the requirement for specific loss events under International Financial Reporting Standards (IFRS) before banks make loan loss provisions. Northern Rock was to report an impairment charge for 2007 almost three times higher than that for 2006.

The bank's strong return on equity during the years to 2006 therefore, in part at least, reflected its high underlying leverage and the incurred loss basis for impairment charges.

As for the cost/income ratio, it is a poor indicator of banking efficiency. It flatters mortgage lenders, and particularly those such as Northern Rock with a high proportion of wholesale rather than retail funding².

But looked at from this angle.....

What alternative metrics might give some indication of Northern Rock's potential vulnerability to the impending crisis? With, it must be emphasised, the great benefit of hindsight, the alternative set of indicators for 2006 on the right of the following table portray the bank in a rather different light:

Northern Rock: key performance indicators 2006			
Widely cited pre-crisis indicators		Possible post-crisis indicators	
Post-tax return on mean equity:	21.9%	Growth in customer loans:	23.7%
Tier 1 capital ratio:	8.5%	Leverage ratio:	3.2%
Cost/income ratio:	28.4%	Deposits / loans:	31.0%
Impairment charge / mean advances to customers:	0.1%	Liabilities due within 3 months / total liabilities:	34.5%
Notes:			
1. Tier 1 ratio includes non-equity/hybrid Tier 1 capital, so comparison with leverage ratio is indicative rather than a pure like-for-like comparison.			
2. Leverage ratio is the ratio of equity to total balance sheet assets at end 2006. In fact, Northern Rock's total equity, as declared in its balance sheet, includes non shareholders' funds (reserve capital instruments and subordinated notes). Total equity attributable to equity shareholders accounted for only 2.15% of total assets at end 2006.			
3. Deposits = customer accounts.			
4. "Leverage ratio", "Deposits / loans" and "Liabilities due within 3 months / total liabilities" as at end 2006. "Growth in customer loans" based on comparison of customer loans at end 2006 and end 2005.			
Source: Northern Rock 2006 Report and Accounts			

As the indicators show, Northern Rock was growing its lending at a very high rate. Its balance sheet almost doubled in size in nominal terms between end 2003 and end 2006, with gross lending

¹ *Basel and the illusion of capital strength*, November 2009

² See the report *Rethinking Bank Efficiency*.

close to double net lending in each of these years. Indeed, one of the bank's strategic targets was annual asset growth of 20% +/- 5%³.

In retrospect, such a growth target seems astonishing and incompatible with the effective control of credit risk. Northern Rock had a young loan book, which had grown rapidly in the context of the UK mortgage boom and an apparently benign economic environment⁴. Northern Rock was highly vulnerable to a deterioration in credit quality as the loan book matured and economic conditions deteriorated.

At the same time, much of Northern Rock's lending was funded through short-term borrowing. The notes to the accounts reveal that liabilities with a maturity of three months or less accounted for more than a third of its total liabilities at end 2006.

This indicator needs to be interpreted in the context of the bank's funding profile and mix. Most bank lending is funded through (notional) short-term liabilities. As the saying goes, banks borrow short and lend long. But the saying generally refers to term loans funded through retail deposits that are withdrawable on demand or at short-notice but in practice often deposited for long periods⁵.

In the case of Northern Rock, its reliance on short-term liabilities needs to be seen in the context of its *lack of* retail deposits. At end 2006, deposits (customer accounts) accounted for less than a third of Northern Rock's loans. The bank relied heavily on wholesale funding (debt securities), particularly securitisations (securitised notes accounted for over 40% of Northern Rock's liabilities at end 2006). It needed to refinance a significant proportion of its wholesale funding, as the events of 2007 were to demonstrate.

And this rapid growth in largely wholesale-funded lending was supported by what we now know was a thin capital base. While the Tier 1 ratio looked strong, the bank's unweighted leverage ratio was little more than 3% of total assets (and little more than 2% of total assets if non shareholders' funds are excluded from equity).

New perspectives

Clearly, in the wake of the crisis, there is a shift in focus from measures of bank profitability and efficiency to measures of asset quality, funding profile, liquidity and capital strength.

Accounting and regulatory changes are already pushing in this direction. For example, the International Accounting Standards Board (IASB) is consulting on a move from the current incurred loss model for loan loss provisions to an expected loss model⁶. Whatever the accounting merits of such a move⁷, such a change would make the impairment charge ratio less of a lagging indicator and cut reported returns on equity during periods of lending growth. And the Basel Committee on Banking Supervision is proposing a raft of measures to strengthen the sector, including a leverage ratio, a 30-day liquidity coverage ratio requirement and a longer-term structural liquidity ratio⁸.

³ Along with growth in profits attributable to all shareholders of 20% +/- 5% and a return on equity of 20-25%.

⁴ See the bulletin ***Clouds on the horizon - an update***, March 2009, which examines the rapid growth in lending to UK households ahead of the crisis.

⁵ Though, of course, the fact that retail deposits can be withdrawable on demand or at short-notice still leaves banks largely funded through such deposits highly vulnerable to rapid outflows.

⁶ See ***Financial Instruments: Amortised Cost and Impairment***, IASB Exposure Draft ED/2009/12, November 2009.

⁷ Arguably, the accounts should report the numbers for that financial period, with users of accounts responsible for interpreting the numbers in the context of the bank's business, position in the economic cycle, etc.

⁸ See ***Basel Committee announces consultative proposals to strengthen the resilience of the banking sector***, Press release Ref no: 46/2009, 17 December 2009.

In addition, the development of cash flow performance measures for banks is a promising area of research, though work is at an early stage and much depends on reforming the accounting regime for bank cash flow reporting⁹.

More generally, work is needed to determine which metrics provide the most insight, the parameters which capture the range of good to poor performance, and so on. And, though it became iconic as an early victim of the crisis, Northern Rock may not be representative for other banks in important respects. Though used as a case study in this bulletin, it was distinctive as a largely wholesale-funded residential mortgage lender. Different metrics may be more appropriate for other types of bank.

However, ahead of the crisis, it appears undeniable that, across the sector, widely used indicators of bank performance gave little warning of what was to come. All the major stakeholders – from senior management and boards to regulators, shareholders, depositors and other providers of funding – need to reconsider the indicators they use to measure a bank's financial health.

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⁹ See Professor Paul Klumpes, Peter Welch and Andres Reibel, *Bank cash flows: a source of new insight?*, Journal of Financial Transformation, Volume 26, August 2009.