

7. The Basel rules and the banking system: an American perspectiveⁱ

Steve Hanke

At the height of the Great Financial Crisis of 2008 and 2009 and in its aftermath, movers and shakers in banking regulatory circles beat the drums for “recapitalization”. Their theme was that, in order to avoid future crises, banks must be made more resilient to shocks. More specifically, banks should operate with higher ratios of capital to risk assets. Governments across the developed world therefore compelled banks to raise fresh capital to “strengthen their balance sheets”. If banks could not raise more capital, they were told to shrink the risk assets on their books, notably their loans to the private sector. One way or another, banks were mandated to increase their capital-asset ratios. Virtually the entire international policy-making establishment jumped on the recapitalization bandwagon. In 2010 the world’s central bankers, represented collectively by the Bank of International Settlements (BIS), handed down the Basel III rules. These rules constituted an international – indeed, potentially global – regulatory framework that, among other things, hiked the required ratio of equity capital from 4 per cent to at least 7 per cent of banks’ risk-weighted assets.¹

Table 7.1: Money and nominal GDP in the USA, 1959 - 2012

% compound annual increase over 10-year periods

	Nominal GDP	M3
1960s	6.9	7.5
1970s	10.2	11.4
1980s	7.8	8.5
1990s	5.5	4.9
2000s	4.0	8.1
Decade to Q4 2012	3.9	5.6
Whole period	6.8	7.7

Over the 43-year period from the end of 1959 to the end of 2012 the USA's nominal GDP increased by almost 17 times and its money stock, broadly-defined, by 24 times, but the ratio of money to GDP increased by under a half or at an average annual rate of under 1%.

Sources: Federal Reserve, Bureau of Economic Analysis and Shadow Government Statistics. See p. 326 of Tim Congdon *Money in a Free Society* (New York: Encounter Books, 2011), for more detail on the preparation of the table.

ⁱThis chapter is based on Steve Hanke’s “Basel’s capital curse”, *Globe Asia*, January 2013 issue, with extensive changes by the author and Tim Congdon to reflect developments since early 2013.

Little thought was given to an established feature of financial systems with fiat money. As banks create most of the money used in a modern economy, the imposition of higher capital-asset ratios would force banks to shrink their risk assets and hence their deposit liabilities. Such deposits are the main form of money nowadays. A squeeze on the quantity of money would therefore ensue.² In the middle of a slump this would be pro-cyclical and wholly inappropriate; it would undermine rather than promote economic recovery. The squeeze on money would stifle the growth in aggregate demand at exactly the time when demand needed a boost. As can be seen from Table 7.1, worries about inadequate money growth were a legitimate cause for concern. In the USA, as well as in nearly all countries, the growth rates of the quantity of money, broadly-defined, and nominal national income are closely related over the medium term.

In any event, banks did pare their balance sheets in their compliance with the Basel III rules, which were supposed to have been largely implemented by 2013. Further, this paring of balance-sheet size was associated with, at best, stagnation in broad money of participating economies and miserable macroeconomic outcomes in the 2008 – 12 period. These results might have persuaded regulatory officialdom to look to undo their blunder or, at the least, to question the appropriateness of the recapitalisation frenzy. But that was not in the cards. On the contrary, in 2013 and 2014 central bankers (at the BIS, the European Central Bank, the Bank of England, the Federal Reserve, and so on) joined forces with an alphabet soup of regulatory bodies, from Britain’s Financial Conduct Authority (FCA) to the United States’ Financial Stability Oversight Council (FSOC), and from the G20’s Financial Stability Board (FSB), to the European Union’s European Banking Authority (EBA). They all clamoured for yet another round of hikes in bank capital. In November 2014 the Financial Stability Board, working under the aegis of the BIS (and ultimately the G20 group of nations), called for a further increase in capital-asset ratios at “global systemically important banks”.³ When fully adopted in 2019, banks were to have capital equal to 16 per cent of the total of outstanding loans, derivative portfolios, and other risky assets. This figure was dramatically higher than had been acceptable to regulators in the 20 years before 2008, a period – as it deserves to be remembered – of stable macroeconomic performance known as “the Great Moderation”. To this day (September 2016) the BIS continues to make noises about even further increases in required capital-asset ratios, something to which banking associations in Europe, Japan, and Canada have finally made formal objections.⁴

I

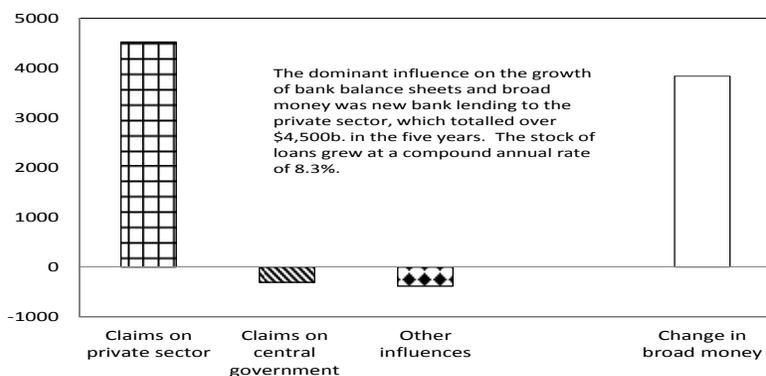
Why did regulatory officialdom in late 2014 want to saddle the global banking system with another round of capital requirement hikes, particularly when Europe had only just escaped a double-dip recession, and the UK and US were mired in growth recessions? Why had they for some years been pledged to go in this direction? Were they simply unaware of the devastating unintended consequences that would follow?

Let us recall the structure of bank balance sheets. Assets (cash, loans, and securities) must equal liabilities (deposits, equity capital, and bonds, all of which are owed to others – that is, to customers, shareholders, and bondholders). In most countries, the bulk of the banking system’s liabilities (roughly 90 per cent) are deposits. Since deposits can be used to make payments, they are “money.” To increase their capital-asset ratios, banks can either boost capital or shrink risk assets. If banks shrink their assets, their deposit liabilities decline and money balances are destroyed. The other way to increase a bank’s capital-asset ratio is by raising new capital, but this too destroys money in the first instance. When purchasing newly-issued bank equity, investors exchange funds from bank accounts for new shares. This reduces the deposit liabilities of the banking system and wipes out money. So, paradoxically, the drive since 2008 to deleverage banks and to shrink their balance sheets, in the name of making banks safer, destroyed money balances.⁵ At a further remove, it hit company balance sheets and asset prices. Bank deleveraging therefore reduced aggregate demand, in the Keynesian sense, relative to where it would have been without the official regulatory mandates for higher capital-asset ratios. These patterns are clear in the USA, the UK and other major economies where sharp discontinuities in bank credit creation and money growth are evident from autumn 2008.⁶ The notable exception is China, where the authorities refused to join the recapitalization drive. The discussion in the next section focuses on the US by utilizing the International Financial Statistics database maintained by the International Monetary Fund. The third section reviews Britain’s response to its own problems, which came before other countries in the form of the 2007 Northern Rock affair. These events in the UK went some way towards establishing a precedent for the conduct of policy in the US elsewhere. Indeed, the UK punched above its weight in the G20 discussions during the crisis period. It had a disproportionate and untoward influence on the development of G20 policy in late 2008 and subsequently.

II

In all countries, the forces driving changes in the quantity of money can be identified from the credit counterpart arithmetic, which captures the behaviour of items on both sides of banks’ balance sheets. While the US’s own central bank and statistical agencies pay little attention to the credit counterpart data in the analysis of monetary policy, the US provides information to the IMF, which enables analysts to conduct credit counterpart arithmetic and to appraise the relative strength of the forces behind money growth, a topic of considerable interest in the Great Recession period.

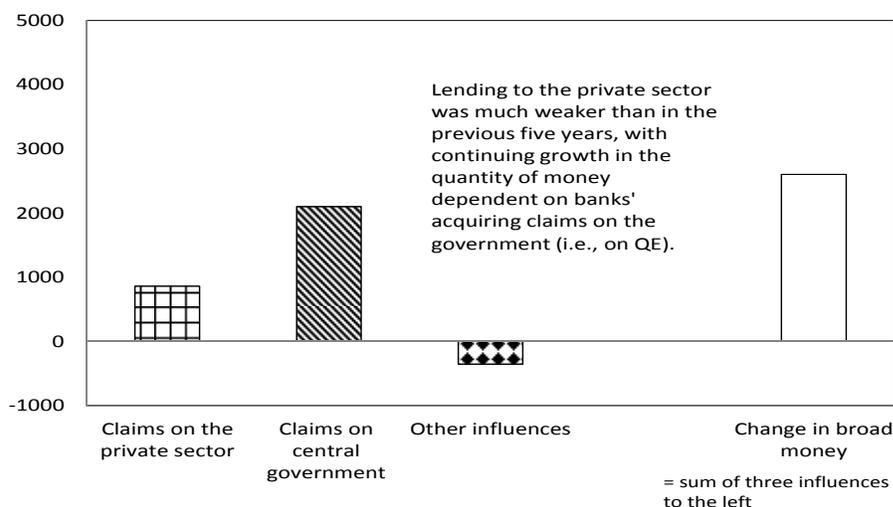
Figure 7.1: Influences on the growth of broad money in the USA, in five years to Q3 2008
All figures in b. of \$s, data from IMF and author's calculations



The dominant influence on the growth of bank balance sheets and broad money was new bank lending to the private sector, which totalled over \$4,500b. in the five years. The stock of loans grew at a compound annual rate of 8.3%.

In the five years to the third quarter of 2008, broad money, as defined by the IMF, rose at a compound annual rate of 8.3 percent, which is somewhat faster than nominal GDP. The rate of broad money growth also had a tendency to accelerate in 2006 and 2007. Asset markets were generally buoyant. The main driver of the growth of bank balance sheets (and hence of broad money) was new bank lending to the private sector. Such lending rose by over \$4,500 billion in five years – also at a compound annual rate of 8.3 per cent (See: Figure 7.1). On the other hand, banks reduced their claims on the US government and the central bank during this period. In the five years from Q3 2008, the pattern was totally different. New lending to the private sector dropped from over \$4,500 billion to just above \$850 billion, or by over 80 per cent (See: Figure 7.2). The contrast between Figures 7.1 and 7.2 - between the five years of vigorous growth in bank lending to the private sector to autumn 2008 and the five years of stagnation in such lending thereafter - can be attributed to the exogenous shock of tighter bank regulation.

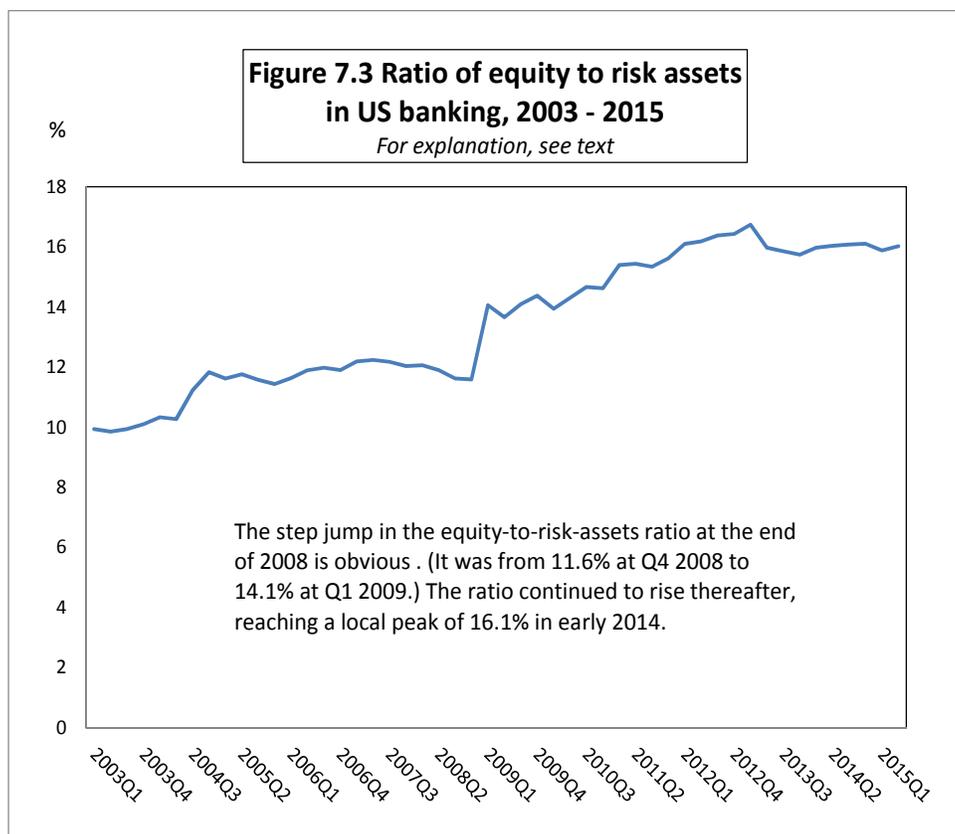
Figure 7.2: Influences on the growth of broad money in the USA, in five years to Q3 2013
All figures in b. of \$s, data from IMF and author's calculations



Lending to the private sector was much weaker than in the previous five years, with continuing growth in the quantity of money dependent on banks' acquiring claims on the government (i.e., on QE).

The key consideration restraining the acquisition of more claims on the private sector, which were of course risky, was the tightening of bank regulations, including officially mandated recapitalization. The resulting deflationary influence was particularly severe in the quarters from late 2008 to mid-2012. But money growth was maintained at a positive rate as banks grew their claims on the Federal government and the Federal Reserve via the accumulation of Treasury bonds and bills, and cash balances at the Fed. This growth in bank claims on the public sector was a by-product of “quantitative easing” operations.⁷ Without QE, money growth would have been negligible, implying greater strain in company balance sheets and lower asset prices than were actually observed. Almost certainly, the Great Recession – which was bad enough – would have been worse if the Fed had not organized the QE exercises.

Is there another way of monitoring the contrast between these two periods and identifying the timing of the change in the key influences on bank balance sheet growth? It has just been suggested that the turning-point came in autumn 2008, with the recapitalization of the banking system and the increase in capital-asset ratios. That ought to have caused, first, a step jump in the ratio of banks’ equity capital to their risk assets (that is, to their claims on the private sector) as the new regulations came into effect and, second, a continuing rise in that ratio over the ensuing quarters. Figure 7.3 shows the series for that ratio, using the categories in the IMF database. (The “equity” numbers in the calculation were taken from a series called “shares and other equity”. Risk assets were measured by “domestic claims,” excluding claims on the federal government.)



The message of Figure 7.3 could hardly be clearer or more eloquent. US banks' capital position in the years running up to the Great Recession was stable and in fact highly robust by historical standards. (See pp. in chapter 1 for further discussion.) The change in the equity-to-risk assets ratio, at the end of 2008, was abrupt and out of line with previous experience; it was due above all to a regulatory upheaval that was unforeseen and unwanted by the banking industry.⁸ The regulatory upheaval was imposed by officialdom. If US banks' equity-to-risk assets ratio had been the same in Q3 2013 as in Q3 2008, and the level of equity had been the same as actually prevailed at Q3 2013, risk assets would have been 37 per cent higher – or about \$5,000 billion – higher. The tightening of bank regulation, and particularly the demands from government and its agencies for more bank capital, were the dominant reasons for the pro-cyclical credit crunch of 2009 and 2010, the torpor in bank credit in the following few years, and the plunge in the growth rate of the quantity of broad money from pre-2009 rates.

III

We return to the central question, “why was international financial officialdom so eager in late 2008 and indeed through 2009, 2010 and later, so committed to raising banks' capital ratios?”. There is more to this story than meets the eye. The starting point for the global bank capital obsession is to be found in Britain and its infamous 2007 Northern Rock affair.⁹ It was this British fiasco, rather than the September 2008 Lehman Brothers bankruptcy, that was the true beginning of the Great Financial Crisis and of the Great Recession which followed.

On 9 August 2007 the European wholesale money markets froze up, after BNP Paribas announced that it was suspending withdrawals on three of its money market funds.¹⁰ These funds were heavily invested in US subprime credit instruments, which had suddenly become difficult to trade and to value. In the preceding two decades, many banks and financial intermediaries, in a number of countries, had financed their assets by borrowing from wholesale sources rather than from retail branch networks. In the UK Northern Rock, which had once been a cautiously-managed building society in mutual ownership, was one of these organizations.¹¹ The ready availability of funds from the wholesale markets, which could be tapped by the issuance of securities, had facilitated Northern Rock's rapid expansion from its demutualization in 1997. However, in summer 2007 it did still have a significant branch network and hundreds of thousands of retail depositors.

With the wholesale money markets closed to new business, Northern Rock could not issue new securities or even roll over maturing debt. As significant liabilities were coming up for redemption, it faced a serious challenge in funding its business. In the years leading up to August 2007, Northern Rock had been consistently profitable, and had always had sufficient capital and liquidity to meet regulatory norms. However, by mid-2007, it was highly leveraged (with assets that were over 60 times equity capital), and its inability to secure new wholesale finance threatened the viability of its business model. Unable to secure the short-term funding it needed, Northern Rock informed its regulator (the Financial Services Authority) of its problems. Top FSA staff looked around for potential buyers for Northern Rock. They soon found one in the shape of Lloyd's Bank, which had been conservatively run in the credit boom of 2006 and early 2007, and was regarded as having good assets and adequate capital. But even Lloyd's Bank relied on the inter-

bank market for financing to some degree. Given that the money market was paralysed by a lack of confidence, Lloyd's Bank's board was not 100 per cent certain that it could obtain sufficient retail deposits or an inter-bank line to fund the combination of its existing business and the purchase of Northern Rock. For the deal to go ahead, Lloyd's needed a standby loan facility which might have to be as large as £45 billion. With the money market closed, only the Bank of England could provide a facility of this sort. (Of course, if the money market were to return to normality, the Bank money might not be needed at all.)

By the end of the first week in September 2007, all of the FSA's senior staff and Paul Tucker, the Bank's senior executive for markets, wanted the Bank to provide Lloyd's with a standby facility to enable its takeover of Northern Rock. Although some haggling over the cost of the facility remained, everyone close to the negotiations wanted to avoid an intensification of the banking crisis. But, there was an obstacle: the governor of the Bank of England, Mervyn King. At a fraught meeting on the afternoon of Sunday, 9 September, he said that the Bank would provide no help at all. When Hector Sants, chief executive of the FSA, set out the reasons that such help was essential to preempt worse funding strains at Northern Rock, King was belligerent. To quote from Ivan Fallon's book *Black Horse Ride*, "'No,' he said decisively and abruptly, 'I could not in any way support that. It is not our job to support commercial takeovers. I'm not prepared to provide any liquidity on that basis'".¹²

The next few days saw bad-tempered exchanges between King and top FSA and Bank staff. The antagonisms became bitter and personal. The truth is that King – who had come from a modest background in England's unremarkable West Midlands – loathed bankers and the City of London, and always had. The crisis gave King an opportunity to translate the loathing into action. Fallon quotes one banker as saying, "Mervyn saw his job as being to teach the banks and the markets a lesson".¹³ Somehow or other, the tensions between the various players could not be kept quiet. The situation became so desperate that Northern Rock had to be provided with an emergency loan facility from the Bank of England. Without that, it would no longer have been able to pay cash over the counter to retail depositors (or to transfer money to other banks via the online service at its website, which crashed because it received too many "hits"). However, the announcement of the facility was bungled, with the BBC over-dramatizing and exaggerating Northern Rock's difficulties. A massive run developed, so that the Bank of England was obliged to lend Northern Rock tens of billions of pounds to preserve the convertibility of bank deposits into notes, which is the touchstone of financial stability. Conditions became chaotic, with deposit withdrawals provoked by a media hubbub that was not proportional to Northern Rock's potential losses. On 17 September 2007, the Chancellor of the Exchequer, Alistair Darling, decided to announce a state guarantee on Northern Rock's deposits, which did indeed bring the run to an end.

The underlying issue raised by the Northern Rock affair was the eligibility of commercial banking organizations, which are profit-making (or at any rate profit-seeking), for loans from the central bank, which nowadays is almost everywhere state-owned. The traditional understanding in the UK before 2007 had been that solvent banks, and certainly solvent banks that had complied with regulations, could seek central bank help in funding their businesses if normal market sources (such as the inter-bank market) became unreliable.¹⁴ Usually, they would have to offer good collateral and the central bank would be expected to charge a penalty rate. Despite the penalty, central bank finance was intended to promote the survival of any banks borrowing from it.¹⁵ The larger aim was to protect depositors, but

that meant keeping a bank in business until a more long-term solution was found. The standard vocabulary in these cases – that the central bank finance was “lender-of-last-resort lending” or “emergency liquidity assistance” – in no way implied that the central bank should be indifferent to the concerns of all stakeholders, including shareholders.

However, that was not Mervyn King’s mindset. The truth is that he did not want the Bank of England to make any loans to commercial banks at all. His background was that of an academic economist, and he regarded the Bank’s important task as being to organize high-quality economic research, and hence to inform and improve monetary policy. He did not think that a central bank should be a “bank” with an active balance sheet and constant interactions with commercial bank customers. Although in practice the Bank of England was involved in two big last-resort-lending episodes during his governorship (Northern Rock in September 2007, and RBS and HBOS in October 2008), King did his damndest to keep loans to commercial banks off the Bank of England’s balance sheet altogether.

In evidence to the Treasury Committee of the House of Commons on 11 September 2008, King maintained that it was not the central bank’s role to lend to commercial banks on a long-term basis. In his view, that was a job only for the private sector or taxpayers acting via the government. By the phrase “on a long-term basis,” King understood a period of six months, taking his cue from a European Commission “decision” of 5 December 2007.¹⁶ (The British government asked the Commission for its view on whether its guarantee of Northern Rock deposits was state aid, since EU competition rules prevented such aid being extended for more than six months. The Commission’s view was that a government guarantee on deposits was state aid, although a loan from the central bank was not.)

The implications of King’s position are dangerous for banks and arguably for the entire financial system in a capitalist economy. If a bank cannot find alternative finance for its assets once a last-resort loan has lasted six months, that bank must either seek and find new money from the private sector or be taken into state ownership. By extension, the state would be entitled to seize the whole business with no compensation to shareholders, as it did both with Northern Rock on 17 March 2008, exactly six months after Darling’s announcement of the state guarantee, and a similar organization, Bradford & Bingley plc, on 28 September 2008. In the weeks after the Lehman bankruptcy, much of the British banking system was in exactly the same position as Northern Rock had been in autumn 2007 and as Bradford & Bingley in 2008. They had had difficulty rolling over liabilities in the wholesale markets and might not have been able to fund their businesses. Meanwhile, because of the line being taken by the Bank of England under Mervyn King, they knew that any borrowings from it were time-limited, and might prove suicidal for managements and shareholders.

The only remaining private sector option was to raise new equity or bond capital, by the sale of securities to the long-term savings institutions. Here was the connection between King’s attitude towards central bank loans to commercial banks and officialdom’s insistence on extra bank capital as the solution to the crisis. Because in King’s judgement central banks were not to lend to commercial banks except for a few months and even then on a frankly unfriendly basis, commercial banks would be obliged to raise more capital if they could not otherwise finance their loan portfolios. By this reasoning, bank recapitalization was a priority – indeed, an absolute priority – in the fraught circumstances of late 2008.

The Labour government in power during the crisis period, with Gordon Brown as Prime Minister and Alistair Darling as Chancellor, did have other sources of advice.¹⁷ Nevertheless, as governor of the Bank of England, King was in an immensely powerful and influential position. It seems that his point of view managed to sway Brown, although possibly not Darling to the same degree.¹⁸ At the G20 meetings in late 2008, Brown was fully committed to bank recapitalization as the right answer to the crisis. In the prologue to his book, *Beyond the Crash*, he recalled his reading of official papers in a flight back from Washington on 26 September 2008. He was “for the first time” fully apprised of the capital positions and prospective losses of Britain’s banks. He judged that “doing nothing was not an option” and that “only one possible course of action remained.” He almost glorified the moment when he underlined twice “Recapitalize NOW”.¹⁹

Although Brown did not like King on a personal basis, he had plainly absorbed King’s message.²⁰ Both men deemed loans from the Bank of England to the UK’s commercial banks as a form of “taxpayers’ money,” and both were suspicious of banks and bankers. If extra capital was the correct response to banks’ funding strains, and if the stock market was not prepared to buy newly-issued securities from the banks, any large-scale official intervention had to take the form of capital injections from the state. If current managements and shareholders opposed such injections on the grounds that the new money diluted their interests, the British government could – and in fact did – threaten nationalization without compensation.²¹ As Marcus Agius, chairman of Barclays, told his shareholders, the banks faced “an existential threat”.²²

In short, Gordon Brown decided to indulge in a sophisticated form of bank-bashing. Perhaps surprisingly, he managed to attract many like-minded souls on the international financial scene. Indeed, Brown became the leader of the bank bashers. Hardly anyone among the politicians, regulators, and central bankers in the peak supranational organizations (the BIS, the IMF, and so on) offered a word of dissent as the British argument for bank recapitalization was introduced and developed at the G20 meetings in late 2008. As noted in the first chapter (see pp. above), Paul Krugman applauded the UK approach, which he attributed to Brown and Darling. To quote from his 12 October 2008 column in the *New York Times*, “we do know...that Mr. Brown and Alistair Darling...have defined the character of the worldwide rescue effort, with other wealthy nations playing catch-up”.²³

IV

In the last few years, a consensus for higher bank capital ratios has been established. It is shared at the highest political level, in international financial circles and among most of the respected academics working in this field. In 2013, Anat Admati and Martin Hellwig brought out a new book, *The Bankers’ New Clothes: What’s Wrong with Banking and What to Do About It*, which advocated substantial increases in capital ratios over and above the figures mandated under Basel III. It was praised by Nobel laureate, Roger Myerson, who described it as being “worthy of such global attention as Keynes’ *General Theory*”.²⁴ But is it necessarily true that banks with more capital are safer and stronger, and hence more resilient in coping with cyclical shocks? Lehman Brothers, which was incidentally not a *commercial*

bank subject to supervision by the Federal Reserve, had a capital cushion that comfortably exceeded the regulatory minimum just before it collapsed into bankruptcy. (For the distinction between commercial and investment banks, see pp. above in chapter 1.) Unless regulators are so intrusive as to undermine the autonomy of bank management altogether, there is always a risk that banks acquire assets of such low quality that high capital buffers fail to protect depositors.

Unhappily, as Charts 7.1 and 7.2 demonstrate, the reaction of most banks to the regulatory frenzy since 2009 has been to run scared. They have restricted claims on the private sector and expanded low-risk holdings of cash reserves and government securities. (Under the Basel III rules, cash and government securities require no capital backing as they are deemed to be “risk-free”.) The new difficulties in raising finance from the banking industry that companies face may hamper growth and innovation, as even the IMF and the OECD sometimes acknowledge on the quiet. Since bank credit lines are a key source of working capital for some businesses – notably those which trade products, commodities, and securities – the restriction on credit has acted like a supply constraint on the economy. For all the talk about the looseness of the Fed’s monetary policy in the QE era, the inconvenient truth is that overall broad money growth in the US remained rather subdued even into 2014 and 2015.

By enforcing extra bank capital requirements in the middle of an economic downturn (that is, in late 2008 and 2009), central banks and the main regulatory agencies aggravated the *cyclical* weakness in demand. For a few quarters the resulting depression in asset prices made some banks even less safe, illustrating the warning by Irving Fisher in his 1933 paper on “the debt-deflation theory of great depressions”. As Fisher noted, a paradox might be at work. Borrowers repay bank debt, but in the process they destroy money balances and undermine the value of stocks and shares, and houses and land. That increases the real burden of the remaining debt. In his words, “the mass effort to get out of debt sinks us more deeply into debt.”²⁵

Sure enough, it is now (September 2016) some years since the worst of the crisis, asset prices have recovered, and American banks have started once more to expand their lending. However, the economy is not firing on all cylinders. Banks today are not providing the same full range of loan facilities as before 2008, while the cost to non-banks of hedging risk (through arranging options and derivatives with banks) is higher than before. Arguably, the increase in capital-asset ratios in the financial sector constitutes a *structural* impediment to the supply side of the American economy.

Bank capital ratios that are too high have damaged the American economy on both a cyclical and a structural basis. The solution? Every bank shareholder has a strong interest in ensuring that managements do not take on too much risk relative to the capital entrusted to them. It cannot be emphasized too strongly that the stable macroeconomic performance of the Great Moderation (in the 20 or so years to 2007) occurred while banks operated with much lower capital-asset ratios than now prevail. The solution is to scale back untimely and excessive bank capital requirements, and restore market discipline on banks and other financial businesses. Let banks spend more time managing risks and less time managing regulators and politicians.

¹ Although mooted at the G20 meetings in late 2008, agreement between the key parties about Basel III was reached only in September 2010. But even that agreement has been followed by constant revision and modification. The Wikipedia entry on Basel III is sufficient to understand these developments, although the websites of the BIS and many national central banks are relevant.

² Hanke, Steve H. “Stronger banks”, “weaker economies”, *Globe Asia*, August 2011.

³ A “systemically important bank” is a bank large enough to cause a financial crisis. Such banks are of two kinds, “domestic systemically important banks” and “global systemically important banks”. Lists of such organizations are published by the Basel Committee under the aegis of the BIS, bearing in mind such criteria as size and interconnectedness with other businesses, but a precise definition has not been established.

⁴ Jim Brunsten ‘Lenders step up their fight against global capital reform’ *Financial Times*, 2 September 2016.

⁵ Steve Hanke ‘Monetary policies misunderstood’ *Globe Asia*, May 2016.

⁶ See chapter 2 above for this pattern in the UK, and chapter 4 for the EU.

⁷ QE also affected bond yields and indeed asset prices in general, but these developments were by-products of the effect on the quantity of money. See pp. in chapter 2 above for further discussion.

⁸ Banks and bankers have long been unpopular in the USA. For a protest against the populist attack on the banks that has followed the Great Financial Crisis, see Richard Bove *Guardians of Prosperity: why America needs Big Banks* (New York: Penguin, 2013), particularly pp. 66 – 99.

⁹ Several good accounts of the Northern Rock crisis were published soon afterwards, such as Alex Brummer *The Crunch* (London: Random House, 2008) and Brian Walters *The Fall of Northern Rock* (Petersfield: Harriman House, 2008). See Tim Congdon *Central Banking in a Free Society* (London: Institute of Economic Affairs, 2009), particularly pp. 117 – 44, for an attempt to place the crisis in the context of the long-run development of banking institutions.

¹⁰ Dan Conaghan *The Bank: Inside the Bank of England* (London: Biteback Publishing, 2012), p. 131.

¹¹ The phrase “building society” is the British term for a financial intermediary that concentrates on housing loans, to be extended to depositors on a non-profit basis.

¹² Ivan Fallon *Black Horse Ride* (London: Robson Press, 2015), p. 193.

¹³ Fallon *Black Horse Ride*, pp. 367 – 8.

¹⁴ The underlying principles for central bank action go back to Walter Bagehot’s 1873 *Lombard Street*. (Walter Bagehot *Lombard Street*, vol. IX, in Norman St John-Steuas [ed.] *The Collected Works of Walter Bagehot* [London: The Economist, 1978, originally published in 1873].) But the Bank of England had published articles in its name on the last-resort role in the 20 years before the Northern Rock crisis, with none of them intimating that funding strains in the banking system would justify nationalization without compensation. See, for example, Xavier Freixas and others ‘Lender of last resort: a review of the literature’, *Financial Stability Review* (London: Bank of England), November 1999 issue.

¹⁵ On 18 November 1993 Eddie George, the then governor of the Bank of England, gave a lecture at the London School of Economics on the principles of last-resort lending. He said, “...any support we will provide will be terms that are as penal as we can make them, without precipitating the collapse we are trying to avoid.” *Bank of England Quarterly Bulletin* (London: Bank of England), February 1994 issue, p. 65.

¹⁶ Commission Decision of 5 December 2007, in State aid case no. NN 70/2007 – United Kingdom – Northern Rock, OJ C43, 16.2.2008, p. 1. See European Commission website.

¹⁷ Alistair Darling *Back from the Brink* (London: Atlantic Books, 2011), pp. 61 – 4.

¹⁸ Darling *Back from the Brink*, pp. 139 – 42.

¹⁹ Indeed, in Brown’s words, “I wrote it on a piece of paper, in the thick black felt-tip pens I’ve used since a childhood sporting accident affected my eyesight. I underlined it twice.” Gordon Brown *Beyond the Crash* (London and New York: Simon & Schuster, 2010), p. xviii.

²⁰ Darling *Back from the Brink*, p. 69, for Brown’s antipathy towards King.

²¹ Fallon *Black Horse Ride*, pp. 326 – 27 and pp. 360 – 61.

²² See the report in the *Financial Times* on Barclays’ annual general meeting on 23 April 2009.

²³ Paul Krugman ‘Gordon does good’, 12 October 2008 column in *The New York Times*.

²⁴ Anat Admati and Martin Hellwig *The Bankers’ New Clothes: What’s Wrong with Banking and What to Do About It* (Princeton: Princeton University Press, 2013). Myerson’s praise appeared in ‘Rethinking the principles of bank regulation: a review of Admati and Hellwig’s *The Bankers’ New Clothes*’, *Journal of Economic Literature*, vol. 52, no. 1 (March 2014), pp. 197 – 210.

²⁵ Irving Fisher ‘The debt deflation theory of great depressions’ *Econometrica*, vol. 1 (1933), pp. 337 – 57. The quotation is from p. 344.