



iea

a COVID-19 briefing

HOW STRONG are BRITISH BANKS?

and can they pass the Covid-19 stress test?



Briefing 10: July 2020

KEVIN DOWD and
DEAN BUCKNER

IEA Briefing Papers are designed to promote discussion of economic issues and the role of markets in solving economic and social problems. As with all IEA publications, the views expressed are those of the author and not those of the Institute (which has no corporate view), its managing trustees, Academic Advisory Council, or other senior staff.

This briefing paper is based on a longer paper, 'Can UK Banks Pass the Covid-19 Stress Test' (Buckner and Dowd 2020), which was originally published by The Eumaeus Project on 7 May 2020. That paper has since been updated.

About the authors

Kevin Dowd is Professor of Finance and Economics at Durham University.

Dr Dean Buckner is an ex-Prudential Regulation Authority regulator and the founder of The Eumaeus Project.

Contents

Summary	4
Introduction	5
Banks share prices and market capitalisation	6
Market capital values versus book capital values	9
Price-to-book ratios	12
The Bank of England's track record: the Global Financial Crisis revisited	14
The political economy of bank capital	16
Conclusions	18
References	20

Summary

- The Bank of England maintains that UK banks are strongly capitalised.
- The evidence from banks' share prices and market values contradicts this claim.
- Banks are more fragile now than they were going into the last crisis.
- The Bank of England's failure to ensure the resilience of the banking system suggests a need for radical reform that does away with the regulator.

Introduction

With the economy undergoing the biggest downturn since 1709, it is natural to ask if UK banks are strong enough to withstand this downturn and still function normally.

The mood music coming from the Bank of England has certainly been reassuring. The UK banking system is highly capitalised, the Bank repeatedly claims. The aggregate Common Equity Tier 1 (CET1) ratio is more than three times higher than it was before the financial crisis, it suggested in its May 2020 Interim Financial Stability Report (Bank of England 2020). As Deputy Governor Sam Woods told the Treasury Committee on 15 April, 'We go into this with a well capitalised banking sector' (Aldrick 2020).

But are UK banks really as strong as the Bank says?

The answer, sadly, is no.

Banks share prices and market capitalisation

Figure 1 shows the share prices of the Big Five UK banks (Barclays, HSBC, Lloyds, RBS and Standard Chartered) since the end of 2006, the eve of the Global Financial Crisis (GFC).

Figure 1: Big Five UK banks' share prices, end-2006 to 2020



Source: Mustoe (2020) *Financial Times*. Figures correct as of 22 May 2020.

It is striking how much banks' share prices have fallen: 53 per cent for HSBC, 68 per cent for Standard Chartered, 85 per cent for Barclays, 90 per cent for Lloyds and 98 per cent for RBS. These falls suggest a marked deterioration in banks' financial condition since the eve of the GFC and don't sit easily with the Bank of England's narrative about a strong banking system. Share price falls are relevant here because a bank's market capitalisation ('market cap') is equal to its share price times the number of ordinary shares it has issued. Table 1 gives the banks' end-2006 and May 2020 market cap numbers.

Table 1: Big Five banks' market capitalisation: end-2006 vs. May 2020

Bank	Market cap (£ billion)	
	End-2006	May 2020
Barclays PLC	62.9	17.9
HSBC Holdings PLC	100.5	76.5
Lloyds Banking Group PLC	16.0	19.8
RBS Group PLC	166.0	12.6
Standard Chartered PLC	15.6	12.0
Total	360.9	138.8

Notes: Based on *Financial Times* data. May 2020 figures correct as of 22 May.

The banks' market cap was £360.9 billion at the end of 2006 and is now £138.8 billion, a fall of 62 per cent.

Table 2 gives the 'then and now' numbers for banks' capital ratios (given by market cap/total assets) and associated leverage (total assets/market cap).

Table 2: Big Five banks' capital ratios and leverage: end-2006 vs. May 2020

Bank	End-2006		May 2020	
	MC/TA	Leverage	MC/TA	Leverage
Barclays	6.3%	15.8	1.2%	80.8
HSBC	11.5%	8.7	3.2%	31.3
Lloyds	4.6%	21.5	2.3%	43.5
RBS	19.0%	5.3	1.5%	64.9
Standard Chartered	11.5%	8.7	1.9%	52.2
Average	11.2%	8.9	2.3%	44.3

Notes: As per Table 1. MC = 'market cap'; TA = 'total assets'; implied leverage = total assets/market cap.

Banks' average capital ratios have fallen from 11.2 per cent then to 2.3 per cent now, a fall of 80 per cent. The implication is that a loss of £139 billion or just 2.3 per cent of their assets would be enough to wipe out the capital of the banking system.

The banks' average leverage has increased almost fourfold from 8.9 then – and banks were widely regarded as being excessively leveraged going into the GFC – to an almost off the chart leverage of 44 now.¹ A traditional bankers' rule of thumb is that leverage should be no more than 10 to be considered safe.

¹ There is also a lot of hidden leverage and other vulnerabilities that are not captured in our capital ratios. These include off-balance-sheet positions, 'Fair Value' valuations (especially Level 3 'mark to model' valuations), murky credit book valuations and IFRS 9 valuations, which hides most of banks' expected losses. For more on these issues, see Buckner and Dowd (2020).

Market capital values versus book capital values

Critics sometimes suggest that we should use book value capital measures (i.e. shareholder equity) instead of market value measures. Table 3 shows the 'then' and 'now' book value capital-to-asset ratios.

Table 3: Big Five banks' book value capital ratios and leverage: end 2006 vs. May 2020

Bank	End-2006	May 2020	Change
Shareholder equity/total assets	4.4%	5.9%	33%
Total assets/shareholder equity	22.5	17.0	-25%

Notes: Based on banks' financial statements. 'Leverage' = total assets/shareholder equity. May 2020 figures correct as of 22 May.

By these book value ratios, UK banks are only modestly (33 per cent) more capitalised than they were going into the GFC and, with a leverage of 17, are still excessively leveraged.

There are however good reasons to believe that market values are more reliable than book values. First, if you want to sell an asset, you have to sell at market value and the book value doesn't matter; if you want to buy an asset, you would not pay book value if market value were lower, and you would have to pay market value if market exceeds book. By contrast, the book values are just the values produced by accountants. Second, the Efficient Markets Hypothesis suggests that there is no practical way one can improve on market prices to value an asset. Third, market values

are timely and take account of recent information, whereas book values do not. So, if a firm's stock price plunges, the market is signalling that the firm is distressed, whereas the latest available book value gives no such indication. When a crisis occurs, market prices fall so fast that book values become irrelevant. Look at the GFC, for example. Market values started sliding in April 2007, 18 months before Lehman collapsed. If you had relied on accounting values, you would have thought that many of the banks that had already failed were still solvent at the end of 2008.

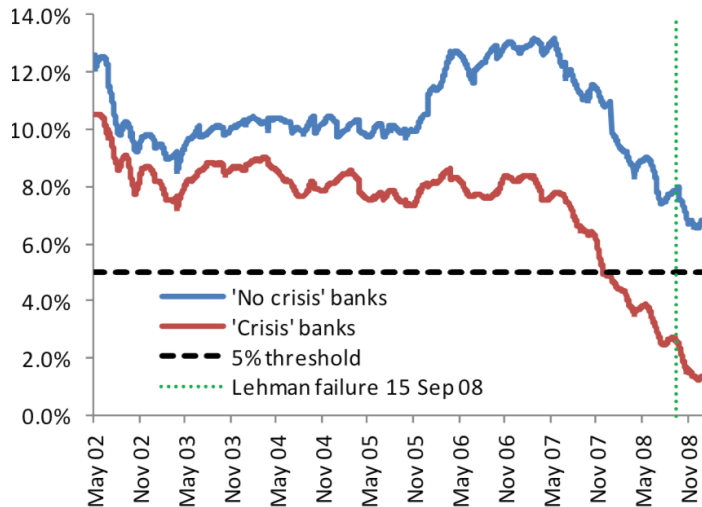
This last point is worth emphasising. To quote from Governor Bailey's remarks to the Treasury Committee on 20 May (Treasury Committee 2020: 3):

... had you done a stress test in the run-up to the financial crisis on the market value, you would have been doing it on the market values that were trading well in excess of book values. ... That would severely have misled you. You would have concluded that there was no problem. Obviously, you would have been badly wrong.

But this claim is itself wrong. We can well believe that a Bank of England stress test would have missed the impending meltdown, but the markets did not. Mr. Bailey also omits to point out that the Bank's regulatory capital measures and the Bank itself *did* miss the meltdown.

Consider as evidence Figure 2, which shows the ratios of market capitalisation to the book value of assets for two sets of international banks, the 'crisis' ones that failed, required assistance or were taken over in distressed conditions, and the 'non-crisis' ones that weathered the storm.

Figure 2: Ratios of market capitalisation to book value of assets



Source: Haldane (2011: Chart 8).

It is clear that markets were signalling problems with the banks and they correctly identified the weakest banks too. In the UK case, they also correctly identified in advance the two biggest UK problem banks, HBOS and RBS.

Price-to-book ratios

A healthy bank should also have a price-to-book (PtB) ratio - a ratio of market capitalisation to the book value of equity - well in excess of 100 per cent. Why is that?

Imagine that we build a factory costing £100. We finance it through some mix of debt and equity, say, £90 in debt and £10 in equity. Shareholders are assumed to operate under unlimited liability, i.e. we are back in early Victorian England. We report the book value of our equity as £10. Shareholders anticipate that our business will be profitable, so they are anticipating a positive franchise value, i.e. that future profits will be positive. Therefore, they value our firm at more than book, say £15, reflecting a franchise value of £5. So, the price-to-book ratio is $\text{£15}/\text{£10} = 150$ per cent. The law is then changed to give shareholders limited liability, i.e. they can now walk away from any losses exceeding the share capital they have subscribed. Limited liability is valuable to shareholders and they value the limited liability put option at, say, £3. The market value of their shares therefore rises to £18 and the PtB rises to $\text{£18}/\text{£10}$ or 180 per cent. The lesson is that we would expect a healthy business to have a PtB in excess of 100 because of franchise value and the value of the limited liability put. Substitute 'bank' for 'factory' and the same applies.

The question then is what would it take to get the PtB under 100 per cent? Presumably the market must believe that the firm is carrying hidden losses or that the present value of its future cash flows is well below zero. Either way, a PtB less than 100 per cent is a sign of ill health.

How do the Big Five banks' PtBs look? The answer is given in Table 4.

Table 4: The Big Five banks' price-to-book ratios

Bank	Price-to-book ratio
Barclays	26.1%
HSBC	49.1%
Lloyds	37.6%
RBS	28.5%
Standard Chartered	29.3%
Average	38.4%

Notes: Based on *Financial Times* data. Figures correct as of 22 May. The weighted average is by share of total assets.

The banks' average PtB is 38.4 per cent. The market clearly believes that there is something wrong with the banks.

One is reminded of Merton Miller's comments about a 50 per cent PtB (Miller 1997: 198):

That's just the market's way of saying: look at these guys; you give them a dollar and they'll manage to turn it [or perhaps he meant, burn it] into fifty cents.

It would appear that UK banks can't even manage that.

The Bank of England's track record: the Global Financial Crisis revisited

When assessing the Bank of England's claims about the banking system, let's not forget how badly the Bank got it wrong the last time round.

As late as July 2007, the Bank had no idea of impending trouble. There were some liquidity problems in the markets, the Court of the Bank was told, but these were not sufficiently serious to warrant any action. The crisis started the next month.

On 12 September 2007 the Court was told that despite some market turmoil, the regulatory system was working well and the banking system was sound. The run on Northern Rock – the first English bank run since Overend Gurney in 1866 – occurred two days later.

The Bank continued to downplay the nature and scale of the crisis: it confidently maintained that there was only a liquidity problem and that the banking system was more than adequately capitalised. To quote Governor King:²

I do not believe that in a year's time people will look and say that there was any lasting damage to the British banking system. It is very well capitalised, it is very strong...

2 Oral evidence to the Treasury Committee, 20 September 2007 (see Treasury Committee 2008).

As late as January 2008, the Bank was still reassuring the Treasury Committee that the crisis was merely a liquidity one and that there was no question of the banks' capital adequacy. The next month, Northern Rock began revealing losses and was nationalised.

Then came the Lehman crisis in September 2008. That was swiftly dealt with, and a month later the Bank gave itself a well-deserved pat on the back: 'there was now a real sense that a corner had been turned and the bank could be proud of its work', its minutes reveal.³

Except that the Bank had got it wrong again. By 2009, 30 per cent of the UK listed banking system had failed and most of the rest were on state support.

The losses incurred by the banks from the GFC were around £500 billion⁴ and counting. The banks' GFC losses more than wiped out the capital of the banking system several times over.

In June 2011, Governor King at last confirmed that the crisis was a solvency crisis (quoted in Bush 2011: 5):

Right through this crisis from the very beginning ... an awful lot of people wanted to believe that it was a crisis of liquidity [...] It wasn't, it isn't. ... It was a crisis based on solvency ... initially financial institutions and now sovereigns.

As Tim Bush observed (ibid.: 6):

It is perhaps an indictment of conflicts of interest in the financial (and regulatory) system that the obvious takes four years to emerge as the true reason for something, when capital markets (equity, debt and money markets) had intuitively deduced the problem in 2007...

Fast forward to the present: markets are again signalling major problems and the Bank of England is again insisting, against the evidence, that all is well.

Cue Yogi Berra: 'It's like déjà vu all over again'.

3 Committee of Non-Executive Directors meeting, 15 October 2008 (<https://www.bankofengland.co.uk/-/media/boe/files/minutes/2008/court-2008-book2.pdf>).

4 I thank James Ferguson for the £500 billion number.

The political economy of bank capital

It is helpful to consider the big picture, the underlying political economy of bank capital. In a *laissez faire* world with no central bank and no financial regulation, banks would sink or swim with no expectation of being bailed out if they get into difficulties.

Enter central banks and regulators, who set up lender of last resort facilities and deposit insurance, and associated bailout expectations. The bankers respond to these incentives by increasing their leverage and taking more risks to boost their returns on equity. High leverage seeks to maximise the value of the central bank or government guarantees by letting banks borrow at rates subsidised by society at large, thereby privatising profits on the upside and socialising losses on the downside.

The bankers' social contract is not a good one for everyone else, however. The central bank warns that banks should not take excessive risks, but the bankers call their bluff, knowing that in a crisis, central bankers will bail them out for fear that not doing so might collapse the financial system. Round One to the bankers.

The central bankers respond with capital adequacy regulation to constrain bank leverage. The industry responds with calls for greater 'risk sensitivity' in the system. That seems like a good idea and the regulators buy into it on 'appliance of science' grounds greased by plenty of revolving doors, first with the Market Risk Amendment to the original Basel Accord in 1996, and then with Basel II, which took nearly a decade to complete. The hallmark of Basel II was the use of credit risk models to determine banks' capital requirements for credit-risky positions. The bankers then use their credit risk models to obtain much lower capital requirements and boost

their leverage, and so defeat the purpose of the Basel system. Round Two to the bankers.

Basel II is then rolled out to great fanfare, the GFC hits shortly afterwards, and it becomes clear (admittedly, earlier to some than to others) that Basel II had allowed banks to be woefully under-capitalised.

One of the main problems of Basel II was its complexity. Complexity produces gameability and the big banks, being heavily involved in the drafting of the Basel II rulebook, had ensured that there was plenty of it. The complexity of the system was key to its ineffectiveness and you might say this complexity was not so much a flaw as a design feature, at least from the bankers' point of view. Basel I was 30 pages long and had only 5 risk weights. Basel II was 347 pages long, an order of magnitude longer than Basel I, and a big bank operating under Basel II might easily have several million parameters to calibrate (Haldane and Madouros 2012: 7-9). Then Basel III was pushed out in an unholy rush in 2010, weighing in at 616 pages, nearly twice the length of Basel II, and experts were anticipating that the eventual rulebook might run to over 60,000 pages (ibid.: 11). More of the same that didn't work before is rarely the right answer. Round Three to the bankers.

The banks promoting excessive leverage periodically crashes the financial system, leading to one disaster after another and repeated taxpayer bailouts.

The remuneration received by bankers for taking the excessive risks that led to the crisis was a small fraction of the banks' subsequent losses which was in turn a small fraction of the damage inflicted on the economy.⁵ Enormous damage is being inflicted on the economy so that bankers can extract relatively small rents from it.

For its part, the regulator has long since been captured by the industry and the regulator's dismal performance, while shocking, is only to be expected. The bank capital regulatory system is broken and it will take a lot more than any Basels IV, V or VI to put it right. At some point, there may need to be radical reform to reverse the ever more destructive banksterisation of the economy and re-establish a social contract in which the bankers serve the public and not the other way round.

5 For more details, see Buckner and Dowd (2020: 45).

Conclusions

The Bank of England's position has been that UK banks are so strongly recapitalised after the Global Financial Crisis that they could go through an even worse event and still emerge in good shape (Dowd 2017). The truth of the matter is that the book value capital-to-assets ratio rose a modest 33 per cent and its market value equivalent, which is the ratio that matters, fell by 80 per cent. The result is that the UK banking system entered the Covid downturn in a frail state.

Naturally, it would be unfair to criticise the Bank for failing to anticipate the Covid-19 crisis. However, as Sir John Vickers recently stated (Vickers 2019):

Failure to anticipate systemic fragility in the face of such shocks is an altogether different matter. ... Banks' capital adequacy is a cornerstone of our economic system.

It is reasonable to criticise the regulator for leaving the system frail when its mandate is to ensure systemic resilience. A more serious regulatory failure is difficult to imagine. The Bank of England's failure is all the more regrettable because it could have ensured that banks had built strong capital buffers at no cost to the economy. The Bank's stewardship of the banking system has turned out to be a disaster, again.

There is a solution to this problem, but it isn't a regulatory one. The standard response – another regulatory reform – will fail for the same reason that such reforms have always failed in the past: the regulatory system gets captured by the firms it seeks to regulate, which then manipulate the system to their advantage. Do away with the regulator, make bankers personally liable for their losses, and the banks will soon sort themselves out. There

is no other solution. I said as much nearly twenty years ago to a senior official who was responsible for the Bank's contributions to Basel II. What a fiasco that turned out to be. 'Yes, that would work', she said, 'but I can't possibly say that in my position'. It's as easy and as difficult as that.

References

Aldrick, P. (2020) Lenders Can Withstand Coronavirus Recession, Says Bank of England's Sam Woods. *Times*, 16 April (<https://www.thetimes.co.uk/article/lenders-can-withstand-coronavirus-recession-says-bank-of-england-s-sam-woods-gjnkwn0p6>).

Bank of England (2020) Interim Financial Stability Report. Financial Policy Committee, May. London: Bank of England (<https://www.bankofengland.co.uk/-/media/boe/files/financial-stability-report/2020/may-2020.pdf>).

Buckner, D. and Dowd, K. (2020) Can UK Banks Pass the Covid-19 Stress Test? The Eumaeus Project (<http://eumaeus.org/wordpress/wp-content/uploads/2020/05/Can%20UK%20banks%20pass%20the%20COVID-19%20stress%20test%206%20May%202020.pdf>).

Bush, T. (2011) UK and Irish Banks Capital Losses - Post-Mortem. London: Local Authority Pension Fund Forum.

Dowd, K. (2017) The Fiction of the Great Capital Rebuild. Adam Smith Institute blog, 6 July (<https://www.adamsmith.org/blog/the-fiction-of-the-great-capital-rebuild>).

Haldane, A. (2011) Capital Discipline. Speech given at the American Economic Association, Denver, 9 January.

Haldane, A. and Madouros, V. (2012) The Dog and the Frisbee. Speech to the Federal Reserve Bank of Kansas City, 36th economic policy symposium, Jackson Hole, Wyoming.

Miller, M. (1997) *Merton Miller on Derivatives*. New York: Wiley.

Mustoe, H. (2020) Are Britain's Banks Strong Enough for Coronavirus? *BBC News Blog* (20 May).

Treasury Committee (2008) *The Run on the Rock*. Fifth Report of Session 2007–08. London: House of Commons (<https://publications.parliament.uk/pa/cm200708/cmselect/cmtreasy/56/56i.pdf>).

Treasury Committee (2020) Formal Meeting (oral evidence session): Economic Impact of Coronavirus. 20 May. London: UK Parliament (<https://committees.parliament.uk/oralevidence/415/pdf/>).

Vickers, J. (2019) Safer, but Not Safe Enough. Keynote address at the 20th International Conference of Bank Supervisors, Abu Dhabi, 29 November.

The Institute of Economic Affairs
2 Lord North Street
London SW1P 3LB
Tel 020 7799 8900
email iea@iea.org.uk

