



## DNB conference in honour of Nout Wellink on “Welfare effects of financial innovation”

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### Panel remarks by Jaime Caruana

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We are gathered today to talk about financial innovation and to celebrate the professional achievements of Nout Wellink. This is a fitting topic for someone who spent so much time and energy in building regulations that will help ensure that everyone can benefit from financial innovation without compromising systemic stability. The work of Nout, the work of the Basel Committee that he successfully chaired, the dialogue and interaction among supervisors, financial institutions and other parties have all been instrumental in the effort to strike the right balance between the social benefits and the risks of financial innovation. Regulation can help financial innovation deliver the expected productivity enhancements and economic growth without jeopardising the economy’s stability.

Backed by sound regulation, financial innovation can yield the benefits promised to society. Without that regulation, innovation may produce short-term personal gains for a few, but only at the risk of creating bubbles, systemic hazards and costly financial crises like the one we are living through.

Let me explain.

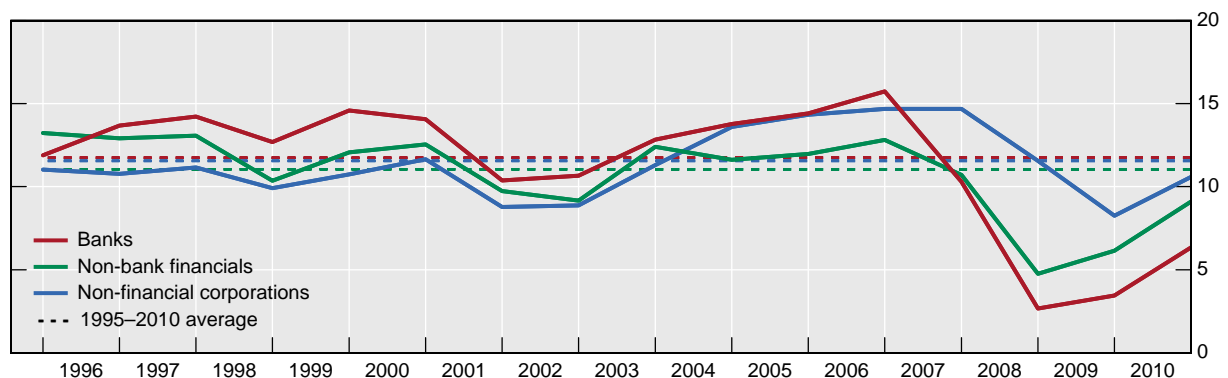
Banking is a peculiar business. Banks finance transactions, from the very small to the very large. They produce essential services for the economy and they rightly earn profits. Financial intermediation inevitably requires banks to manage the credit and liquidity risks on their books. This comes at a price: banks’ balance sheets are leveraged. And it is that leverage that makes them fragile.

So what is the appropriate balance between profitability and risk in banking?

Let’s have a look at the numbers. Historically, the return on equity in banking has closely tracked the average return of other industries (Graph 1).

**Graph 1: Return on equity<sup>1</sup>**

Medians across institutions



<sup>1</sup> Net income over total shareholder funds, in per cent.

Sources: Bloomberg; BIS calculations.



Unlike in other sectors, however, these returns have been achieved through generous use of leverage, either on the balance sheet or, as frequently seen, off it. Remember that an 8% capitalisation ratio implies that every euro of equity is leveraged 12 times. In fact, after accounting for the fact that the regulatory ratio refers to capital over RWA, bank equity was on average leveraged more than 18 times in 1995–2010. Equity in non-financial firms was leveraged only three times (Table).

**Table: Profitability and leverage**  
Medians across years and institutions

	Return on assets <sup>1</sup>				Return on equity <sup>2</sup>				Leverage <sup>3</sup>			
	95–09	95–00	01–07	08–09	95–09	95–00	01–07	08–09	95–09	95–00	01–07	08–09
Banks	0.6	0.7	0.7	0.2	12.2	13.3	12.8	3.2	18.3	17.8	19.1	17.4
Non-bank financials	0.9	1.0	1.0	0.5	11.2	12.3	11.4	5.4	12.1	12.5	12.1	10.8
Non-financials	3.2	3.0	3.4	2.8	11.7	10.9	12.8	9.8	3.0	3.0	3.0	2.9

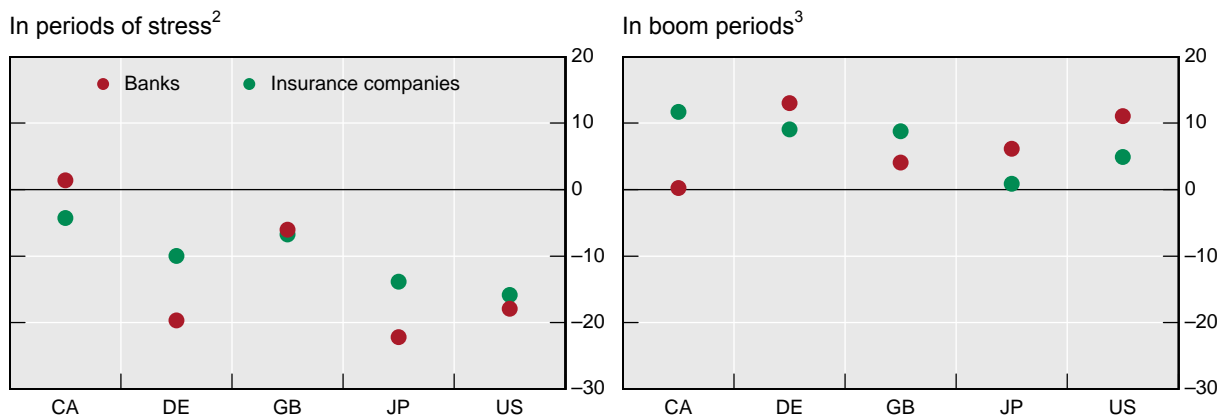
<sup>1</sup> Net income over total assets, in per cent. <sup>2</sup> Net income over total shareholder funds, in per cent. <sup>3</sup> Total assets over total shareholder funds.

Source: Bloomberg.

High leverage has contributed to the volatility of bank profits. In fact, few sectors are as volatile as banks in the return on their stock prices, which anticipate future profits. This means that banks do particularly badly on a rainy day. During periods that comprise the worst 20% of stock market performance, banks score worse than most other sectors (Graph 2, right-hand panel). Clearly, the flip side is that they do very nicely on sunny days.

**Graph 2: Financial stocks in extreme market-wide events<sup>1</sup>**

1973–2010



CA = Canada; DE = Germany; GB = United Kingdom; JP = Japan; US = United States.

<sup>1</sup> Average quarterly return in each financial subsector minus that in non-financial sectors; annualised, in per cent. <sup>2</sup> When the quarterly return in the whole market is equal to or smaller than the 20th percentile of its empirical distribution. <sup>3</sup> When the quarterly return in the whole market is equal to or greater than the 80th percentile of its empirical distribution.

Source: Datastream.

This is all very well if you are a risk-loving money manager seeking to benefit from stock volatility. It is not so good if you are a long-term, real-money investor such as the average pension fund. High volatility coupled with a run-of-the-mill average return is not very attractive from your perspective.



Nor is it good from a system-wide financial stability perspective. The banking system can hardly stabilise the economy if excessive leverage makes it the economy's most volatile component. Nor if its size continues to grow disproportionately relative to the economy it is supposed to finance.

How does innovation fit into this picture? There are those who say that banks should be utilities and, as such, have no need to innovate. Paul Volcker pointedly says that the last useful innovation in banking was the introduction of the ATM. I think that this assessment is a little harsh. Financial innovation occurs all the time as banks and markets introduce new products and instruments. Venture capital, securitised credit card receivables, interest rate swaps, even CDS contracts have all been, on balance, useful innovations. That said, we are all painfully aware of the many instances in which innovation is motivated by the desire to bypass regulation or when the innovation is so opaque that risks are difficult to assess. This type of innovation adds little to welfare. More often than not, short-term returns are achieved by creating long-run vulnerabilities.

However, the link between financial innovation and risk goes much further than regulatory arbitrage. New products and instruments can create value and help align risks with the capacity to bear them. They can help banks' clients to manage their businesses better. At the same time, they present challenges for banks.

By definition, innovation carries financial institutions into uncharted waters. It changes the profile of risk and, as a departure from established practice, it makes that risk harder to assess. And the more radical the innovation, the higher the attendant uncertainty. It is no coincidence that banking crises often follow on the heels of rapid financial deregulation.

What is most disturbing about risk and return in finance is that the rewards are very often front-loaded while the risks do not crystallise until much later. Innovation comes with profits for the innovators that tend to conceal incipient risks even from risk management experts. It is easy to lose sight of risk in this environment. Some innovations may benefit from negative externalities, agency problems or opacities that hide excessive leverage, maturity or liquidity transformation. Also contributing to the problem are accounting rules that may not properly recognise risk premia in a forward-looking way.

All too easily, financial firms misjudge the incipient risks and over-interpret the first signs of success. There is a strong temptation to call it a new era. The danger is a major disconnect between private rewards and social costs.

Solid risk management is a prerequisite if banks (and the rest of us) are to benefit from financial innovation. What Nout and his colleagues in the Basel Committee on Banking Supervision have sought to do is to make banking more valuable to the economy by promoting a stronger risk management culture. However, regulation has to do more, we have learnt our limitations in managing risks, particularly systemic risks. In this light, regulation needs to build resilience, recognising that our knowledge is imperfect. By curbing excessive leverage, that is, asking for more and better capital buffers, and also by restricting excessive maturity and liquidity transformation, we can go a long way towards achieving a more resilient and stable financial system.

Yet, when all is said and done, the stability of the financial system is ultimately underwritten by the public purse. And the task of regulation and supervision is precisely to ensure that this purse remains firmly shut. Market participants judge banks on regulatory ratios that are often seen as the "floor" for safety and soundness standards.

In the past couple of years, the Basel Committee on Banking Supervision under Nout's stewardship has produced a sweeping review of regulatory standards and put in place a new, strengthened framework. Speaking of financial innovation, the new regulatory framework has itself a number of innovative features:



- It sets a much more conservative minimum ratio for capital of far better quality. It thereby hardwires the main lessons from the crisis: that banks were excessively leveraged and that some innovations had reduced their capital's loss-absorbing capacity.
- It takes the notion of a "buffer" much more seriously. Minimum capital requirements protect banks but they cannot be drawn down. The conservation and countercyclical buffers can. Of course, it is only possible to draw down buffers in bad times if you have built them up in good times.
- It addresses systemic aspects head-on. In particular, the countercyclical buffer is set on indicators for the build-up of system-wide risks; it also requires supervisors to communicate their systemic risk assessments as they make adjustments.
- It introduces a leverage ratio and liquidity standards.

So what does all this mean for banks? My reading of the studies on the impact of these changes on banks' profits and behaviour points to large benefits. These come from reduced instability in the banking system (fewer crises), yet the costs in terms of wider intermediation margins are relatively small. Let me pause one moment and underline here that higher intermediation costs are not as scary as one might think, particularly in good times.

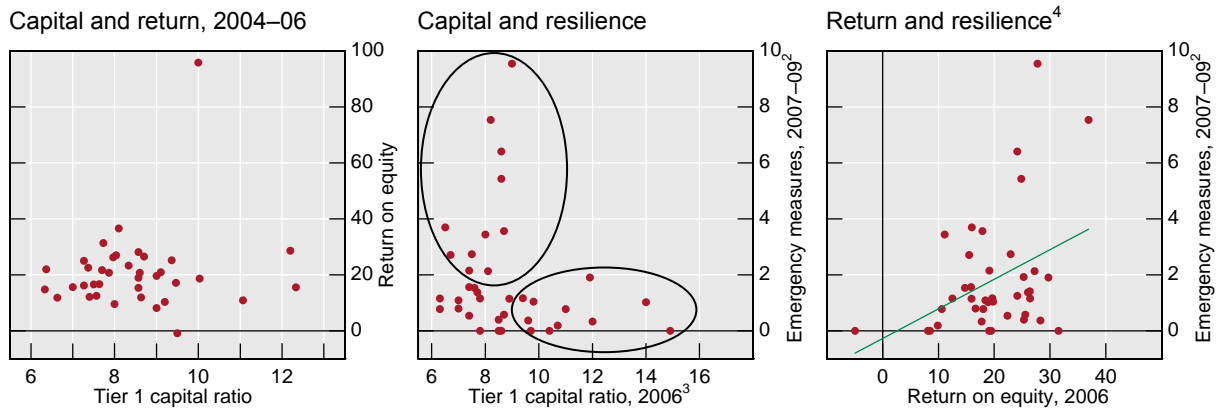
Will banks and innovation suffer as a result of Basel III so that we (the rest of the economy) can avoid crises? I do not think so. There are important benefits for the banks themselves. For instance, banks that were better capitalised prior to the crisis fared better during the crisis (Graph 3). Moreover, as banks become safer, and their balance sheets less leveraged, their cost of funding will be lower, not higher, although there may prove to be some offset in their loss of the implicit subsidy associated with too-big-to-fail. Incentives to arbitrage the new regulation will increase but, for their part, supervisors and markets will focus much more attention on both banks and shadow banking.

Investors reward solid business models and they are even more likely to do so after the painful losses incurred during the crisis. They need to accept the kind of returns that are associated with lower leverage and more moderate risk-taking. The mouth-watering profits we saw in 2005–06 at the height of the boom are not the right benchmark for comparison, since we now know full well that they were based on unfounded optimism about risk. Of course, like all other businesses, banks have to work out the costs of past mistakes. In bad times their earnings will suffer. To make an adequate return, they will need to mend their balance sheets but also to work on their costs. Non-financial firms tend to restructure in a recession and rationalise their cost base. There is no reason why banks should not do the same. Financial institutions can also become more efficient and they can innovate, adopting good innovation to deliver better services, and adapting their pricing to properly reflect risks.



**Graph 3: Pre-crisis characteristics and in-crisis performance of 40 large banks**

In per cent



<sup>1</sup> Averages. <sup>2</sup> Sum of the values of fixed income, capital and hybrid instruments issued and assets sold from mid-2007 to end-2009, divided by total liabilities in 2006. <sup>3</sup> At end-year. <sup>4</sup> The slope of the line, based on an ordinary least squares regression, is statistically significant at the 95% confidence level.

Sources: Bankscope; Bloomberg; company reports.

Does this sound too good to be true? Possibly, but adequate regulation and a stronger risk culture can help address the problem. In the long run we should be all better off, both those who work in banking and those who do not.

All this is thanks, in large part, to the work of Nout Wellink.