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Financial Policy After the Crisis

Jon Danielsson

Over the past decade, G20 financial reforms have fixed the faultlines that caused the global financial crisis.
Mark Carney, Chairman of the Financial Stability Board, and Governor of the Bank of England (FSB [2017] Annual Report)

Introduction

In 2008, almost everybody—policymakers, politicians, bankers, journalists, pundits and academics—thought the problem of financial crises had been solved. We now know better, and the financial authorities now have a firm mandate from the highest levels of the political leadership: "Do something about finance. We will give you the resources and powers and political support to make it happen".

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In response, a broad agenda of regulation has been created. Leading the way is the G20, which delegates the regulation job to the Financial Stability Board, FSB, and it in turn hands responsibility for banking regulation to the Basel Committee.

A useful way to analyse the effectiveness of the post-crisis regulatory agenda is the concept of endogenous risk, as envisioned by Danielsson and Shin (2003). They classify risk into two groups, exogenous and endogenous. Exogenous risk comes from outside the financial system, economic agents are affected by it but do not influence it. An assumption of exogenous risk is embedded in most financial models and regulations. Endogenous risk is opposite, risk created by the interaction of economic agents, all with their own agendas, abilities and resources and biases. All severe financial risk is endogenous. By recognising that financial risk is mainly endogenous, we get a powerful lens to analyse and understand how it arises, and why it is difficult to control.

This has implications for how one should measure financial risk. In 2009, I proposed the concept of a *riskometer* a device analogous to a thermometer that one can plug into the bowels of Wall Street and get an accurate measurement of financial risk. In this view, the riskometer is a myth, the reason being that risk cannot be measured, it can only be inferred by how the markets have moved historically. Therefore, any measurement of risk is shaped by model accuracy and the biases and abilities of the modeller. The implication is that riskometers capture the most visible part of risk and miss out on the most extreme.

Capital

The most fundamental building block of financial regulations is bank capital. Capital is composed of two things: equity and other *equity-like* assets, further split into tier 1 and tier 2 capital. Equity is the assets a bank owns minus its debt obligations, called common equity tier 1, or CET1. The higher the equity, the safer the bank is but at the expense of lower profitability and higher costs of loans. Because equity is costly, regulators have classified a number of assets as capital also. These assets—the second component of capital—are generally supposed

to be equity-like, affording some protection but not being as dear. Tier 1 capital is composed of equity and additional instruments close to equity, while tier 2 capital hybrid capital instruments and subordinated term debt. The last might be a 30-year bond. It provides protection because it gives the bank cash and only has to be repaid slowly over the next 30 years. The composition of capital for HSBC can be seen in Fig. 14.1.

Bank capital has two main purposes. The first is a buffer to protect banks' creditors, and especially the important ones like depositors and the government. The second, which is more important, is to limit risk-taking. The higher the capital ratio is, the less leveraged the bank is and the less risk it is taking. The authorities can, therefore, influence the amount of risk in the financial system just by changing the capital ratio.

Capital refers to an amount of money. The total amount of HSBC tier 1 capital at the end of 2016 was £172 billion and the ratio of tier 1 capital to total assets is called the leverage ratio. While that might sound like a sensible concept, it has a problem. It lumps all assets together; a loan to a highly risky company has the same importance in the calculation as a loan to a safe corporation like Apple computers or a safe government like the United States.

For this reason, regulators also like to use *risk-weighted assets* or, RWA, instead of *total assets*, to calculate the capital ratio. Suppose a bank lends £100 to a hot-dog stand and £100 to Apple computers. Then, total assets are £200. However, the risk-weighted assets might be £300, because the risk weight on Apple would probably be as low as 0, so the £100 loan would have a risk-weighted value of £0 in the

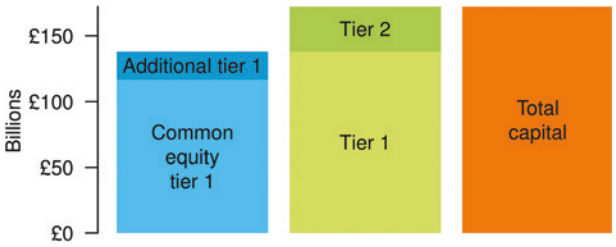

Fig. 14.1 HSCB capital composition end 2016

calculation; and the risk weight on the hot-dog stand could easily be as high as 300%, so the £100 loan would have a risk-weighted value of £300.

If we risk-weight HSBC's assets, they fall from £2375 billion to £857 billion. The most significant part of that is lending to governments, £506.7 billion which for most parts is risk-free and therefore gets a zero risk weight, falling to £50.1 billion under risk weighting. By contrast, total corporate loans, £661.5, only fall to £389 by risk weighing. Then using the most generous definition of capital, tier 1 plus tier 2 over risk-weighted assets, we find that HSBC has a capital ratio of 16.8%.

Both ratios—leverage and capital—have their advantages and disadvantages. Both provide safety and both contribute to systemic risk, in different ways. Perhaps the most crucial difference is that in order to get the risk weights for the risk-weighted assets, we need a riskometer. And that creates difficult problems relating to the reliability of riskometers and how they can make banks become procyclical and amplify the financial cycle.

Table 14.1 shows some capital calculations for the largest banks in the six most important banking nations. Each of these banks is classified as a SIFI, that is, a "systemically important financial institution", those banks whose failure would cause a systemic crisis. The table shows total assets and risk-weighted assets, expressed in the national currency of each country. It then shows the leverage ratio (ratio of tier 1 capital over total assets), the capital ratio (tier 1 + tier 2 capital over risk-weighted assets and CET1). Finally, it shows the TLAC, "total loss absorption capacity". This is an additional buffer, for some reason not called capital, that is used to absorb losses in SIFI banks.

The leverage ratio of HSBC is 5.4 and 3.5% for Deutsche Bank. For HSBC to be wiped out, it would need to suffer a loss of leverage ratio * total assets + TLAC = 5.4% * £2375 + £116 = £272.25 billion, while for Deutsche it is 3.5% * €1591 + €60 = €115.685 billion. While these numbers might be large, in a severe crisis, they might not be all that unusual, especially the Deutsche Bank number.

The complicated nature of capital means there is considerable scope for mistakes, misrepresenting or outright manipulation of the various

Table 14.1 SIFI Bank capital in national currencies in billions. End of year 2016. Some numbers are currently not known

Instrument	ICBC	Mitsubishi	JPM	HSBC	BNP	DB	UBS
Total assets	24,137	303,297	2491	2375	2077	1591	935
Risk weighted assets	14,565	113,986	1477	857	638	356	226
Leverage ratio (%) T1/TA	7.5		8.3	5.4	4.4	3.5	3.7
Capital ratio (%) (T1 + T2)/RWA	14.6	15.9	15.2	16.8	14.2	16.6	
CET1	1875	13,414	182	116	74	42	32
TLAC			227	144	91	60	66

parts of the capital calculation, and so there is no surprise that banks have become increasingly adept at manipulating the capital ratio, a process called *capital structure arbitrage*. Any bank wanting to be seen as having a high capital while actually holding little capital can use clever financial engineering tricks to make bank capital appear to be almost anything the bank wanted, at least until 2008.

I looked at this in detail in 2013, after I saw that banks that were apparently highly capitalised were going bankrupt in the 2008 crisis. That should not really have happened, because if they were making risky loans, the risk weights, and hence capital should have reflected that. The bank should consequently have been dissuaded them from making too many risky loans and if they did, have adequate capital in case things went wrong. As it turned out, the capital was illusionary because of capital structure optimisation.

The capital ratio is composed of two parts, capital in the numerator and risk-weighted assets in the denominator. What capital structure optimisation does is to maximise the numerator and minimise the denominator so as to make the ratio as high as possible.

The denominator is composed of the interaction of the value of assets, often loans, and their risk weights. Since most loans are illiquid and have no observable market value market price, the only way to find their value is to use a financial valuation model. It is even harder to calculate the risk weights because, unlike prices, risk cannot be measured and we have to use a riskometer, and as I showed earlier, riskometers are not exactly reliable. Since both parts of the denominator calculation

were based on models, the banks had ample scope to pick the models that made the denominator as small as possible and hence made the capital ratio high. Similarly, the numerator was easy to manipulate, because capital is composed both of equity and capital instruments that turned out to be not very equity-like, not least hybrid instruments.

I can illustrate this by looking at two different ways of calculating a capital ratio: tier 1 capital divided by risk-weighted assets, and equity divided by total assets (leverage ratio). The former allows plenty of scope for manipulation, but the latter does not. The leverage ratio is always smaller because the risk-weighted capital ratio contains the leverage ratio plus other things.

Figure 14.2 shows the two ratios over time. The risk-weighted capital ratio is trending upwards, sending the signal that the banks were becoming more capitalised and hence safer. The leverage ratio trends downwards, indicating that the banks are actually becoming less capitalised and riskier.

A similar picture emerges by looking at individual European institutions in Fig. 14.3 during the first quarter of 2008 when the crisis was becoming serious and considerable focus was on the quality of bank capital.

There is not much difference between the two ratios for the smaller banks, but as they become bigger, they are increasingly making use of capital structure arbitrage. The biggest differences are for two of the largest banks, UBS and Deutsche Bank. The former had to be bailed

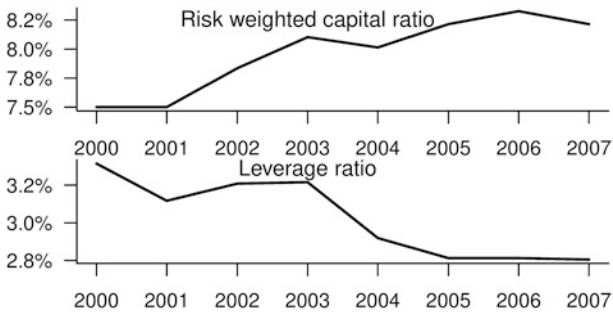

Fig. 14.2 Capital ratios for European banks before the 2008 crisis

out by the Swiss government and the second got considerable state aid, not least from the US government. These results are not very reassuring. Bank capital was not doing what it was supposed to.

In the sample of the 50 largest European banks, the Swiss UBS Bank is particularly interesting. If ranked by the Basel capital ratio, it had the 10th highest capital ratio—really quite safe—but according to the leverage ratio, it was the worst in Europe. Not surprisingly, UBS had to be bailed out by the Swiss government in 2008 because it used the wrong way to measure its risk.

This points to a different driver of financial crises. Before 2008, everybody believed that the banks knew what they were doing, that they could value the assets correctly and had accurate risk assessments. When things started going wrong, everybody's opinion changed by 180°, and everybody thought all evaluations and all the risk assessments were wrong. Typical in crises. We jump overnight from believing the best to believing the worst. Many of the assets held by banks were then referred to colloquially as toxic, meaning that the market value was highly uncertain and the risk weights understated. The markets did not

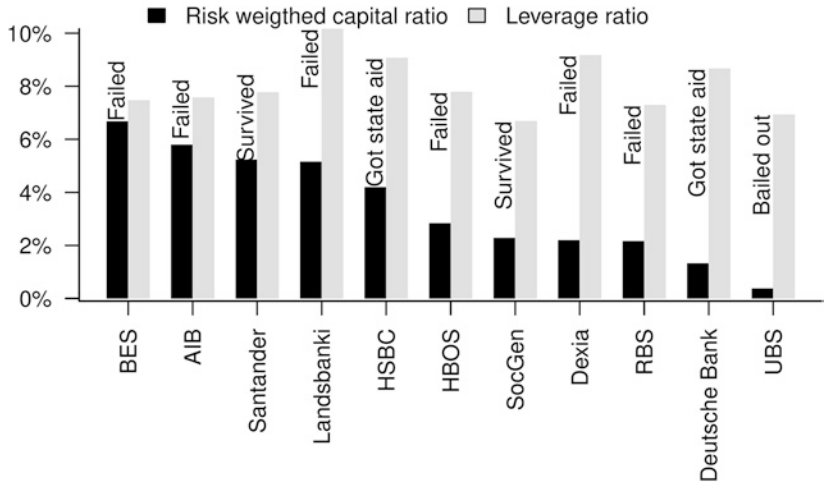

Fig. 14.3 Capital ratios for selected European banks in 2008

trust the quality of the denominator and often ignored the risk weights during the crisis from 2008, assuming the worst.

Would it be possible to do the same today, with all the post-crisis regulatory reforms? Not as easily as before 2008, but the chief of the UK's Prudential Regulation Authority was warning that the banks were up to the same tricks, using "pure regulatory arbitrage…. We have noticed that some institutions are now moving on-balance-sheet financing to off-balance-sheet formats using special purpose vehicles, derivatives, agency structures or collateral swaps".

There is one interesting aspect of bank capital, highlighted by Charles Goodhart in 2009.

> Imagine a weary traveller arriving by train at an unknown town late at night. Seeing one taxi outside the train station, the traveller asks the driver to take her to her hotel. The driver responds that he cannot do so, and points to a sign on the wall saying 'local regulations require that at least one taxi be outside the station at all times'.

Banking regulations require a minimum level of capital to be held by a bank at all times, as a buffer, to keep it safe; yet paradoxically, much of that buffer can never be used, because if it is, the bank's capital ratio will fall below the minimum allowed, it will break the regulations, and it could be closed down.

Basel Improved

After the 2008 crisis, the Basel Committee wasted little time updating the Basel Accords, and Basel III is mostly in place today. It happened quickly, and that haste meant that the Committee did not have time to make any fundamental reforms. Basel III is an incremental improvement on its predecessor, microprudential for most parts, leaving the stability of the system to the newly established macroprudential regulators.

The primary focus of Basel III, just like its predecessors, is capital and the main thrust of Basel III involves increasing both the amounts and the quality of banks' minimum capital.

There is much to like in Basel III. Still, I have several reservations.

Basel III still assumes that the stability of the financial system is ensured if each bank is prudent—a fallacy of composition. Suppose all banks are prudent and an exogenous shock comes along. Because they are prudent, the price drop in the affected asset means their risk measurement goes up, for purely mechanical reasons because of the way riskometers are constructed. The banks are then no longer meeting the potential standards, and have to dispose of the risk asset and most likely all the risk assets. That causes prices to fall further, now across the board, in vicious feedback. Because each bank is prudent, the system can be more unstable.

In addition, Basel III sometimes makes the problem of procyclicality worse because of RWA in capital calculations. The standard response is "Basel III has a new type of capital buffer that is adjusted countercyclically according to the financial cycle". Not quite. Not only is the amount relatively small, but it also remains to be seen if the authorities will be willing to relax the countercyclical buffer, treating it as yet another permanent capital buffer.

More fundamentally, Basel III implements its predecessor more intensively, but does not ask the critical question: what do we need from financial regulations? There is a direct trade-off between safety and the cost of financial intermediation. After all, if a bank has to hold large amounts of capital, the spread between deposit rates and lending rates must increase. It might well be that this cost is offset by the benefit to society from stability. That, however, is difficult to establish either way.

This is not how a lot of people see it, at least to judge from all the financial regulations conferences I attend. Usually, a presentation goes something like this: "The financial system is dangerous, I have identified the most important risks, and this is how you measure and control them. If you follow my suggestion, we meet our objective which is to reduce risk".

Much discussion on financial regulations focuses on risk minimisation—de-risking. That misses the relevant issue. Risk in the financial system is irrelevant without context. The objective of the financial system is to facilitate economic growth and savings. Risk, or the absence thereof, should only be judged in the context of whether those two objectives are met.

It is certainly possible to go overboard with too much or too little risk. If there is too much risk in the financial system, we suffer too many financial crises and have uncertainty about our savings. Furthermore, this excessive risk is probably due to too much speculation and not enough productive investments. If risk is too low, we don't have enough productive investments and the return on our savings is too low. We need a balance.

So what about economic growth? While many commentators lament the low economic growth since the crisis of 2008, that is just a part of a long-running trend. This is often called *secular decline*. Figure 14.4 shows the five-year and 15-year moving average economic growth for what is called high-income countries, those in which 2015 GNI per capita was $12,476 or more.

By and large, the financial regulations have nothing to do with the secular decline, but they still do have an impact, especially on the more cyclical outcomes. In many countries small- and medium-sized enterprises, the main drivers of economic growth, are borrowing much less than they did in the years before the crisis.

This problem is compounded by the fact that most governments have passed legislation stipulating that their sovereign debt is risk-free when it comes time to calculate capital ratios. This is not because sovereign debt really is risk-free, far from it.

The reasons are obvious. It subsidises lending to the government—financial repression—because they don't carry a capital charge while company loans do. That increases the cost of corporate loans relative to government loans and therefore acts as a tax of sorts.

The graph in Fig. 14.5 shows the options as are often presented. The solid red line is hypothetical 3% annual growth over one century in the absence of macroprudential stabilising policies. Then the question becomes, will we get a 4% stable growth, 3% stable growth or 2% stable growth? If macropru leaves us with the last scenario, we are better off not going down the path.

Under Basel III, the ratio of equity to risk-weighted assets has to be at least 7%. The higher this ratio, the higher the cost of making loans, and for countries where economic growth is lower than desired, this is problematic. For example, the European Union overall is suffering

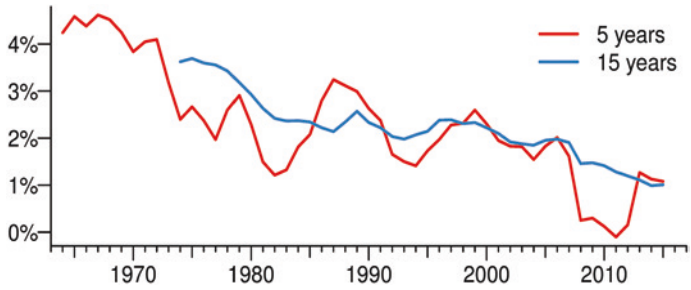

Fig. 14.4 Moving average economic growth for high-income countries (*Data source* The World Bank world development indicators)

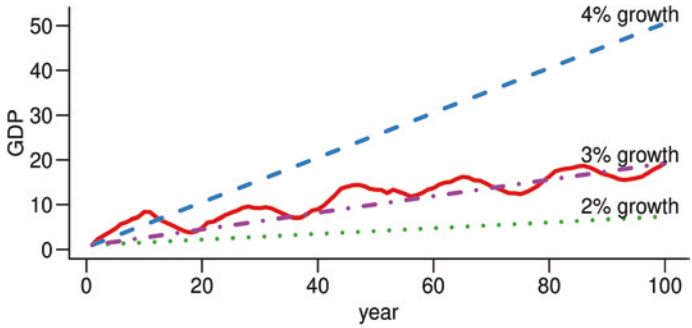

Fig. 14.5 Growth scenarios (colour figure online)

from sluggish economic growth and low investments. The European Commission is now looking for evidence of "unnecessary regulatory burdens" and "other unintended consequences" of banking and markets laws. In the words of Jyrki Katainen, vice-president of the commission responsible for jobs and investment, "[d]uring the past five years… regulators at European level have concentrated on crisis management. Stability has come back… now we are in the situation where we have to use the European regulatory power to create new markets". Meanwhile, France, Germany and Italy have directly intervened in the Basel III process to relax global bank capital standards against the opposition of the United Kingdom and the United States, amongst others.

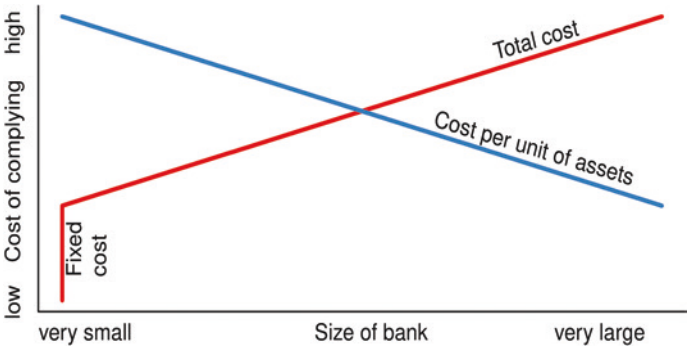

Fig. 14.6 Cost of complying with Basel III

Basel III perversely benefits the largest banks at the expense of the smaller ones because of how it increases the cost of regulations. There are two costs a bank has to pay when it comes to complying. The first is a fixed cost that every bank has to bear, like costs spent on understanding the regulatory apparatus. The second cost is variable: the bigger the bank, the more complex it is, and hence the higher the costs of compliance. While well-meaning and generally useful, there is a dark side to this. Because the fixed cost is substantial, the bigger the bank, the cheaper it is (relative to its size) to comply. The trade-off is seen in Fig. 14.6.

There are *increasing returns to scale* which inherently favour the largest banks. Because Basel III substantially increases both the variable and fixed costs, the largest banks directly benefit relative to their smaller competitors.

Macropru

While the Basel Accords are microprudential, focused on the behaviour of each bank individually, the stability of the entire system and systemic risk is left to the macroprudential (macropru) authorities. While macropru is a relatively new concept and is now seen as one of the four central planks of governments' financial policy, it is quite old, just sporting a new name.

The central bankers of the nineteenth century and the early twentieth century would not have been surprised by the crisis in 2008. It was not so different from the crises they experienced, such as the ones in 1863, 1906 or 1914. What would have shocked them was how complacent and unprepared their twenty-first century successors had become.

Still, to their credit, the financial authorities in 2008 went to the history books, responding appropriately by applying the lessons of the past. The policy mistakes that led to the financial turmoil of 1929 to become the Great Depression were avoided.

Never again. The cost of responding to the crisis in 2008 was so high that something had to be done to make the financial system more resilient. We got macropru. In the words of Claudio Borio, Head of the Monetary and Economic Department of the Bank for International Settlements in 2009, "We are all macroprudentialists now".

So what is the objective of macropru? There is no single definition. If you ask different authorities, you will get a different answer. That said, distilling the various definitions out there, I find three objectives.

1. Prevent excessive risk from accumulating in the financial system;
2. If and when a crisis happens, contain it in the most efficient manner possible;
3. Avoid excessively curtailing risk-taking, so that banks can fulfil their role of financing economic growth.

While sensible, the three objectives are high-level and need to be translated into specific policy. And that is where there is no consensus: not between countries, inside countries and not even within particular policy organisations.

It is surprisingly difficult to create effective macropru, and we are still finding our way. I often hear words to the effect that macropru now is like how monetary policy was in 1950—give it 50 years, and it will become as sophisticated. One can do a lot of damage in 50 years, and those who know their monetary history recall that the stagflation of the 1970s was in no small part due to the poor monetary policy of the era. The low inflation since 2008 shows monetary policy is still far from perfect.

Active macropru is based on leaning against the wind in a discretionary manner. If risk is building up, tighten capital and liquidity standards. Aggressively if a damaging bubble is inflating. Conversely, the rules are relaxed when risk and growth are low. If the market is too risk-averse, it is encouraged to take more risk. Such discretionary macropru policies are designed to be countercyclical, dampening out the financial cycle.

Active macropru demands much of the financial authorities:

1. They need estimates of systemic risk and its impact on the real economy, from the early signs of a build-up of stress all the way to the post-crisis economic and financial resolution;
2. They need tools to implement effective policy remedies in response to changes in risk;
3. The authorities need legitimacy, a reputation for impartiality and political support.

   To start with, systemic risk needs to be measured—this is far from straightforward. There are many indicators of systemic risk out there, such as ECB's Systemic Stress Composite Indicator, CISS (Fig. 14.7).

On the day after the Brexit vote in June 2016, it told us that systemic risk was 0.3198, on a scale from 0 to 1. Higher than the 0.1844 the week before, not to mention the 0.0577 at the start of 2016 when we seemed particularly safe. Fortunately, the Brexit systemic risk is not as bad as it was in December 2008 when it hit 0.8391, worse than after Lehman failed in September 2008 when it was only 0.7091.

How accurate are the numbers? Is 0.3199 is worse than 0.0704 and better than 0.8301? We don't know because the ECB omits any analysis of statistical significance. If the standard deviation of the CISS numbers is 0.1, the change in systemic risk from 0.1844 to 0.3198 on the day of the Brexit vote is not statistically significant. If the standard deviation is 0.3, the Brexit systemic risk is not statistically different from the December 2008 number of 0.8391. If it is 0.5, the historically highest and lowest numbers are not statistically different from each other (Fig. 14.8).

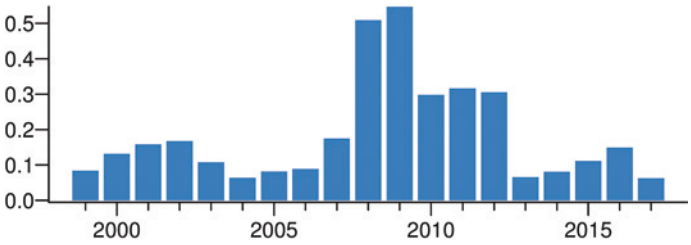

Fig. 14.7 ECB composite indicator of systemic stress (CISS) annual average

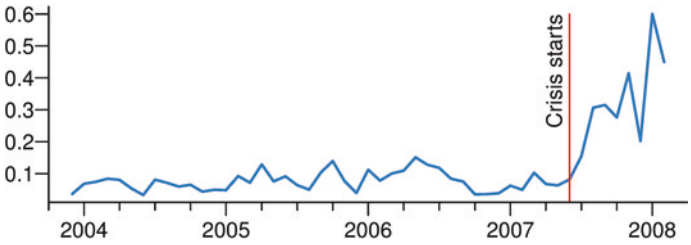

Fig. 14.8 ECB composite indicator of systemic stress (CISS) up to the 2007/8 crisis

In June 2007, CISS told us systemic risk was very low at 0.0818. That is the month when the crisis was already underway when the quant funds faced difficulty, and Northern Rock was unable to sell its mortgages. Indeed, the lowest observations of systemic risk were all observed in the five years before 2007. The indicator sent the signal that everything was fine, and it was OK to take on risks at the same time when all the bad decisions that led to the crisis were being taken.

Meanwhile, the highest number was recorded in December 2008, after the worst was over, the peak of the crisis was late September and early October.

The financial sector is continually evolving. The past informs the tools, but the threats come from the future. It is a bit like driving when looking into the rear-view mirror. The impacts and side effects of the tools are poorly understood. The blunt instruments may kill the patient, while the surgical ones may not work.

The most visible, and most politically important, part of the macropru domain is real estate, one of the most common causes of

financial crises. The macropru policymakers are always on the lookout for real estate bubbles. We borrow from banks to buy homes and in response prices go up and the economy blossoms, encouraging more people to borrow to buy homes. In the short run everyone feels happy, but over time fault lines emerge and a crash becomes increasingly likely.

Both the bubble itself and the eventual crash create problems. Rising housing prices directly affect inequality. Homeowners get richer, and the rest are left out, creating political problems. The government can be forced to implement policies that further stimulate housing prices—like the various policies helping first-time buyers and high-risk borrowers. The political desire to help poor households to acquire property in the United States was the main reason for the emergence of the subprime mortgage market (see Calomiris and Haber 2014).

The macropru authorities have identified real estate as a significant priority. So what are they to do? One of the primary tools in use today is enforcing a loan-to-value ratio, where one can only borrow a certain percentage (say, 80%) of the value of a house. However, while real estate is undoubtedly a macropru concern, the remedies only deal with the symptoms and not the causes. The price of real estate is directly affected by economic growth and various government policies, like zoning laws, help-to-buy, tax-deductible mortgage interest, ultra-low interest rates and subsidised mortgages for high-risk borrowers. Macropru has no impact on any of those, and all the macropru authority can do is to mop up after the other policy domains with limited effect. However, just using the macropru tools will expose the authority to considerable public hostility. Worse still, if the said authority is the central bank, this may undermine its ability to execute monetary policy effectively.

Politics Gets in the Way

The most powerful bureaucrat in the world is the Chair of the Federal Reserve System in the United States, currently Jerome Powell. He has more power than General Joseph Dunford, the head of the Joint Chief of Staff, even though the latter has nuclear weapons in his toolkit.

The reason is that General Dunford reports to President Trump, while chairman Powell reports to nobody. It is the same in many other countries. In a democratic society, why do we give a bureaucrat like Jerome Powell such remarkable powers?

The reason is monetary policy. Politicians cannot be trusted with interest rates—for that, we need an independent professional body. In the bad old days when the politicians were in charge of monetary policy, they used interest rates to enhance their electoral prospects. Lower interest rates a few months before elections to stimulate the economy in the short run. Some countries still do this, the Turkish President, Erdogan, has used his powers to keep interest rates low, and President Trump has criticised the Fed for keeping rates too high.

It is easy to hand monetary policy to an independent central bank because it is well defined. There is one unambiguous measurement, inflation, the objective is clear, say 2% inflation, and there are two tools, the price and quantity of money. If the central bank fails to do its job, the effects are there for all to see.

Before the 2008 crisis, the received wisdom was that monetary policy was sacrosanct—the importance of the mission implied purity. Financial regulations and financial stability belonged elsewhere.

Now, we want to house financial stability in the central bank for two reasons. First, the hope is that the reputation and the power of the central bank as controllers of monetary policy will rub off on to financial stability. Second, they are the only institution that can create money on demand, and therefore have to be at the centre of fighting financial crises.

So will it work? If the central banks are in charge of financial stability, they face a complex, ill-defined policy domain for which there is no clear consensus on both the problem and the objective. The indicators at their disposal are imprecise and conflicting. The surgical tools at their disposal are ineffective and the powerful tools too blunt. Worse, and even more so than monetary policy, macroprudential policies tend to result in clearly identifiable winners and losers, subjecting the policy authorities to intensive lobbying and political pressure. Just two examples are bank capital ratios and macropru real estate policies. While the politicians can delegate rule-making to government agencies, anything

that affects economic policy in a direct and personal way falls under political oversight. It would be undemocratic if it did not.

Nowhere has the conflict between politics and independent regulations become more evident than in macropru real estate policy. If we cannot borrow to buy houses, we do not enjoy the benefits of wealth creation and security that comes with owning a property. The policy creates identifiable losers.

This is why less democratic countries find it easier to implement macroprudential policies, such as Malaysia, Singapore, Thailand and Hong Kong. It would be unthinkable for European countries and especially the United States to deploy such intrusive macropru tools and coordinated policy responses. Democratic opposition and industry lobbying would get in the way, the reason the formal, and especially the effective powers of the macroprudential authorities are limited.

Perhaps the biggest problem in macroprudential policymaking is that it has to ignore political risk as argued by Danielsson and Macrae (2016). Very few major stress events in the financial system are caused purely by excessive risk-taking, the target of macropru. Most have politics as a primary driver. War or the transition between political systems, such as Russia in 1919, Germany in 1923, Japan in 1945 and China in 1949. Politics is behind the severe financial and economic crises in Venezuela and Zimbabwe.

Take Brexit. The only immediate financial or economic impact was a 10% drop in the value of the pound against major currencies, not in itself a systemic concern. Nevertheless, there was also a lingering possibility of systemic consequences via the fixed income markets. Yet, during the referendum campaign, the Bank of England warned of serious economic consequences under Brexit, putting itself on the losing side of an acrimonious political debate. As a result, it has come under repeated attacks from the new political leadership—the Bank has had to affirm its independence and request support from the new government in a way we are not used to seeing. Highlighting the dangers facing central banks when they include politics in their macroprudential considerations.

Europe is similarly affected by the systemic consequences of its populist parties. How deeply can or should a civil servant working in

the ECB on macropru venture into populism? Similarly, the election of President Trump heralds a dramatic change in US economic priorities—the consequences could well be systemic. It is, however, hard to see how the Fed could react.

In practice, and despite whatever may be said about their independence, the financial authorities are authorised by, controlled by and gain their legitimacy from the political leadership. Unsurprisingly, the mandate from the political leadership is to look at financial and economic risk, not the risk emanating from the politicians themselves. Making it risky for the financial authorities to incorporate political risk as a determinant of systemic risk, despite its importance.

As a result, political risk is mostly missing from the macroprudential debate despite having always been a primary cause of systemic risk. It is not only institutionally challenging for the financial authorities to anticipate crises with predominantly political causes publicly, but it also makes it difficult for them to contain such crises once they happen.

Political realities make it impossible for central banks to translate the purity and single-mindedness of monetary policy to financial stability. Adversely affecting both the legitimacy of the central banks and their reputation for impartiality and increases the difficulty of mobilising the sort of political support that monetary policy can achieve.

While the hope is that the credibility of monetary policy and the central banks' past successes in conquering inflation might rub off on macroprudential policy, the fuzziness of financial stability and the interplay of political pressures may instead undermine monetary policy.

Could Macropru Be Perversely Destabilising?

I was recently in a central bank conference talking about macroprudential policy and made a throwaway remark that macropru could be procyclical, that is, it could perversely amplify this financial cycle instead of dampening it. To the audience, that was a heresy, and some senior staff members got cross with me. After all, the fundamental promise of macropru is that it is countercyclical, dampening out the natural cycles in the financial system.

So could macropru be procyclical? Well, yes, as argued by Danielsson et al. (2016). Discretionary macropru has considerable scope for amplifying the financial cycle.

Suppose the macropru authorities were successful in smoothing out the financial cycle. Would market participants respond to this gratefully and say "what a great job the central bank is doing?" No, the market would see the resulting low risk as an invitation to take more risk—the Minsky effect. We have seen many examples of this in the past like the Greenspan put, where the Fed repeatedly undertook monetary policy which bailed risk-takers out at the first sign of trouble. The result was the excessive risk that so powerfully contributed to the crisis in 2008. The policymakers may enjoy considerable success in the short run at the expense of longer-term instability—lower volatility and increasing tail risk, an example of endogenous risk as discussed earlier in the book.

Another reason why macropru may be procyclical is the difficulty in measuring risk. Figure 14.9 shows a hypothetical time path of risk over one year. The target risk is three. In the first month, risk is too high at five, and a bubble is growing. A couple of months later the riskometers note the excessive risk, and a few months later the macropru authority decides to do something about the problem. Eventually, in month 12, the policy is implemented.

Meanwhile, risk has been steadily falling throughout the year and is already below the target. The outcome is that the risk decreases, even more, exacerbating the de-risking. Instead of dropping to two, it crashes to one. Problem caused by the authorities reacting with some time lag to indicators of systemic risk that are themselves measured with a time lag—the policy response can come too late.

Suppose economic activity is already slowing down, with a recession looming. By month 12, the appropriate policy response would have been increasing risk to stimulate economic activity, not to decrease risk. A recent example was Japan in 2007 when the authorities issued guidance restricting bank lending to real estate developers just when foreign lenders were also withdrawing from this market—this led to a severe credit crunch.

What is perhaps most interesting is that macropru implementations have seemed to be unidirectional. Since the crisis of 2008,

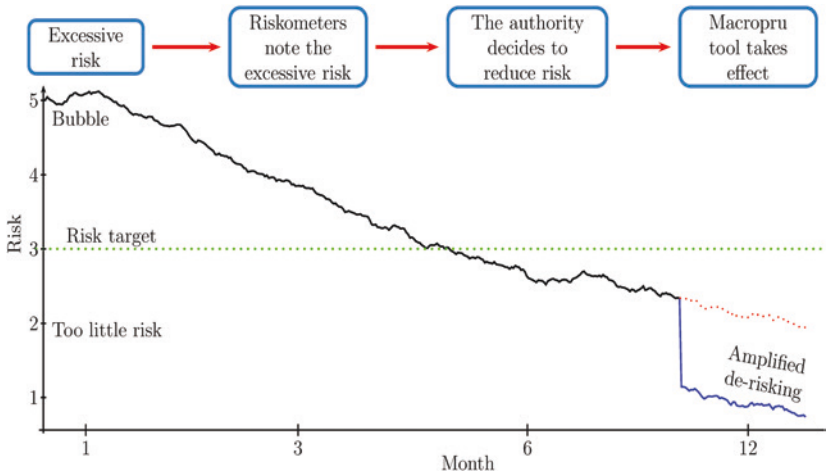

Fig. 14.9 Risk, time lags, riskometers and macropru tools

the authorities have been doing everything they can to reduce risk. This is in times of low economic growth, what some commentators like to call secular stagnation. So what happens if the economy starts growing? Would the authorities be willing to increase risk-taking in times of stress? This would indeed be the countercyclical action, but the authorities might find it difficult. They might even take advantage of a crisis to raise capital standards and restrict credit, as they did after the 2008 crisis. In that case, their post-crisis response would be procyclical.

Sometimes, one may hear objections like: "Banks are failing because they have already overextended credit" or "Surely bank capital needs injections, rather than allowing the banks' capital to absorb losses" or "Helping Wall Street to increase lending now leads to even bigger moral hazard" or "Macropru is discredited because it was supposed to have prevented this credit event in the first place—why should it do better this time?" All of these objections call for a procyclical policy response. So ultimately, there is considerable scope for macroprudential policy being procyclical, especially the discretionary version.

Conclusion

Mark Carney's confident proclamation at the start of this chapter that the problem of crises has been fixed sounds promising, but it is hard to verify in practice. Financial crises are not frequent. The typical OECD country can expect a systemic crisis less than once every 43 years. Most people can expect at most to suffer a severe financial crisis once in their lifetime. Mark Carney will likely be long retired before we can validate his statement.

There are many good things in the new financial regulations. There are, however, some aspects which are not useful and even downright dangerous, like the continuing focus on individual prudence and dependence on riskometers.

Discussion of Chapters 12–14

In discussing Johnsen's paper, Dooley recalled Jeff Schafer's question, "What did the banks do that was illegal?" He noted that the banks' loaning themselves money to buy their own stock was indeed illegal. He also suggested that had they not been found guilty of such a clearly illegal act; the government might have had virtually no leverage against them.

In discussing post-crisis financial policy, **Jón Danielsson** noted that the 2008 financial crisis did not result from policy decisions made in the three years immediately preceding it. He suggested evaluating policy from the standpoint of the 2003 political environment instead. He also suggested rethinking risk and recognising that it increases during upswings (as imbalances build) and materialises during recessions. He likened a financial crisis to the bursting of a dam: the risk is greatest right before the dam bursts, and after it bursts and all the water goes out, there's no more risk to be had. The least risk in the system is right after a crisis, and the greatest is right before. Measured risk goes away. Danielsson argued that the policy reaction to the crisis was wrong: de-risking shouldn't take place post-crisis; risk should be *increased* post-crisis. De-risking should be done *before* the crisis, whereas it is

often done at the wrong time in the cycle. Actual risk goes up along with the bubble and down with the bubble.

Danielsson posited as well that the most dangerous risks are not those that are known and can be prepared for but the "unknown unknowns". The trick, then, is to figure out what those are. He also emphasised that macroprudential policy would not help mitigate the cycle because perceived risk peaks right after the crisis, whereas actual risk peaks just beforehand.

Dooley agreed with Danielson's conclusions but stressed that the unknown unknowns will never be identifiable. Knowing that they exist is all well and good but doesn't offer a roadmap for further action.

References

Borio, C. (2009). The Macroprudential Approach to Regulation and Supervision. VoxEU.org.

Calomiris, C. W., & Haber, S. H. (2014). *Fragile by Design: The Political Origins of Banking Crises and Scarce Credit*. Princeton: Princeton University Press.

Danielsson, J. (2013). *Global Financial Systems: Stability and Risk*. Harlow: Pearson.

Danielsson, J., & Macrae, R. (2016). *The Fatal Flaw in Macropru: It Ignores Political Risk*. VoxEU.org. http://voxeu.org/article/tmacroprus-fatal-flaw.

Danielsson, J., & Shin, H. S. (2003). Endogenous Risk. In *Modern Risk Management—A History*. Risk Books. www.RiskResearch.org.

Danielsson, J., Macrae, R., Tsomocos, D., & Zigrand, J.-P. (2016). *Why Macropru Can End Up Being Procyclical*. VoxEU.org. http://voxeu.org/article/why-macropru-can-end-being-procyclical.

Financial Stability Board. (2017). *Annual Report*.

Goodhart, C. (2009). *The Regulatory Response to the Financial Crisis*. Cheltenham: Edward Elgar.