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Monetary policy and financial stability: what role in prevention and recovery?

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Monetary policy and financial stability: What role in prevention and recovery?

Claudio Borio¹

Abstract

If the criteria for an institution's success are diffusion and longevity, then central banking has been hugely successful. But if the criterion is the degree to which it has achieved its goals, then the evaluation has to be more nuanced. Historically, those goals have included a changing mix of financial and monetary stability. Attaining monetary and financial stability simultaneously has proved elusive across regimes. Edging closer towards that goal calls for incorporating systematically long-duration and disruptive financial booms and busts – financial cycles – in policy frameworks. For monetary policy, this means leaning more deliberately against booms and easing less aggressively and persistently during busts. What is ultimately at stake is the credibility of central banking – its ability to retain trust and legitimacy.

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Introduction²

“If the success of an institution can be fairly judged by its diffusion, then the central bank is without doubt a very successful institution” (p xx, introduction, 2011). Thus the opening of Curzio Giannini’s thoughtful and illuminating book on central banking, his last precious present that crowned his career – tragically cut short – as economist and central banker. Curzio is implicitly raising a fundamental and exceedingly difficult question: by what criteria should one judge the success of an institution?

If, as Curzio says, the criterion is diffusion and, one could add, longevity then central banking has been hugely successful. From its faltering first steps in the 17th century, the institution has grown up to become widely regarded as indispensable. It has certainly proved more durable and universal than, say, democracy. True, what has come to be known – admittedly with more than a small dose of Western self-awareness and indulgence – as the “Global Financial Crisis” has shaken many of the convictions underpinning central bank policy. Yet, so far, central banks have emerged from the crisis with even greater powers and broader responsibilities. And markets, at least, have been watching in awe, seemingly unable to take steps without first dissecting each and every word of the Masters.

But if the criterion for success is the degree to which the institution has achieved its goals, then the evaluation has to be more nuanced. Those goals have evolved over time, from initially securing financing for the sovereign, be it for good or evil, to a changing mix of financial and monetary stability. To be sure, some of those goals are far too demanding to rest on central banks’ shoulders alone. Even so, attaining monetary and financial stability simultaneously has proved elusive. The history of central banking has been one of temporary, if sometimes lasting, successes followed by spectacular failures. It is the history of an endless and ultimately unrewarding search for a Holy Grail that has proved beyond reach.

That goal, I shall argue in this essay, is likely to remain beyond reach, but further progress is feasible. Making progress will require a mix of greater ambition and greater humility: greater ambition to recognise that monetary policy can do more to prevent systemic financial crises that derail the macroeconomy; greater humility to recognise that there are limits to what monetary policy can do on its own, especially in promoting recovery once financial crises break out. The key is to incorporate systematically long-duration and disruptive financial booms and busts – financial cycles – in policy frameworks (Borio (2012)). What is ultimately at stake is the credibility of central banking – its ability to retain trust and legitimacy. The only way to remain successful is not to take that success for granted; in fact, it is to realise just how fragile that success can be.

I focus on monetary policy because, today, it is the facet of central banking at the centre of the most heated intellectual debate. Central banking, of course, is much more than monetary policy (Borio (2011)). And in what follows I will also

² Paper prepared for the conference in memory of Curzio Giannini entitled “Money and monetary institutions after the crisis”, Banca d’ Italia, Rome, 10 December 2013 and forthcoming in *Capitalism and Society*. I would like to thank Harold James for helpful comments and suggestions. The views expressed are my own and not necessarily those of the BIS.

briefly cover the role of other policies increasingly entrusted to this institution, notably prudential policy, and especially macroprudential policy.

To set the stage, Section I traces in a highly stylised way the history of the search for monetary and financial stability since the gold standard, exploring central banks' changing views about their tasks, their successes and their failures. Section II argues for a more ambitious role in the prevention of financial instability combined with greater humility about what monetary policy can do in promoting post-crisis recoveries. The end-result would be a more symmetric policy stance across the boom and bust phases of financial cycles, best captured by the joint behaviour of credit and property prices (Drehmann et al (2012)). Section III considers the risks of failing to adjust monetary policy frameworks alongside prudential and fiscal ones.

I. The elusive search for monetary and financial stability³

Table 1 summarises the relationship between monetary and financial stability since the gold standard.

	Regime		Stability	
	Financial	Monetary	Financial	Monetary ¹
Classical gold standard	liberalised	gold/credible	no	yes
Inter-war years	liberalised	mixed/mixed	no	mixed ²
Bretton Woods	repressed	increasingly fiat non-credible over time	yes	lost over time
Post-Bretton Woods	liberalisation	fiat increasingly credible	no	regained over time

¹ In terms of price stability. ² Price stability prevailed in the run-up to the Great Depression in the United States.

The classical gold standard

Under the classical gold standard a liberalised financial regime coexisted with a monetary regime that resulted in a good measure of price stability over longer horizons (eg, Borio and Filardo (2004)). At the time, periodic financial crises were a major source of disruptions.

Conceptually and institutionally, the link between monetary and financial stability was as close as it would ever be. One can think of convertibility into gold as acting as the single anchor for both monetary and financial stability. Monetary stability was defined as safeguarding convertibility, both internal and external; there was no explicit price stability goal. In turn, the convertibility constraint would typically give way during financial crises, when deposits could no longer be turned into gold at par.

This was the heyday of liberalised financial markets, which coexisted with rather passive monetary policies. Few, if any, regulatory constraints existed on banks'

³ This section draws on Borio (2008).

balance sheets and cross-border financial transactions. Our present-day framework of prudential regulation was non-existent or in its infancy in a number of countries. And central banks pursued rather passive strategies: they tended to keep interest rates stable unless the convertibility constraint came under threat, at which point they raised them.

The arrangements failed to secure financial stability; oversized financial cycles were common. The convertibility constraint was not sufficient to prevent waves of financial instability in the wake of excessive credit expansion, often accompanied by sharp asset price increases, especially property prices (Goodhart and Delargy (1999), Bordo et al (2001)). As Curzio reminds us, this was also the period in which central banks honed their critical new skills as lenders of last resort (Goodhart (1988)).

The inter-war years: regime transition

The inter-war years saw the coexistence of liberalised financial markets with the progressive emergence of fiat standards in monetary regimes. Financial instability intensified, most spectacularly with the Great Depression, against the backdrop of a chequered price stability record.

The aforementioned link between monetary and financial stability became looser. Monetary stability was increasingly identified with price stability *per se*. The acceptance of a currency was more explicitly based on the power of the state to tax. With the domestic currency acting as unit of account and central banks assuring convertibility of deposits into currency, financial crises de-coupled from domestic convertibility into gold.

At the same time, the emerging monetary regime loosened further the anchors on credit expansion and provided more fertile ground for disruptive financial crises. Initially, with little change in arrangements in the financial sphere, the system became even more vulnerable to financial cycles. Ahead of the Great Depression, financial imbalances built up either in the wake of the re-establishment of price stability, as in some continental European countries (eg, James (2001)), or against the background of low and stable inflation, as in the United States (eg, Persons (1930), Robbins (1934), Eichengreen and Mitchener (2003)). Central banks began to experiment with more active monetary policies.

The major financial instability during the Great Depression triggered the introduction of strict regulation of commercial banking, including through a variety of liquidity, maturity matching and solvency requirements (Allen et al (1938), Giannini (2011)). For the first time, a separate anchor was thus put in place in the financial sphere. This anchor, however, went hand in hand with the establishment or major strengthening of safety nets; explicit deposit insurance in the United States is the best-known example. Inadvertently, by weakening financial discipline, *ceteris paribus*, safety nets added to the potential for the build-up of imbalances. For quite some time, that potential was kept in check as a result of the progressive slide into autarky in response to the crisis and lead-up to World War 2.

Bretton Woods

The Bretton Woods regime quickly developed into a fiat standard coupled with financial repression. The arrangements avoided overt financial instability, but ultimately succumbed to the Great Inflation.

The story is well-known. The de jure convertibility constraint for official transactions gave way to a de facto dollar standard. At the same time, a complex web of regulations of a monetary nature (eg, ceilings on loan growth and interest rates) complemented, and largely superseded, previous prudential arrangements. This web of controls heavily constrained balance sheets as well as cross-border and foreign exchange transactions. By typically favouring government over private sector financing, these restrictions limited the scope for financial cycles. Central banks' common tendency to focus on bank credit played a reinforcing role (Borio and Lowe (2004)). For a while, the system did deliver monetary and financial stability, but at growing costs in terms of resource allocation. And starting in the late 1960s–early 1970s, increasingly ambitious macroeconomic policies led to runaway inflation. Monetary stability gave way to the Great Inflation.

Post-Bretton Woods

We finally come to the most recent period, in which a progressively more liberalised financial regime has coexisted with a growing focus on price stability within fiat monetary regimes. Financial instability re-emerges, first alongside inflation, then, and more virulently, against the backdrop of price stability.

This evolution has its turning point in the early to mid-1980s. Eventually, the costs of financial repression and changing views about the relative merits of government intervention in the economy ushered in the deregulation of the financial system. The process started in the early 1980s and rapidly gathered pace thereafter, nationally and internationally. By the early 1990s, a government-led international financial system had morphed into a market-led one (Padoa-Schioppa and Saccomanni (1994)). Around the early 1980s, too, inflation began to be conquered, largely following the lead of the Bundesbank in Europe and the Federal Reserve under Paul Volcker in the United States.

At the same time, financial instability raised its ugly head, as financial cycles re-emerged as a major economic force (Drehmann et al (2012), Borio (2013)). To be sure, many did talk, somewhat paradoxically, of a Great Moderation – a period of low volatility in output and low and stable inflation. But this ignored the experience of several emerging and advanced countries, not least the crises in the Nordic countries and Japan. Indeed, the episodes of financial instability that took place gave impetus to international efforts to strengthen international prudential standards (eg, Borio and Toniolo (2008)). The recent Great Financial Crisis has put all residual doubts to rest: the financial system, and the economy more broadly, are not self-stabilising.

What lessons?

This brief review highlights three points.

First, no policy regime in history has simultaneously achieved sustained monetary and financial stability. The search for adequate anchors in the monetary and financial spheres has proved elusive.

Second, financial and monetary stability are inextricably intertwined. They are one and the same if one thinks of monetary stability as encompassing confidence in the credit and monetary system, as Curzio appears to argue. But even if one defines monetary stability more narrowly, as has become standard, as stability in the price

index of goods and services, the elusiveness of the search points to the existence of deeper links. At the core is the interaction between monetary and financial regimes.

Third, the key question is what the interaction of monetary and financial regimes implies for the emergence and virulence of financial cycles. How does it affect the size and amplitude of credit and asset (especially property) price booms and their subsequent busts? It is to this question that we now turn.

II. Towards a new role for monetary policy

Monetary regimes, financial regimes and the financial cycle

The stylised features of financial cycles are well-known. During the boom “financial imbalances” develop: (private sector) balance sheets become overextended on the back of aggressive risk-taking. The imbalances sow the seeds of their own destruction, and hence of economic weakness, unwelcome disinflation and financial strains down the road. The boom can turn to bust either because inflation eventually does emerge, forcing the central bank to tighten, or, more often, because the imbalances collapse under their own weight. One may call this property of the economy “excess elasticity” (Borio and Disyatat (2011)).⁴ The analogy is with an elastic band, which one can stretch further and further until at some point it snaps. These financial booms and busts necessarily take a long time to unfold, well beyond one decade.

How might policy regimes interact to produce this outcome?

Financial liberalisation makes it more likely for financial factors in general, and booms and busts in credit and asset prices in particular, to drive economic fluctuations. Rather than being tightly bound by cash flow constraints, the economy is propelled by loosely anchored perceptions of asset values and risks, critically supported by easier credit availability – one could say that it becomes an asset-backed economy. Indeed, the link between financial liberalisations and subsequent credit and asset price booms is well documented.

For its part, the establishment of regimes yielding low and stable inflation, underpinned by central bank credibility, can make it less likely that signs of unsustainable economic expansion show up first in rising inflation and more likely that they emerge first as unsustainable increases in credit and asset prices (the “paradox of credibility”). After all, stable expectations make prices and wages less sensitive to economic slack: this is precisely what policymakers and economists have expected all along.

To these two regimes one may add a third: the degree of international integration of the real economy. As integration proceeds apace, it can give a major boost to global potential growth – a sequence of pervasive positive “supply shocks” or an outward shift in the global economy’s production possibility frontier. By the same token, however, it can surely help to keep inflation down and provide fertile ground for credit and asset price booms.

⁴ Borio and Disyatat (2011) see this property, as opposed to global excess saving (or a global saving glut), as the key factor behind the Great Financial Crisis.

It is perhaps no coincidence that the re-emergence of financial instability on the back of outsize financial cycles has coincided with a return to policy regimes in which that instability was a major policy challenge. This was the classical gold standard and the lead-up to the Great Depression. Those periods, like the one leading up to the recent financial crisis, featured the coexistence of a liberalised financial regime with a monetary regime that delivered reasonable price stability for long periods. And the 1920s saw rapid economic innovations alongside greater experimentation with looser constraints on monetary policy. This was so at least in the country at the core of the system, the United States, in which gold hardly acted as a constraint. Moreover, again like more recently, goods markets were highly integrated. Indeed, the two phases have come to be known as the first and second globalisation waves (James (2001)). What goes around, comes around.

This analysis should not be taken to mean that financial liberalisation, the establishment of credible anti-inflation monetary frameworks and the globalisation of the real side of the world economy are unwelcome. Far from it! Each of them, taken in isolation, is undoubtedly a good thing. All of them together are worth having and fighting for. Rather, the point is that the inability to adjust policy regimes to take into account their impact on financial cycles has raised risks from unsuspected quarters. This is what needs fixing.

If this analysis is correct, what does it mean for monetary policy in particular? To my mind, it means that monetary policy cannot focus exclusively on short-run inflation control; it also has to take financial cycles systematically into account. The end-result would be a policy that behaves more symmetrically across the boom and bust phases, tightening more during booms even if near-term inflation appears well-behaved and easing less aggressively and persistently during busts. Consider each of the two phases in turn.

Monetary policy during financial booms

During the financial boom, tightening monetary policy even if near-term inflation is contained would help restrain the build-up of financial imbalances. Operationally, this calls for extending the policy horizon beyond the roughly two years that is typical of inflation targeting regimes and for giving greater prominence to the balance of risks in the outlook (Borio and Lowe (2002)). The reason is that the lag between the build-up of systemic risks and the emergence of financial distress is considerably longer than the lag associated with keeping inflation under control. And because the timing of the unwinding of financial imbalances is highly uncertain, extending the horizon should not be interpreted as extending point forecasts mechanically. Rather, it is a device to help assess the balance of risks for the economy and the costs of policy action and inaction in a more meaningful and structured way.

Those who doubt the wisdom of this adjustment raise a number of serious objections: financial imbalances cannot be identified with reasonable confidence in real time; monetary policy is an ineffective and blunt tool; and there are better tools available, not least the new macroprudential instruments. The objections are well-grounded, but I do not find them sufficiently convincing.

There is increasing empirical evidence that is indeed possible to identify the build-up of financial imbalances in real time with a sufficient lead, even out of sample. For instance, work carried out at the BIS indicates that the best indicators take the form of joint deviations of credit and asset prices, especially property

prices, from historical trends (eg, Borio and Drehmann (2009)).⁵ Not surprisingly, if policymakers focus on the risk of serious macroeconomic disruptions, the joint behaviour of credit and property prices is the most parsimonious description of the “financial cycle” (Drehmann et al (2012)). Even credit alone has been found to provide a reasonably good leading indicator (eg, Jordá et al (2011), Drehmann et al (2011)). This is why it has been chosen as the preferred reference guide for the countercyclical capital buffer in Basel III. In contrast to how the question is often phrased, the issue is most definitely not how to spot asset bubbles, let alone equity price bubbles (eg, Posen (2011), Galí (2013)). Rather, it is how to identify the symptoms that raise serious risks for the macroeconomy.

How good is the performance of indicators of this kind? The answer lies partly in the eye of the beholder. They would, for instance, have identified by the mid-2000s the build-up of risks in the United States and other countries ahead of the recent crisis (Borio and Drehmann (2009)). More generally, one should not underestimate how hard it is to pin down the more traditional monetary policy yardsticks. Equilibrium notions such as natural rates of interest or unemployment or potential output are fuzzy and difficult to measure, both in real time and ex post (eg, Orphanides (2013)). And yet we have got so used to them that we simply take them for granted. Indeed, recent research with colleagues indicates that using financial cycle proxies actually helps to better measure those unobservable variables in real time (Borio et al (2013)).

This is illustrated in Graph 1 for the United States. It compares estimates of the output gaps based on the behaviour of credit and property prices (the “finance-neutral” gap) with those from the IMF and OECD, based on more fully fledged model approaches, and with a popular statistical filter (the Hodrick-Prescott filter). The traditional estimates made in real time, during the economic expansion that preceded the crisis, indicated that the economy was running below, or at most close to, potential (red lines in the corresponding panels). Only well after the crisis did they recognise, albeit to varying degrees, that output had been above its potential, sustainable level (blue lines). By contrast, the finance-neutral measure sees this all along (bottom right-hand panel, red line). And it hardly gets revised as time unfolds (the red and blue lines are very close to each other). One reason why production-function and similar approaches miss the unsustainable expansion is that they draw on the notion that inflation is the only signal of unsustainability. But, as we know, ahead of the crisis it was the behaviour of credit and property prices that signalled that output was on an unsustainable path: inflation remained low and stable.

What about the objection that monetary policy is ineffective and blunt? Once the question shifts from pricking bubbles to restraining the build-up of financial imbalances it becomes harder to argue that monetary policy is ineffective. After all, monetary policy is expected to operate by influencing lending, asset prices and risk-taking: this is what the transmission mechanism is all about.⁶ And, by analogy with efforts to keep inflation at bay, adjusting policy with the explicit objective of restraining strong credit and property price growth can add a powerful signalling effect to the interest rate move. Moreover, here, too, we should not underestimate

⁵ For similar evidence, see Alessi et al (2011).

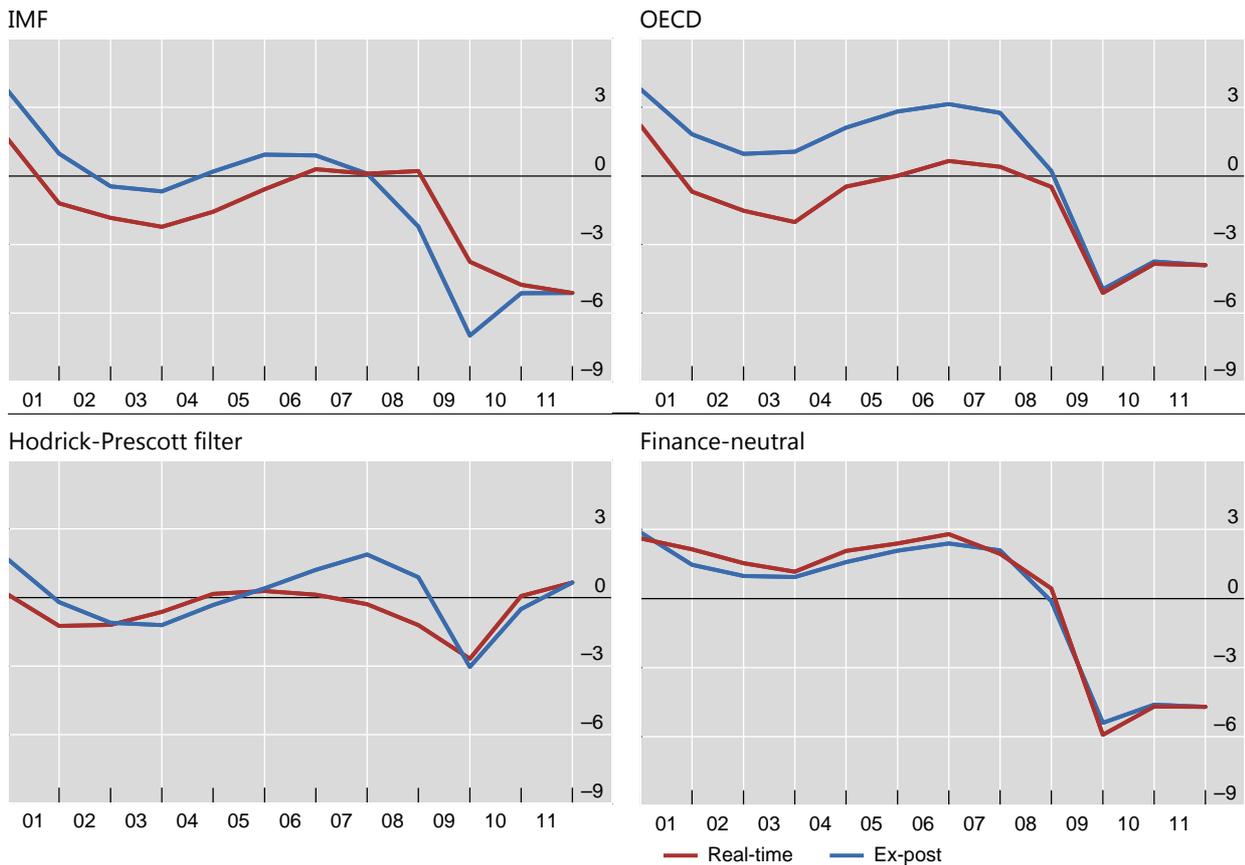
⁶ For a discussion of the impact of monetary policy on risk-taking in the narrow sense, see Borio and Zhu (2008), Adrian and Shin (2010) and Rajan (2005); for empirical evidence, see eg, Altunbas et al (2010) and Paligorova and Santos (2012).

how little we know about the impact of monetary policy on its more traditional objectives. For example, it is no secret that the link between domestic slack and inflation has seemingly been broken for quite some time now (eg, IMF (2013a)). And yet this is precisely a key channel through which monetary policy is expected to influence inflation. Has this stopped central banks from trying? Hardly.

US output gaps: full-sample (ex post) and real-time (ex ante) estimates

In percentage points of potential output

Graph 1



Full production function approaches for the IMF and OECD. Linear estimates for the finance-neutral gap; the non-linear ones, which should better capture the forces at work, show an output gap that is considerably larger in the boom and smaller in the bust.

Source: Borio et al (2013).

Finally, whether monetary policy is blunt or not depends on one's perspective. There is no question that monetary policy will have a pervasive effect. But this may also be an advantage. One of the main drawbacks of relying on prudential tools is that they are vulnerable to regulatory arbitrage. By contrast, monetary policy sets the universal price of leverage in a given currency area (Borio and Drehmann (2011)). Or, as Jeremy Stein (2013) recently put it, it reaches all of the cracks. In other words, you can run but you cannot hide.

For much the same reasons, it would be unwise to rely exclusively on the emerging fully fledged macroprudential frameworks to tackle the build-up of financial imbalances. Admittedly, the effectiveness of macroprudential tools in constraining their build-up varies. It is, for instance, likely to be greater for loan-to-

value ratios or debt-to-income ratios than for capital requirements.⁷ Even so, the frameworks are more effective in strengthening the resilience of the financial system to cope with a financial bust than in restraining financial booms in the first place.⁸ And one should not underestimate the political economy considerations constraining their activation.⁹

Can tensions arise between price stability and such a pre-emptive policy stance? Yes. It is possible that financial imbalances build up even if prices are actually falling and growth is strong. In fact, historically price declines have commonly occurred even against the backdrop of solid growth – so-called “good deflations” (eg, Borio and Filardo (2004), Atkinson and Kehoe (2004)). More recently, this also happened in countries such as Norway, Sweden and China in the 2000s. Conversely, financial imbalances can build up even if growth is relatively anaemic while prices remain stable or are even falling; what is happening in Switzerland now is a case in point. But these tensions tend to abate if the policy horizon is sufficiently long and the risks of a financial bust are taken into account. The key concept is that of sustainable price stability. For instance, financial imbalances that build up during a good deflation could lead to a bad deflation down the road, as the boom turns to bust and the economy struggles under its weight.

To be absolutely clear: all this does not mean that monetary policy should take the lion’s share of the burden. Both prudential and, I would add, also fiscal policy have a key role to play in building buffers and helping to restrain financial booms. It does mean, however, that a more balanced approach is called for – one in which all policies play a mutually supportive role.

Monetary policy during financial busts¹⁰

If the appropriate role of monetary policy during financial booms is still subject to debate, that during financial busts is even more controversial. The prevailing view would argue that monetary policy should respond aggressively and keep such an aggressive stance until the recovery is well under way. In what follows, I will argue that this view does not take sufficient account of the specific nature of the recessions that follow financial booms, ie “balance sheet recessions”.¹¹ Because of

⁷ For some recent evidence, see Lim et al (2011), Claessens et al (2013) and Kuttner and Shim (2013).

⁸ Tinbergen’s (1952) dictum – two goals, two instruments – is often invoked out of context. His point, however, was not that one should have tools *exclusively* devoted to a single objective (zero/one weights). Rather, it was that the *interrelationships* between objectives arising from the single economic structure had to be taken fully into account. In general, this calls for a balance in the use of the instruments.

⁹ Similarly, it is quite possible to have major macroeconomic disruptions even if banks do not face huge stress, if the strains emerge mainly in non-financial sector balance sheets. In that case, *even if macroprudential authorities agreed on this diagnosis*, they would find it hard to justify a use of their instruments based on their mandates, normally defined in terms of risk in the financial sector.

¹⁰ This section draws, in particular, on Borio (2012, 2013).

¹¹ Koo (2003) seems to have been the first to use such a term. He employs it to describe a recession driven by non-financial firms’ seeking to repay their excessive debt burdens, such as those left by the bursting of the bubble in Japan in the early 1990s. Specifically, he argues that the objective of financial firms shifts from maximising profits to minimising debt. The term is used here more generally to denote a recession associated with the financial bust that follows an unsustainable

this, it fails to appreciate fully the limitations of monetary policy in this specific context. As a result, it makes it more likely that monetary policy will be overburdened.

Not all recessions are born equal. The typical recession in the postwar period reflected a tightening of monetary policy to prevent runaway inflation. The balance sheet recessions that follow financial booms are different. The preceding expansion is much longer, the subsequent debt and capital stock overhangs, both sectoral and aggregate ones, are much larger, and the damage to the financial sector is much greater. Moreover, the policy room for manoeuvre is much more limited: unless policy has actively leaned against the financial boom, policy buffers will be depleted. The capital and liquidity cushions of financial institutions will rupture; gaping holes will open up in the fiscal accounts; and policy interest rates will sag to near zero. Think of Japan in the 1990s and, more recently, the United States and United Kingdom.

A growing body of evidence suggests that balance sheet recessions are particularly costly. They tend to be deeper, to give way to weaker recoveries, and to result in permanent output losses: output may return to its previous long-term growth rate but not to its previous growth path (Reinhart and Reinhart (2010), BCBS (2010)). Several factors are no doubt at work here: the overestimation of both potential output and growth during the boom; the misallocation of resources, notably the capital stock but also labour, during that phase; the oppressive effect of the debt and capital overhangs during the bust; and the disruptions to financial intermediation once financial strains emerge.

The key challenge in tackling a balance sheet recession is to prevent a major stock problem from becoming a major and persistent flow problem, in the form of weak expenditures and output.

Here, it is critical to distinguish analytically two phases: crisis management and crisis resolution. In crisis management, the goal is to prevent the implosion of the system if a financial crisis breaks out; in crisis resolution, the goal is to establish the basis for a self-sustaining recovery. The priority in crisis management is to shore up confidence. In this phase, it is natural to use monetary policy aggressively, through both interest rates and broader adjustments in central bank balance sheets (or "balance sheet policies"), including by providing ample funding liquidity and propping up markets (Borio and Disyatat (2010)). This is a natural extension of central banks' traditional lender of last resort role. Moreover, in this phase it may be necessary to complement central bank measures with government guarantees. The priority in crisis resolution, by contrast, is to repair the balance sheets of the financial and non-financial sectors. In other words, it is to address the debt overhang and poor asset quality problems head-on.

There are grounds to believe that in the crisis resolution phase monetary policy is likely to be less effective than in a normal recession. The general reason is not hard to find. As noted above, monetary policy typically operates by encouraging more borrowing, by encouraging more risk-taking and by boosting asset prices. But in a balance sheet recession initial conditions already involve too much debt, too much risk-taking and asset prices that are too high. There is thus an obvious tension

financial boom. But the general characteristics are similar, in particular the debt overhang. That said, we draw different conclusions about the appropriate policy responses, especially with respect to prudential and fiscal policy.

between how monetary policy can be effective and the direction the economy needs to take.

Analytically, the importance of the debt overhang is not sufficiently appreciated. A debt overhang is not just, or primarily, a matter of tighter credit supply constraints. This is what the academic literature almost exclusively focuses on (eg, Eggertsson and Krugman (2012)). It is also, indeed primarily, a matter of credit demand constraints. Agents realise that they have taken on too much debt based on unrealistic expectations. As a result, they wish to pay it down and retrench. Put differently, for them the marginal propensity to spend is not close to one, as the literature postulates, but close to zero. This undermines the effectiveness of monetary policy even if the transmission mechanism through the banks is not broken, as it is likely to be. And it also affects the potency of fiscal policy.

There is, in fact, recent empirical evidence consistent with this view (Bech et al (2012)). BIS colleagues find that, when considering recessions and the subsequent recoveries, monetary policy has a smaller impact on output if recessions are linked to financial crises. Moreover, in normal recessions, a more accommodative monetary policy in the downturn is followed by a stronger recovery, but this relationship is no longer apparent if a financial crisis occurs. In addition, the same study finds that in balance sheet recessions, in contrast to normal ones, a faster pace of debt reduction ushers in a stronger recovery.¹² And it concludes that, when used to alleviate a balance sheet recession, fiscal policy has limitations that are similar to those of monetary policy.¹³

This means that as central banks press harder on the accelerator, the engine may rev up without gaining traction. This would exacerbate the negative side effects of monetary policy in the crisis resolution phase. These side effects are well-known by now (Borio (2012)).¹⁴ First, easing can mask underlying balance sheet weaknesses. It makes it easier to underestimate the private and public sector's ability to repay in more normal conditions and delays the recognition of losses (eg, evergreening). Second, it can blur incentives to reduce excess capacity in the financial sector and even encourage gambling for resurrection. Third, it can undermine the earnings capacity of financial intermediaries, by compressing banks' interest margins¹⁵ and sapping the strength of insurance companies and pension funds. This, in turn, weakens the balance sheets of non-financial corporations, households and the sovereign. It is no coincidence that Japan's insurance

¹² Takáts and Upper (2013) document further the credit-less recoveries that follow financial busts, first discussed in Calvo et al (2006) in the context of crises in emerging market economies.

¹³ The extant empirical evidence on fiscal policy typically reaches opposite conclusions (eg, IMF (2012), Auerbach and Gorodnichenko (2013)). But that literature treats all large recessions alike, making no distinction between those associated with financial crises and the rest.

¹⁴ On some of these aspects, see also IMF (2013b), Rajan (2013), Volcker (2013) and Trichet (2013).

¹⁵ To be sure, there is a one-off positive effect from keeping asset prices up and, indirectly, to the extent that the economy is stronger. But low interest rates compress net interest margins for at least three reasons. First, they eliminate the well-known endowment effect: retail rates tend to be below wholesale rates and be very sticky, possibly even zero for transaction deposits, owing to banks' monopoly power. As the short-term rate falls, that margin disappears. Second, if the central bank flattens the yield curve, such as by committing to keep interest rates low or by engaging in large-scale asset purchases, it squeezes out profits from maturity transformation. For example, estimates of the term premium on US Treasuries have been large and negative for a very extended period. Finally, low interest rates reduce profits on own funds, ie on the portion of the balance sheet financed with own capital.

companies came under serious strain a few years after its banks did. Fourth, it can atrophy markets and mask market signals, as central banks take over financial intermediation functions. Interbank markets tend to shrink and risk premia become unusually compressed as policymakers become large-scale asset buyers. Fifth, while it can help repair balance sheets by weakening the currency, this may be unwelcome elsewhere, as it may be seen as having a beggar-thy-neighbour character – a point to which I will return later. Finally, over time it may compromise the operational autonomy of the central bank, as political economy considerations loom ever larger. This is especially important for central banks' balance sheet policies, because of their quasi-fiscal nature. More generally, as central banks push on the outer limits of what they do, the distributional consequences of their measures, both within and across generations, become all too obvious.

The implication is clear: monetary policy can easily become overburdened. This is especially the case if prudential policy does not tackle aggressively the needed repair of financial institutions' balance sheets and if fiscal policy is not targeted to support the repair of private sector balance sheets. And if fiscal policy is not sufficiently prudent and fails to prevent a sharp deterioration in the sovereign's creditworthiness, a crippling feedback loop between the sovereign and its banks can take hold. The experience in the euro area is quite telling in this regard.

The basic reason why monetary policy can become overburdened is straightforward. In the case of a balance sheet recession, because of its diminished effectiveness, monetary policy primarily buys time, but it cannot address the underlying problems. In the process, it may even generate incentives to waste that time. Other policies need to take up the baton. This does not mean that the economy will fail to recover; it will as long as its self-stabilising forces are strong enough. But it does mean that the recovery would be delayed and weaker. In the process, output would be lost.

There is a paradox in all this. Concerns about overburdening monetary policy with a new task during financial booms – leaning against them – may in the end cause it to be overburdened during the financial bust. As argued in the latest BIS Annual Report (2013), this is precisely what appears to have happened.

Before exploring in more detail the risks of failing to adjust monetary policy frameworks along the lines suggested, it is worth asking an obvious question: do the adjustments call for a change in mandates? I would say "definitely no" (Borio and Drehmann (2011)). In particular, they do not require the explicit inclusion of financial stability. Ultimately, the costs of financial instability should be expressed in terms of the costs for traditional macroeconomic variables, such as output or employment, and the extent to which it might cripple monetary policy. This is equivalent to managing the usual trade-offs between price and output stability over different horizons.

Whether mandates are helpful or not depends on how this might affect the central bank's perspective, its operational strategy, its communication and, above all, political economy constraints, such as its relation to the government. This is likely to vary across countries and circumstances. The lens through which the central bank views the workings of the economy is more important than the mandate. Past experience points to there being little correlation between the nature of the mandate and the central bank's willingness to lean against the wind of financial imbalances.

III. Risks

Looking ahead, what are the risks that arise if policy fails to adjust? I would highlight three: the risk of a loss of credibility in central banks' ability to carry out their mission; that of entrenching instability in the system; and that of a sudden, epoch-defining change for the worse in policy regimes. Let me explain.

Loss of credibility? An expectations gap

The risk of loss of credibility reflects that of an "expectations gap" emerging, between what central banks are expected to deliver and what they can deliver. A vicious circle can develop. As policy fails to produce the desired effects and adjustment is delayed, central banks come under growing pressure to do more. An "expectations gap" opens up. All this makes the eventual exit and normalisation more difficult and, ultimately, can threaten the central bank's credibility.

The risk is real. One may wonder whether some of these forces have not been at play in Japan, a country where the central bank has not yet been able to normalise rates and has felt compelled to adopt increasingly bold steps. More generally, these days politicians, market participants and the public at large seemingly expect central banks to fine-tune the economy, restore full employment, ensure strong growth and preserve price stability – a recipe for inevitable disappointment.

Entrenching instability? A new form of time inconsistency

The risk of entrenching instability reflects a new form of time inconsistency, more insidious than the more familiar one in the context of inflation. Policies that are too timid in leaning against financial booms but that are then too aggressive and persistent in leaning against financial busts may end up leaving the authorities with no further ammunition over successive financial and business cycles. Importantly, this applies not just to monetary policy, but also to fiscal and prudential policies (Borio (2012, 2013)).

Indications that this risk may be materialising are not hard to find. Central banks keep exploring the outer limits of monetary measures, fiscal positions are on an unsustainable long-term path in several jurisdictions,¹⁶ and resistance to the implementation of tougher capital and liquidity prudential standards for banks has been fierce.

Moreover, this mechanism need not operate just within individual countries; it can also result from asynchronous financial cycles across them. The interaction of monetary policy reaction functions plays a key role here. When large economies, home to international currencies, engage in aggressive and persistent easing, this can spread those monetary conditions to the rest of the world through resistance to the induced currency appreciation. This resistance may reflect concerns about a loss of competitiveness or the limited insulation properties of exchange rate flexibility, given the extrapolative expectations underpinning portfolio adjustments and capital

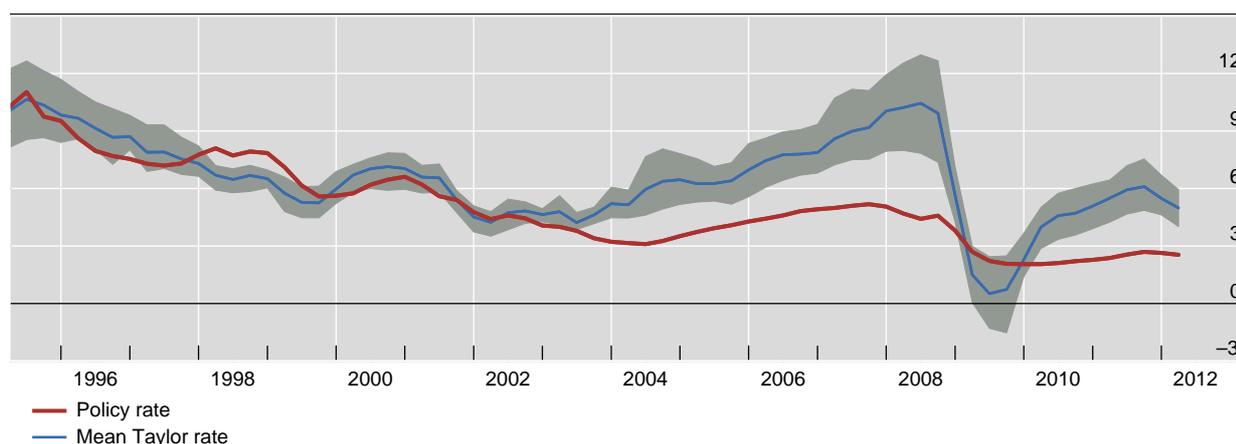
¹⁶ For a discussion of debt levels and sustainability, see Cottarelli (2013) and Cecchetti et al (2010); on the limits of outside-the-box thinking for monetary policy, see Caruana (2013a).

flows (eg, Bruno and Shin (2012), Rey (2013)). Regardless of the reason, the result is that authorities in the rest of the world either keep interest rates low or else intervene in the foreign exchange market and invest the proceeds in the countries with international currencies, in turn putting further downward pressure on yields. The result may be fuelling the build-up of financial imbalances in the rest of the world.

Global Taylor rule

In per cent

Graph 2



The Taylor rates are calculated as $i = r^* + p^* + 1.5(p - p^*) + 1.0y$, where p is a measure of inflation, y is a measure of the output gap, p^* is the inflation target and r^* is the long-run level of the real interest rate. For explanation on how this Taylor rule is calculated see Hoffmann and Bogdanova (2012).

Source: Hoffmann and Bogdanova (2012).

There are signs that this mechanism has been at work both pre- and post-crisis (Caruana (2012a,b, 2013b), Borio (2013)). The global (aggregate) monetary policy stance appears too accommodative judged on the basis of traditional benchmarks. Graph 2, from Hofmann and Bogdanova (2012), illustrates this with respect to variants of the standard Taylor rule;¹⁷ but a similar message would also emerge if one compared inflation-adjusted policy rates and medium-term growth estimates. At the same time, several (including large) emerging market economies and also quite a number of advanced economies less affected by the crisis (especially commodity exporters) have been struggling with the build-up of financial imbalances eerily reminiscent of those seen pre-crisis in advanced economies most affected by it.¹⁸

The risk is that the global economy may be in a deceptively stable disequilibrium. New financial busts could materialise and feed back onto the

¹⁷ Note also that these benchmarks do not take into account the impact of forward guidance concerning the future path of the policy interest rate or balance sheet policies, such as large-scale asset purchases. Doing so would imply that the policy stance is even easier than a simple Taylor rule would suggest. Nor do these benchmarks consider the possible need to lean against the build-up of financial imbalances and adjust measures of sustainable output accordingly, as argued in Borio et al (2013). This would also imply that, in those economies that have seen financial booms recently, policy would need to be tighter than suggested by unadjusted Taylor rules.

¹⁸ For a complementary analysis of the interaction of monetary policies that lead to sub-optimal outcomes within more traditional modelling setups, see Taylor (2013).

countries most affected by the previous crisis – a kind of boomerang effect. This would lead to yet another round of deterioration in private and public sector creditworthiness and a further loss in policy room for manoeuvre. Normalisation could prove more elusive than generally thought.

An epoch-defining regime change? Back to the future

But the ultimate risk is that of yet another epoch-defining change in the underlying economic regimes that hold out the best promise of long-term prosperity, namely, a global economy that is integrated in real and financial terms underpinned by monetary regimes that deliver long-lasting price stability. As historians such as Niall Ferguson (2010) and Harold James (2001) keep reminding us, such disruptive changes often occur quite abruptly and when least expected. This is how the first globalisation wave ended.

So far, institutional setups have proved remarkably resilient to the huge shock of the Great Financial Crisis and its tumultuous aftermath. But could institutional setups withstand yet another shock? There are troubling signs that globalisation may be in retreat – signs of growing financial and trade protectionism, as states struggle to come to grips with the de facto loss of sovereignty. Meanwhile, the consensus on the merits of price stability is fraying at the edges. And as memories of the costs of inflation fade, the temptation to get rid of the huge debt burdens through a combination of inflation and financial repression grows. This would be an especially hostile world for the institution of central banking. What goes around, comes around.

Conclusion

As Curzio presciently said in his book released in Italian in 2004: “Insofar as instability is the key defect of the market-led system, it will very shortly be impossible to avoid facing the problem that tormented scholars at the time bank money was being introduced: how to exploit the ‘magic of credit’ for growth without inciting banks to imprudent lending practices” (p 255, 2011). We now know all too well that the system proved unstable, just as it had so often in the past.

In this essay I have argued that edging closer towards lasting monetary and financial stability calls for adjustments to policy frameworks. While I have focused on monetary policy, those adjustments go well beyond it, and involve both prudential and fiscal policy. Their common element is to take financial booms and busts – financial cycles – more systematically into account. The task of ensuring financial stability is far too big to rest on the shoulders of monetary policy alone, or even a combination of monetary and prudential policies. Because of their role, however, central banks are inevitably in the midst of the battle.

The basic idea is for policies to be more symmetric across the boom and bust phases of financial cycles – cycles which, given current regimes, have been much longer than the more familiar business cycles, at least longer than business cycles as we traditionally think of and measure them. Policies would lean more deliberately against booms and ease less aggressively and persistently during busts. And during busts they would tackle the debt-asset quality problems head-on. By so doing, they would build up buffers that could help soften the blow once the bust occurred. They

might also help constrain the build-up of the boom in the first place, thereby reducing the likelihood and intensity of the subsequent bust. And they would then use the scarce ammunition more effectively to hasten the recovery.

If the analysis is correct, the risks of failing to make the necessary adjustments should not be underestimated.

First, there is a risk that central banks will lose their credibility as the body politic and public at large lose confidence in their ability to fulfil their mission. Failing to acknowledge the limitations of what monetary policy can do to foster a solid recovery following a balance sheet recession risks opening up a dangerous expectations gap, between what central banks are expected to deliver and what they can actually deliver.

Second, there is a risk that, over time, instability will become entrenched in the system. An asymmetric response may end up leaving policymakers bereft of ammunition over successive financial and business cycles. This is all the more so once the global implications of national policies are taken into account. All this amounts to a new form of time inconsistency, less apparent but more damaging than the much more familiar one in the context of inflation control.

Finally, there is a risk of yet another epoch-defining and disruptive seismic shift in the underlying economic regimes. This would usher in an era of financial and trade protectionism and, possibly, inflation, as policymakers struggled to come to terms with private and public sector debt burdens. It has happened before, and it could happen again. Such a world would be extremely hostile to the institution of central banking. What goes around, comes around.

No-one has a crystal ball. This may be a blessing in disguise. The future is not pre-ordained. The best way of securing past successes is to recognise their fragility, and then to move forward. With ambition, but also with humility.

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