

Dinner Speech by Patrick Honohan
at the BNB-BIS Conference

on the occasion of the 140th anniversary of the Bulgarian National Bank,

Sofia, 7 July 2019

Tomorrow we will discuss the state of the economy and of the financial sector at this point in the financial cycle. There will, no doubt, be some room for differences of opinion on just how long we have to go before the cycle turns and on how severe a setback one might expect to occur when that turning point does occur. I will not enter that debate tonight: but I would be surprised if most observers do not see the current situation as “late cycle”. So it is not too early to be brushing-up on financial crisis management tools.

Is this a good time to be in charge of financial stability? From today’s perspective, the past five years or so may look like a success story for the financial stability manager. Admittedly there has been a steady drumbeat of problems affecting one bank or another—money laundering being prominent in the list of deficiencies that have cost some senior bankers and some regulators their jobs. But these cases, serious though they have been, have been microeconomic in nature and have not spilled over into a macrofinancial crash. So this may seem to be a good time to have been a financial stability policymaker... as long as it lasts, or as Napoleon’s mother put it: *Pourvu que ça dure*.

Where will the next crisis come from and when should we move to high alert? These are the questions all prudent policymakers are asking themselves. Some elements of the current situation are quite different to what we have seen in the past, for example, the growth in the relative importance of non-bank intermediation and the persistence of exceptionally low nominal interest rates. These remind us that “this time will be different” – though not necessarily in a good way. But I want to argue that in certain respects we still have not fully learnt the lessons of past crises and that, even for banks, we risk seeing problems creep up again on us unawares.

Many of us believe that we are ready, that bank capital requirements have been dramatically increased, that we can read risk signals from market prices, that stress tests explore the unknown and in general that risk-management tools are better than ever. I want to argue that each of these beliefs is misplaced and that we know less than we think we know. Thus let me propose four caveats.

The first caveat is: *don’t place too much reliance on reported bank capital*. Bank capital is a paradoxical concept. On the one hand, it is vitally important that banks hold enough capital to absorb unexpected losses. On the other hand, measuring the true value of a bank’s capital is an art rather than a science. Since capital as reported in a bank’s accounts is simply what results from subtracting the bank’s liabilities from the management’s estimate of what the assets are worth, this reported number is only as good as the bank management’s estimate of that value. Often it’s not even that good, because capital is only a small fraction of total assets: thus a 1 per cent overestimate error in the value of total assets could imply a 20 per

cent error in the quantum of capital. I can't overstate how important this point is. Thanks to over-optimism in the upswing of the financial cycle, many a bank failure has been preceded by no early warning signs in the capital ratios—even when the management figures were honestly compiled in line with accounting rules and principles.

The asset quality reviews mandated by the European Banking Authority in recent years represent an attempt to improve on these estimates. They can help, but to the extent that they simply represent a second opinion formed on the basis of a desk study, they are not guaranteed to uncover all of the over-optimism.

One approach to the paradox of bank capital is to ignore the accounting definition and instead ask how much value the financial markets place on the bank's capital. Here comes my second caveat: *don't rely on market prices for measuring risk*. There has been a flurry of literature advocating the use of market prices of bank equity in preference to accounting and regulatory measures. Of course this is only available for banks with traded equity, but more importantly it also tends to be a lagging indicator, especially during the upswing of the financial cycle. The financial policymaker that relies on market valuation of banks and other financial intermediaries is likely to detect problems only when it is too late to take preventive measures.

Analysis of changing *quantities* may provide better early warning signs than do market prices. Prices are, of course, informative. A bank which is paying up for wholesale deposits is telling you something about its need for cash and the market's perception of its soundness. But if the market is caught up in a bubble psychology towards the end of the financial cycle upswing, it is not likely to be adequately pricing-in systemic risk until it is too late. Instead, relying on the maxim "this time it's different" the macrofinancial watchdog may learn more from scrutinising new types of *quantitative excess* in the financial markets. Last time around in the US it was the growth of structured credit, in Iceland, the growth of hedge-fund banking, in Ireland the intermediation of large foreign-sourced flows into the domestic and international property market. This time it will be different: quantitative growth in segments such as private equity or leveraged loans clearly call for close scrutiny: if it's growing fast, look more closely.

And what about stress tests in this context? Newly elevated as the key analytical tool being widely on both sides of the Atlantic since the remarkable success of the US CCAR in 2009, is the stress test the banking Geiger counter we have all been looking for? The 2009 CCAR was a great success, but in my view this was not so much because the market believed the tests, but more because even though the big banks had already been force-fed with capital, the US Treasury was showing that it had both the willingness and ample funds to fill any plausible additional hole implied by the exercise.

I don't want to be too hard on the stress test movement. I believe that bank supervisors and bankers themselves have learnt a lot from the process of assembling the necessary data,

refining models, and detecting hidden sources of vulnerability.¹ But a number of inescapable limitations must not be ignored. First of all there is the arbitrary nature of the stress. Banks operate in a multi-dimensional environment. Each stress test represents one vector in this hyperspace. Passing the test cannot mean that the bank would survive a shock of a different type, a vector pointing somewhere else in hyperspace. It is true that, with these tests now being conducted every year or two in the major centres, over time a more complete picture is beginning to be formed, but it is still very partial. And the scale of the shock (the length of the vector) is also somewhat arbitrary. Before the GFC, supervisory stress tests specified shocks that were too modest to capture the scale of what subsequently occurred. More light has been thrown on this question of scale by “reverse stress tests” which ask: how big a macrofinancial shock can each bank survive?

There is another problem with stress tests, and that is the difficulty of estimating with any precision the impact of a particular macroeconomic shock on asset values. Banks have their models for these, but I see no reason to believe that the models are very reliable. Bank internal models before the GFC were certainly defective, and no doubt there have been improvements, but those models were sophisticated in their way: they were just hopelessly over-optimistic. And there were two reasons for this: first, they were designed in boom times, and secondly there was a strong incentive for the risk models not to exaggerate risks as they were also used to define capital requirements.² Stress test results rely too heavily on such models. Top-down models are also used in official stress tests: they may be free of the incentive bias, but they suffer from lack of granularity and are necessarily fed with less information than the banks have or should have.

All in all, we have here an instance of the third caveat which I would make to both the macroprudential and the microprudential supervisor: *risk management systems are not as good as most people think*. This I would advance as a general proposition, but it is especially true in the late stages of the financial cycle and in particular during an asset price bubble. Indeed, the bursting of a property bubble can result in unexpectedly sudden and sharp erosions of bank capital as happened in the Irish property bubble of 2003-7.

Let me give you two examples of risk-amplifying mechanisms which were totally underestimated in Ireland. First is the inadequacy of conventional collateral haircuts. Late in the bubble, the range of possible property price movements becomes very wide: maybe the bubble will continue for a while, maybe it will bust. If the boom has been running at 14 per cent growth per annum for several years – as Dublin residential property prices were before the crash – it may continue for another year. But after such a run-up, the fall in prices when the bubble bursts may be precipitous – peak to trough Dublin prices fell almost 58 per cent. Only if the probability of a crash is very low should it make sense for bankers to lend at interest into such a market. (After all they will capture little of the price increase). Yet they

¹ Philippon, Pessarossi and Camara (“Backtesting European Stress Tests”, NBER Working Paper 23083, 2017) has shown that the European stress tests did a reasonable job of predicting bank vulnerabilities to macro shocks.

² Nieplan and Stebunovs (“Modeling Your Stress Away”, CEPR Discussion Paper 12624, 2018) suggest that the EU bottom-up stress tests have been vulnerable to manipulation.

did make such loans; because their models did not envisage such a binary future: continued boom versus steep crash.

My second example from Ireland relates to the widespread practice of *cross-collateralization* and the way in which its mindless use by a bank lending into a property bubble can result in spiralling access of developers to loanable funds. Here's how it worked in the Irish property and construction boom. In lending to property developers the banks did not generally insist that the borrower was putting up additional cash for the new venture. Instead, they were often happy to lend as long as the loan-to-value ratio on the total exposure that would follow the new loan remained below 0.7. As prices increased, all of the estimated increase in the value of the initial investment was credited as additional collateral – even if the capital gain was unrealized. The borrower could then leverage up using the additional collateral. The extent to which this mechanism can generate startlingly rapid accumulation of debt in a rising market was not at all understood. Simple calculation reveals that, used to its maximum during a strong property bubble that lasts for several years can result in a property developer getting access to funding that multiplies their initial cash contribution by as much as a hundredfold even without any new cash injection...and this even though the bank is retaining a seemingly prudent loan-to-value ratio throughout.

That leads me to my fourth and final caveat. Be aware that *the boom can go on for longer than you thought possible*. This has several consequences. The skeptics and cassetras who warn that the cycle will turn lose their audience and become discouraged.³ The financial supervisor must be careful not to discard the contrarian simply because she forecasts problems too early. A long boom can also subvert the effectiveness of some simple rule-based precautions. For example, the warning signal from the so-called BIS ratio used for the regulatory countercyclical capital buffer may begin to fade in the late stages of a long boom. Recall that this calls for an additional capital buffer if the gap between the ratio of total credit to GDP and its long-term trend is excessive. But the long-term trend edges up as the boom continues: a potentially pernicious defect: This shortcoming could result in capital buffers being reduced in good times and increased in bad. In Ireland we have bypassed this indicator, using a more restrictive approach to the countercyclical buffer.⁴

I don't wish to be alarmist. The amplitude of this financial cycle may not be as large as the last one and if the downturn is closer to average experience, it should not be as bad. I am not making any forecast here. A more moderate downturn has its own particular threats for the regulatory authorities. For, whenever an isolated bank has to be intervened by the authorities, such intervention is likely to be interpreted by the owners and senior management as a grossly excessive use of their powers. Legal challenges are likely. Politicians will be enlisted

³ Even if they back their views with contrarian investments, margin calls may ruin them before the cycle does turn.

⁴ For a discussion of shortcomings of the Basel gap, see also Castro, C., Estrada, A. and Martínez, J. "The countercyclical capital buffer in Spain: an analysis of key guiding indicators", Documentos de Trabajo, No 1601, Banco de España, 2016; Repullo, R. and Saurina, J., "The countercyclical capital buffer of Basel III: A critical assessment", CEPR Discussion Paper No 8304, 2011; Edge, R. M., Meisenzahl, R. R., "The Unreliability of Credit-to-GDP Ratio Gaps in Real Time: Implications for Countercyclical Capital Buffers", International Journal of Central Banking, December 2011, pp. 261-298.

in support of the owners. Here the financial authorities must be ready with their communications strategy. If financial policy is to achieve its goal – “safeguarding stability and protecting consumers” is how we put it in Ireland – it must retain the trust of the people. For that it is vital that the general public is made aware of how the authorities are working to protect society from financial excesses and bad banking.