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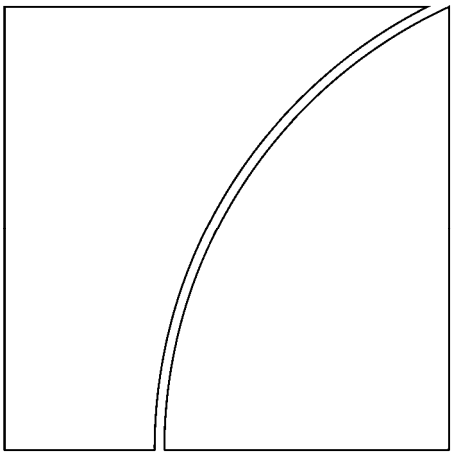

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The changing role of central banks

by C A E Goodhart

Monetary and Economic Department

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Keywords: Central Banks, Financial Stability, Financial Regulation, Bank Taxes

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Foreword

On 24–25 June 2010, the BIS held its Ninth Annual Conference, on “The future of central banking under post-crisis mandates” in Lucerne, Switzerland. The event brought together senior representatives of central banks and academic institutions who exchanged views on this topic. The papers presented at the conference and the discussants’ comments are released as BIS Working Papers 326 to 331. A forthcoming BIS Paper will contain the opening address of Stephen Cecchetti (Economic Adviser, BIS), a keynote address from Baron Alexandre Lamfalussy, and the contributions of the policy panel on “Do central bank governance arrangements need to be altered?”. The participants in the policy panel discussion, chaired by Jaime Caruana (General Manager, BIS), were Mark Carney (Bank of Canada), Andrew Crockett (JP Morgan Chase International), Stefan Ingves (Sveriges Riksbank), Lucas Papademos (Former Vice President, European Central Bank), and Duvvuri Subbarao (Reserve Bank of India).

Conference Programme

Thursday 24 June

Opening remarks	**Stephen Cecchetti (BIS)**
Session 1:	**The future role and mandate of central banks**
Paper title:	The changing roles of Central Banks
Chair:	Armando M Tetangco, Jr. (Bangko Sentral ng Pilipinas)
Author:	Charles Goodhart (London School of Economics)
Discussants:	Stanley Fischer (Bank of Israel) Randall Kroszner (University of Chicago)
Session 2:	**International governance**
Paper title:	Central banks: between internationalisation and domestic political control
Chair:	Henrique de Campos Meirelles (Central Bank of Brazil)
Author:	Harold James (Princeton University) Paper: Central Banks: Between Internationalization and Domestic Political Control
Discussants:	Gianni Toniolo (Duke University) Már Gudmundsson (Central Bank of Iceland)
Keynote lecture	
Speaker:	Alexandre Lamfalussy

Friday 25 June

Session 3:	**Lessons from history for future central bank design**
Paper title:	The Federal Reserve, the Bank of England, and the Rise of the Dollar as an International Currency, 1914-1939
Chair:	Ms Zeti Aziz (Central Bank of Malaysia)
Author:	Barry Eichengreen (University of California) (joint work with Marc Flandreau)
Discussant:	Robert Keohane (Princeton University) Leszek Balcerowicz (Warsaw School of Economics)
Session 4:	**Lessons from political economy for future central bank design**
Paper title:	The Governance of Financial Regulation: Reform Lessons from the Recent Crisis
Chair:	Christine Cumming (Federal Reserve Bank of New York)
Author:	Ross Levine (Brown University)
Discussants:	Gill Marcus (South African Reserve Bank) Howard Davies (London School of Economics)

Session 5:	**Central bank finances: Policy relevant? Politically relevant?**
Paper title:	Minimizing Monetary Policy
Chair:	Zdenek Tuma (Czech National Bank)
Presenting author:	Peter Stella (Consultant)
Discussants:	Marc Flandreau (Graduate Institute of international and Developmant Studies) José De Gregorio (Central Bank of Chile)
Session 6:	**Are central banks special?**
Paper title:	Central banks and competition authorities: institutional comparisons and new concerns
Chair:	Masaaki Shirakawa (Bank of Japan)
Presenting author:	John Vickers (All Souls College, Oxford)
Discussants:	Allan Bollard (Reserve Bank of New Zealand) Mario Monti (Universita Commerciale Luigi Bocconi)
Session 7:	**Panel discussion: "Do central bank governance arrangements need to be altered?"**
Chair:	Jaime Caruana (BIS)
Panellists:	Mark Carney (Bank of Canada) Andrew Crockett (JP Morgan Chase International) Stefan Ingves (Sveriges Riksbank) Lucas Papademos (Ex Vice President, European Central Bank) Duvvuri Subbarao (Reserve Bank of India)

The changing role of central banks

C A E Goodhart[1]

Abstract

Although Central Banks have pursued the same objectives throughout their existence, primarily price and financial stability, the interpretation of their role in doing so has varied. We identify three stable epochs, when such interpretations had stabilised, ie

a) The Victorian era, 1840s to 1914;

b) The decades of government control, 1930s to 1960s;

c) The triumph of the markets, 1980s to 2007.

Each epoch was followed by a confused inter-regnum, searching for a new consensual blueprint. The final such epoch concluded with a crisis, when it became apparent that macro-economic stability, the Great Moderation, plus (efficient) markets could not guarantee financial stability. So the search is now on for additional macro-prudential (counter-cyclical) instruments. The use of such instruments will need to be associated with controlled variations in systemic liquidity, and in the balance sheet of the Central Bank. Such control over its own balance sheet is the core, central function of any Central Bank, even more so than its role in setting short-term interest rates, which latter could be delegated. We end by surveying how relationships between Central Banks and governments may change over the next period.

JEL classification: E50, E52, E58, E59, N10

Keywords: Central Banks, Financial Stability, Financial Regulation, Bank Taxes.

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Contents

1. Historical introduction

Central banks have generally had three main objectives or functional roles:

(i) To maintain price stability, subject to the monetary regime in current operation, for example the gold standard, a pegged exchange rate or an inflation target.

(ii) To maintain financial stability, and to foster financial development more broadly.

(iii) To support the state's financing needs at times of crisis, but in normal times to constrain misuse of the state's financial powers. In the past this meant preventing debasement and misuse of the inflation tax. Prospectively it may in future also involve preventing misuse of the bank tax.

Naturally, the balance between these three objectives has shifted over time, with support for state financing becoming prominent during wartimes. Indeed, several of the first central banks to be established, notably the Bank of England and the Bank of France, were founded to help provide war finance. But, absent wars, it is the shifting balance between the central bank's monetary policy (stable prices) and its financial stability role that usually generates most interest. In this latter respect, we may perhaps identify three main stable epochs from the past, with shortish periods of confusion and searching for a new regime/system in interregnums between them. These three periods are: (i) the Victorian era, say from the 1840s until 1914; (ii) the decades of government control: the 1930s until the end of the 1960s; and (iii) the triumph of the markets: from the 1980s to 2007. The period from 1914 to 1931–33 was a confused interregnum including World War I, followed by a failed attempt to re-establish the gold standard (Eichengreen (1992)). Similarly, the 1970s was another confused interregnum between the subservience of monetary policies to government control, and the establishment of a free market system, with the central bank following a regime of inflation targeting.

Following the ongoing financial crisis, central banks are now probably on the verge of a further, fourth, epoch, though the achievement of a new consensus on their appropriate behaviour and operations may well be as messy and confused as in the two previous interregnums. But if we want to know where central banking may be heading, it is as well to have a good understanding of where we have been, since our historical record provides our only empirical evidence.

A. The Victorian era: in praise of the real bills doctrine

The main concern of the great monetary writers of the Victorian age, notably Henry Thornton and Walter Bagehot, was how to reconcile adherence to the gold standard with the maintenance of financial stability, especially at times of panic and stress (though the Bank of England was also much concerned about the opposite problem of how to make the Bank Rate effective in times of confidence and expansion). The answers that came forth mostly took the form of certain rules of thumb, notably the Palmer rule for varying the Bank Rate (named after Governor Horsley Palmer of the Bank of England, which may, with the eye of faith, be seen as a kind of prototype Taylor reaction function) and the Bagehot rule for acting as lender of last resort, which latter is all too often misinterpreted.

But the rule, or doctrine, that I want to focus on here is that concerning real bills. In this respect "real" does not mean "adjusted for expected inflation", as now, but instead "real" in the sense of being based on actual, real, output and/or trade. Whereas the correlate now of "real" interest rates is "nominal" interest rates, the correlate of "real bills" in Victorian times was "speculative" or "finance bills". Since "real bills" were based on real output and trade, monetising them via central bank discounts could not create inflation, so the argument went,

since output and money would rise hand in hand. Similarly, since they were based on trade/output, they would become quasi-automatically self-financing when the goods were eventually sold. In contrast, speculative, or finance, bills were drawn to support asset purchases, notably in stock markets, and hence generated unhealthy asset price bubbles and busts with accompanying (temporary) inflation and deflation.

During the Victorian era, governments tended to run (small) surpluses during peacetime years. Deficits were generally a function of war. So, the standard assumption was that government paper – bills and bonds – was not related to underlying output/trade. Thus, under this doctrine, the purchase of government debt was just as reprehensible as open market operations in finance, or speculative, bills. While it may seem crazy now, one reason why the Fed was so reluctant to undertake expansionary open market purchases of government debt in the depths of the Depression was that their model told them that this was quasi-automatically inflationary and wrong (Meltzer (2003)). One reason it is worth remembering this episode now is that it puts in context the (historically mistaken) claims that have been made by some economists that central banks should only now carry out open market operations in government debt.

Another reason for recalling the real bills doctrine is that it provided a unifying theoretical basis for both monetary policy (price stability) and financial stability. So long as discounts and lending were strongly directed to "real bills", both price stability *and* financial stability would be jointly and simultaneously assured. Ever since this Victorian era we have lacked such a unifying theory. So now we wonder whether the single interest rate instrument can, or should, be made to bear double duty, to "lean into the wind" of asset price and credit fluctuations as well as stabilising inflation, and its expectations; or whether a second set of macroprudential regulatory instruments can be developed to maintain separate control of financial stability.

Of course, the real bills doctrine was wrong. It was wrong for the same reason that the real business cycle model, which lies behind DSGE models, is wrong: it assumes implicitly that the private sector is inherently self-stabilising. So long as the government does not make everything worse by misguided intervention, the assumption was that output/trade would always return to equilibrium, so there would always be enough real bills to monetise to keep output at equilibrium and prices steady. When the Great Depression hit, this assumption collapsed. Deflation ensued.

B. The decades of government control, 1930s–1960s: the subservience of central banks

The Great Depression and the accompanying collapse of the gold standard represented a huge failure for central banks. Their objectives, their models and their mental framework all fell apart. Moreover, there was another model waiting in the wings, that of socialist control by government, a model which was given a massive extra boost by the need to direct economic resources to the conduct of World War II.

Certainly there was not much theory behind the government takeover of monetary policy; it was pragmatic. Initially, with continuing depression and deflation, governments pressed for low interest rates once the gold standard had been abandoned, and with that for devaluation, at least against gold. Thereafter, with an excess demand for resources during World War II, the standard procedure was to control demand by direct rationing rather than by the price mechanism. By the time rationing was ended, the selection of the official interest rate had become established in most countries as a governmental exercise, not only in wartime but at all times. This was, perhaps, least so in Germany (after World War II), Switzerland and the United States, where central bankers had, for a variety of reasons, some room for manoeuvre and ability to face down political pressures. But for most other countries, the politicians, not the central banks, directed monetary policy.

This is not to say that central banks in these more subservient countries had no influence on the conduct of monetary policies. They were treated by the relevant minister(s) as expert advisers, alongside the civil servants in the ministry of finance (treasury). But the minister usually paid much more attention to the economists in his own ministry; after all, they had his ear. In contrast, the central bank, certainly in the United Kingdom, emphasised its knowledge of market behaviour. These years, the 1950s and 1960s, were a period when in the United Kingdom and some other countries, the swollen wartime national debt was only slowly being worked off, and the foreign exchange markets were often fragile during the Bretton Woods pegged-but-adjustable exchange rate regime. Under these conditions, should the central bank warn that "markets would not like" some proposed policy change, then ministers would listen with attention. In the United Kingdom, both the central bank and the Treasury fiercely guarded those areas where they dominated. The Treasury refused to allow the Bank of England to publish its own economic forecast, and sought to censor the economic commentary in the Bank's *Quarterly Bulletin*. In turn, the Bank became exercised and hostile should the Treasury attempt to second (junior) staff to City financial institutions in order to gain market expertise.

With interest rates being held generally low to support investment and lessen the cost of servicing the national debt, there was a need for some additional policy to prevent undue credit expansion, which might threaten both the current account and inflation. This was provided by direct quantitative controls, of one kind or another, over bank lending, reinforced by exchange controls over international capital movements and controls over leasing terms, access to capital markets, etc. In the United Kingdom there was an attempt to get away from direct controls over bank lending in 1971 with the adoption of the policy of "Competition and Credit Control". But the Heath government was not willing to allow interest rates to rise sufficiently high; the policy failed, and a final version of direct lending controls, known as "the corset", was reintroduced in 1974 and lasted until 1981.

One of the lessons that had been learnt, rightly or wrongly, from the financial collapse in 1929–33 was that competition within the financial system was dangerous to the maintenance of stability. Such competition pared profit margins and hence the build-up of capital buffers. It encouraged banks to take on more risk in pursuit of higher profits. The more oligopolistic banking systems, for example in Canada and the United Kingdom, had fared better than the more competitive and less diversified system in the United States. Consequently, many of the "reforms" enacted in the 1930s were intentionally anticompetitive, limiting the interest rates that could be paid on deposits and limiting the scope of business that various groups of intermediaries could undertake. Thus housing mortgages would only be provided by some specified group of mortgage, housing finance, intermediaries, credit provision or personal sector purchases of consumer durables by another financial group, and so on.

In many countries during this era, not only was the amount of private sector credit expansion constrained, but so also were the rates at which they could do such business. Given these constraints, financial intermediaries naturally satisfied the demands of their biggest and safest customers first. There was no call for financial innovation; bank managers were trained to say "no", rather than "yes"; and they, and their counterparts in mortgage banking, followed the 3:6:3 rule, ie borrow at 3%, lend at 6% and be on the golf course at 3 pm. Lunches were long and liquid. The current nostalgia for the controlled conditions of the postwar period is misplaced.

But such a controlled system is, by and large, a safe system. Between the Great Depression and the 1970s there was a comparative dearth of bank failures.

Table 1

Crisis frequency

Year	Banking crises	Currency crises	Twin crises	All crises
1880–1913	2.30	1.23	1.38	4.90
1919–39	4.84	4.30	4.03	13.17
1945–71	0.00	6.85	0.19	7.04
1973–97 (21 countries)	2.03	5.18	2.48	9.68
1973–97 (56 countries)	2.29	7.48	2.38	12.15

Source: Eichengreen and Bordo (2003), Table 3.5.

This was *not* due to any exertion of effort by central banks to maintain systemic stability; instead, the controlled, constrained financial system was just a safe, but dull, place. Indeed, the general absence of financial stability problems meant that experience and interest in this field in central banks eroded. At the onset of one of the first episodes of instability, the fringe bank crisis in the United Kingdom in 1973–74, the Bank of England entrusted all supervisory duties to one fairly senior official, the Principal of the Discount Houses, and four or five more junior officials.

So, if during this era the central bank, at least in many countries, did not set the official interest rate, since the relevant minister did, and did not exert much effort in maintaining systemic stability, since the framework of controls saw to that, then just what did it do? It had three main roles:

(i) advice on policy;

(ii) the administration of the system of controls, and

(iii) the management of markets.

Although monetary policy, both domestic and international, was generally set by the relevant minister, he did listen to the advice of the central bank. Whereas on domestic monetary issues the economists at the treasury (ministry of finance) generally had greater influence than those at the bank (though not in Italy, where the Bank of Italy developed an estimable reputation), the expertise of the central bank on international monetary issues was unrivalled either in the treasury or in the foreign office.

Perhaps the greatest use of manpower in many central banks in this era was in the administration of the government's panoply of controls. In terms of sheer numbers, the Exchange Control Department was the biggest segment of the Bank of England in the 1960s. Acting as a go-between between the ministry setting the control, often with little understanding of the financial sector, and the regulated financial sector, complaining bitterly and sometimes validly about their imposition, was not a role that central banks relished.

It was in their third role, overseeing the management of markets, that the real kudos was to be found. The three most important positions in the Bank of England, below the Governor and his Deputy, were those concerning the management of the three key markets: the gilt-edged market, the money market and the foreign exchange market. Debt management, liquidity management and foreign exchange operations were central and crucial. Whereas in all these cases the overarching policy strategy was ultimately decided by the government, the parameters of what strategy might be possible lay in the hands of Bank officials, whose tactical skills and experience were renowned.

C. 1980–2007: the triumph of the markets

The cabined and constrained financial system of the early post-World War II system was, of course, inefficient. What brought it down was market pressure, as improved information technology encouraged greater international competition. Those less constrained by regulation sought to garner quasi-rents from the more constrained.

The first location where this took place was in the newly developed eurodollar market in the late 1960s. Central bank Governors, meeting at the Bank for International Settlements (BIS) in Basel, quickly identified this market as posing a serious challenge to their prior cosy domestic control systems, and set up their first standing subgroup, then called the Euro-Currency Standing Committee, to monitor its development. But the authorities could not prevent the advent of this market facilitating international capital flows, despite exchange controls. Such capital flows undermined the pegged, but adjustable, Bretton Woods exchange rate system, since it was usually obvious who the potential candidates for devaluation or appreciation were; the speculative profits (enjoyed by the "gnomes of Zurich", as Harold Wilson termed the speculators) from this one-way bet could be huge. The Bretton Woods system finally collapsed in 1972–73.

Before that collapse, all other countries had pegged on to the United States, so faster-growing countries, like Japan, had higher inflation than slower-growing countries, such as the United Kingdom, owing to the Balassa-Samuelson effect. In the United States itself, inflation was restrained by the instinctive, pragmatic monetarism of Fed Chairman McChesney Martin, under periodic attack from more expansionary (and Keynesian) pressure from presidents and Congress.

Once the Bretton Woods system had broken down, it allowed countries, previously restrained by balance of payments constraints, to "go for growth", and a worldwide boom ensued, punctuated by the 1973 oil price shock. A period of debate between monetarists and Keynesians was accompanied by a decade of confused policymaking in the 1970s and high and variable inflation. This was ended in 1979 by Volcker's adoption of the (non-borrowed) reserve base system, which quickly led many other countries to adopt a roughly similar policy of pragmatic monetarism and monetary targets. But the short-term instability of relationships between monetary growth, however measured, and nominal incomes and inflation soon led to the abandonment of such targets; "We did not abandon the monetary targets: they abandoned us," Governor Bouey of Canada quipped in 1982.

The story of the search, thereafter, for some other anchor for policy, and its (chance) discovery in 1988 in New Zealand in the guise of an inflation target is well known. What is perhaps less often realised is that the setting of the official interest rate in order to hit the inflation target does not need to be done by an (independent) central bank. It can just as easily (in an operational sense) be carried out by the ministry of finance. Indeed, in the United Kingdom, Chancellors of the Exchequer had the final say on the choice of interest rate from 1992–93, when, after ejection from the European Exchange Rate Mechanism, the United Kingdom adopted an inflation target, until 1997, when Gordon Brown gave the Bank of England operational independence.

What such operational independence for the central bank provides is credibility for the policy of inflation targeting. In contrast, a Minister of Finance has conflicts of interest. The best known such conflict is with the desire for a more expansionary policy (especially before an oncoming election). But almost as pressing, when the national debt is high relative to taxable capacity, is the minister's desire to keep the interest burden low. Central bank operations in public sector debt and in rate setting have an immediate and direct fiscal impact. As the burden of national debt will now rise once more, questions of coordination between fiscal policy, debt management and interest rate setting, which have been largely in abeyance in the last couple of decades, will come to the fore again.

Meanwhile, the development of the eurodollar market in particular, and of the global financial system in general, was changing the nature and structure of banking, and with it of the

regulatory approach to the industry. Previously banks had felt constrained by the available stock of (essentially retail) deposits held with them, whose total was largely outside a banker's control. Their margin of freedom to expand (or reduce) loans to the private sector, given the quantum of such deposits, lay in their ability to offload (or buy) marketable public sector securities (liquid assets). Fortunately for the banks, they had been stuffed full of government debt during World War II and so entered the postwar period in a highly liquid form. So, their ability to expand loans, when direct controls were not biting, seemed to lie in their holdings of such liquid assets. In response, theories about the money supply (Sayers (1967)) and regulation then (1950s and 1960s) focused much more on liquidity, and a variety of required liquidity ratios.

All that got blown away by the development of the eurodollar and other wholesale markets. Now a banker was no longer constrained by a combination of exogenous retail deposits and available liquid assets. If the banker wanted more funding, he could just borrow it in wholesale markets. Funding liquidity had replaced asset liquidity.

What, then, determined the size of banks' books? Not cash, since the central bank had to provide enough cash to keep market rates in line with the official rate; not liquid assets, for the above reason. The answer, of course, was capital. But here there was a problem for the regulators. First, while more capital would make a bank safer, it would, given the unpriced insurance given to bank depositors/bond holders and the tax wedge, lower the return on equity (ROE). In banking, the Modigliani-Miller theorem did not hold. So, limited liability equity holders would encourage bankers to adopt riskier strategies (Bebchuk and Spamann (2010)) – an encouragement that bankers hardly needed to don their vestments as "Lords of the Universe".

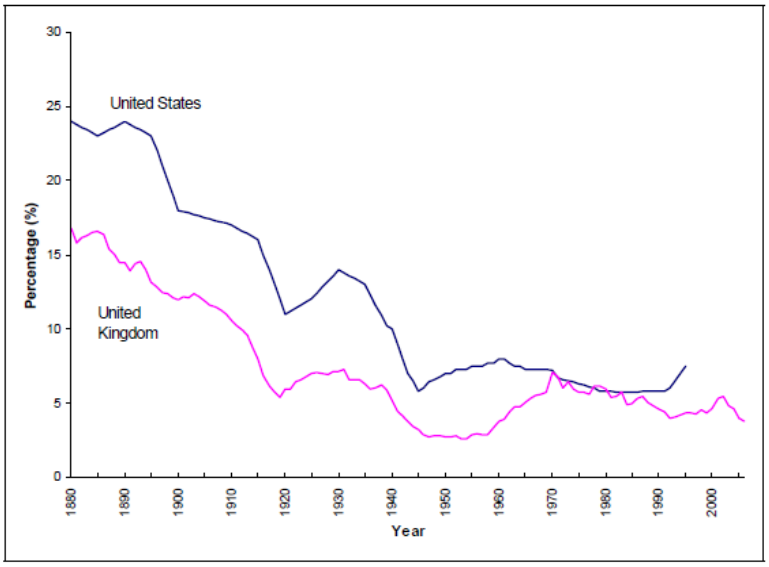
The second concern was that the collapse of a bank, because of a combination of size and interconnectedness, would cause contagious externalities. The financial system was subject to various self-amplifying mechanisms in both the upwards (bubble) and downwards (bust) phases of the credit cycle.

For both these reasons, banks could not be expected, of their own independent volition, to hold sufficient capital, in order to obtain the best social trade-off between risk and return. Indeed, by the mid-1980s capital ratios amongst banks had been declining quite steadily and sharply for some time.

The catalyst to enforce regulatory change was the Mexican/Argentine/Brazilian (MAB) crisis of 1982. During the 1970s, western, mostly US, commercial banks had intermediated successfully between oil exporting emerging economies, such as Saudi Arabia and Kuwait, and oil-importing emerging economies such as Argentina and Brazil. With other commodity prices quite high and real interest rates low, and often negative, the borrowers had no problems servicing their debts. Paul Volcker's regime switch utterly altered the context. Real interest rates rose steeply and commodity prices tumbled. Neither the borrowers nor the bankers saw the danger quickly enough, lulled by Citibank's CEO, who erroneously believed that "sovereign countries do not default". In 1982, MAB threatened to do just that. Even without default, the secondary market valuation of such loans fell so far that, on a mark to market basis, most US city centre banks were insolvent.

Graph 1

Capital ratios for UK and US banks



Source: P Alessandri and A Haldane, presentation at the Federal Reserve Bank of Chicago/World Bank event "International financial crisis: have the rules of finance changed?", 24 September 2009, Chart 2.

Congress was outraged (*every* financial collapse – 1907, 1929, 1982, 2007–08 – provokes Congressional rage; Wall Street is not beloved on Capitol Hill) that the banks had put the financial system in such a fragile state, and wanted to insist that all the US banks establish a stronger capital base. But the banks complained that they would then lose business to foreign, especially Japanese, banks which would not be subject to such reinforced requirements. So Volcker was mandated by Congress to go to Basel to put pressure on the Basel Committee on Banking Supervision (BCBS) to agree on an international standard for bank capital. Difficult negotiations resulted in the Basel Accord of 1988, now often termed Basel I. The choice of the mandated capital requirements – a minimum of 4% of risk-weighted assets for Tier 1 capital, and of 8% for Tier 1 plus Tier 2 capital – was not based on much empirical analysis, eg stress tests, nor on any theoretical consideration of what might be necessary (for what? or why?), but rather on the pragmatic basis that this was the highest numerical requirement that could be reasonably expected to be reached, after a transitional period, by the main commercial banks from their current starting point without causing them or their economies undue stress.

The initial risk "buckets" in Basel I were crudely defined, which gave banks an incentive to securitise those loans/assets whose regulatory requirement was excessive, and to hold those assets where the regulatory requirement was comparatively too soft. It was this latter failing that brought about the further negotiations leading up to Basel II, whereby the risk weightings were to be based on (the banks' own) risk assessments (the internal ratings-based (IRB) approaches). While altering the risk weightings, Basel II made no significant changes to the definition, or required quantum, of capital.

The implicit belief was that this arbitrarily chosen level of capital should suffice to act as a guarantor of continued bank solvency. With bank solvency thereby assured, banks should face no difficulty in meeting any (temporary) liquidity requirements by borrowing in efficient, broad wholesale markets. These comfortable assumptions fell apart in August 2007.

Meanwhile, the trend in credit expansion to the private sector had for several decades comfortably outstripped the trend growth in bank deposits, (Schularick and Taylor (2009)), though quite why this was so remains unclear. Commercial banks had responded by:

(i) selling off their liquid public sector debt;

(ii) borrowing more and more, often on a short-dated basis, from wholesale markets; and

(iii) securitising their loan books (originate to distribute).

All this reinforced their exposure to, and fragility in the face of, a malfunction in such wholesale markets.

Moreover, during the years of confidence and asset price boom, banks were taking on additional leverage, in each case subject to their own particular set of regulatory requirements. Both US investment houses (broker-dealers) and European banks were subject to Basel II, but not to a simple leverage ratio. So they increased leverage sharply by filling their portfolios with highly rated (AAA) mortgage-backed securities (MBS), which carried a minuscule risk weighting. In contrast, US commercial banks were subject to a simple leverage ratio, but not at that time to Basel II. They exploited their position by taking on the riskier tranches of MBS.

But few – whether bankers, regulators or economists – perceived this overall fragility, though many realised that risk was being underpriced. A reason for this blindness was the procyclicality of Basel II (since risk seemed low, risk-weighted capital appeared to rise!), and of mark to market accounting (when asset prices rise, the resulting capital gains in trading books go straight into profits and enhanced capital). Never had the profitability and capital strength (over the last couple of decades) of the banking sector seemed higher; never had market appreciation of bank risk, as measured by banks' CDS market prices, seemed more sanguine than in the early summer 2007. With the benefit of hindsight, a populist frenzy now blames the excesses of bankers for putting the system at risk, and the weakness (light-touch) of regulators/supervisors for allowing this to happen. But at the time, neither bankers nor regulators, nor virtually all commentators, had any appreciation of the (systemic) risks that were being run.

Whether or not the inevitable "blame game" is worthwhile or justified, the experience of financial crisis, panic in September 2008 to March 2009, and nearly widespread financial collapse, has been so unnerving and shaking that there are likely to be far-reaching changes to the operation and regulation/supervision of the financial system in general, and to the role and functions of the central bank in particular. It is to this latter subject that we now turn.

2. The future role of the central bank?

In the years prior to August 2007, central banks had appeared to have almost perfected the conduct of monetary policy. The standard regime was one in which the central bank was delegated operational independence to vary the official short-term interest rate in order to achieve an inflation target, which in turn was mandated either in general or in specific numerical terms by the democratically elected government. We now recognise that the achievement of price stability by this procedure does not guarantee financial stability. That raises, first, the question whether this standard procedure, whereby the central bank dedicates setting the official interest rate to the achievement of its inflation target, should be radically altered. My answer to that, which I have developed in other papers – and which will not be rehearsed again here – is no.

The implication of this answer is that a separate additional set of (macroprudential, regulatory) instruments will need to be developed for the specific purpose of maintaining financial stability.

The second question related to the role of central banking, then, is what their role in this latter exercise will be. Should the central bank also be in charge of systemic financial stability; or, if not, what should be its relationship with the systemic regulator? This is a good entry point for examining the changing role of central banks, since the answers, in my view, depend on and reflect the essence of central banking as an institution.

A. The essence of central banking

Whereas the systemic stabiliser may or may not be allocated a new and shiny set of macroprudential instruments to operate, such as (possibly time- and state-varying) capital, liquidity and leverage ratios, the traditional focus of stabilisation has been the central bank's capacity to lend, and thus to create liquidity, either to an individual bank, as the lender of last resort, or to the market as a whole, via open market operations (OMOs). It would cause massive complications if liquidity management remained the sole province of the central bank while a separate financial stability authority was to be established without any command over liquidity management. I infer from that that the financial stability authority has to be given command over liquidity management; but that also implies that the financial stability authority would have command over the central bank balance sheet. Indeed, the financial stability authority would then, de facto, become the true central bank.

Lord Cobbold, former Governor of the Bank of England, is reputed once to have said, "A central bank is a bank, not a study group". I take this to mean that the essence of central banking lies in its power to create liquidity, by manipulating its own balance sheet. The question is often asked whether a central bank that sets interest rates should also manage financial stability. This question is put the wrong way around; it should be whether a central bank that manages both liquidity and financial stability should also be given the task of setting interest rates.

Unlike the essential role of liquidity management, setting official interest rates is *not* essential for a central bank. As we already saw in the opening historical section, in many countries and for many decades, it was done by a politician, *not* the central bank. It could easily be done by a "study group", as many monetary policy committees really are, and they could be formally separated from the central bank without much loss. Or indeed interest rate setting could be done by a coven of Druids casting runes over the entrails of a chicken. What is important is not so much who does it as how it is done; the need is for a reaction function that restores equilibrium smoothly and surely after some adverse demand or supply shock. We shall, however, leave until later our initial question of whether the liquidity managing central bank, charged with financial stability oversight, should also set the official interest rate.

One of the main concerns of the Bank of England in the 19th century was how to make its Bank Rate effective in the market. Under normal circumstances, the main task of the monetary management desk in central banks is to undertake OMOs so as to drive market rates into line with the separately set official rate. At such ordinary times, this is a somewhat humdrum exercise, hardly noticed by most people but of considerable technical interest to the cognoscenti. But, under conditions of financial disturbance and crisis, liquidity management takes on a life of its own, potentially independent of official interest rates. This is patently obvious once nominal interest rates hit the zero lower bound, so that subsequent unconventional measures, whether quantitative easing, credit easing or the ECB's suite of market measures, all involve OMOs and manipulation of the central bank's balance sheet.

But even when interest rates are above the zero bound, there is a range of freedom to operate liquidity management independently. This margin of freedom may now, perhaps, be greatly augmented by the generalised adoption of the "corridor" system for managing

short-term interest rates. In principle at least, the corridor system could be so managed that liquidity policy and interest rate policy could be varied in a largely independent fashion. Thus, for example, official interest rates could be raised to counter speculative attacks on the exchange rate, while at the same time the liquidity of the domestic financial system could be maintained, or even enhanced, leaving market rates at the lower edge of the corridor. For the time being, central banks are still experimenting with the extra degree of freedom that the corridor system has given them. During the financial crisis many of the innovations in liquidity management were a somewhat ad hoc response to each new twist of the crisis. Looking forward, there is still much to learn and discover in this field.

One of the more contentious topics in liquidity management is what should be the set of assets in which the central bank should operate and hold on its balance sheet. Again, as we noted in the historical section, fashions change. Under the real bills doctrine, the commercial paper of the private sector was the preferred asset for OMOs. Since World War II, the preferred asset has, in most countries, become government short-term paper, bills or short-dated bonds. But some more fortunate countries have not had to develop a broad market in their own government paper, and they carry out liquidity management through other assets, in some cases foreign exchange, as in Switzerland or Hong Kong SAR.

Whatever asset is used for OMOs, it is likely to have fiscal consequences. For example, the United Kingdom's quantitative easing has had massive fiscal consequences. Indeed, it is precisely because the fiscal consequences of setting interest rates and undertaking OMOs in public sector debt are so great that their exercise has been delegated to the central bank, to avoid politicians being subject to massive conflicts of interest.

The concern about the choice of market for central bank operations should not be so much on its fiscal implications, but rather on the extent to which such intervention might distort relative prices and have a distributional effect, benefiting one set of borrowers rather than another. But this raises a question and a problem. When some financial markets malfunction, so borrowers in that market suffer relative to the rest of the economy, would central bank intervention directly in that market just restore the status quo ante, and thereby stabilise an adverse distribution, or is that intervention having a distributional effect which central banks ought to eschew? For fervent adherents to the efficient markets theory, there is no contest. For everyone else, the issue is much more nuanced. Fed credit easing, for example in the commercial paper and MBS markets, is a case in point. In practice, such questions will probably usually be answered pragmatically, "needs must", and such a pragmatic response is, to my mind, preferable to one based on theoretical ideology.

B. Interactions with government

One of the attractions, to many economists and others, of the standard inflation targeting regime was that the choice of interest rates could be made independent of government, but to achieve an objective democratically mandated. That same separation and independence is not really feasible in the central bank's pursuit of its financial stability objective. We have already discussed how a central bank's liquidity management, and especially its unconventional measures, will have both fiscal and distributional consequences. Here we shall consider five further ways in which the central bank and the government may need to interact.

(i) The bank tax[2]

The imposition of a tax on banks is an idea whose time has come, especially since US President Obama called for such a tax in January 2010. Governments' fiscal positions are so stretched, banks and bankers are so unpopular, and the tax can be justified as a quid pro quo for potential future or past taxpayer support of the banking/financial system. Although the parameters, tax base and most other details have yet to be determined, a bank tax is likely to be adopted, either unilaterally in many countries or internationally.

The analogy, which Perotti (2010) makes, is with the inflation tax and seigniorage. There is a temptation for politicians to make excessive use (from an overall social welfare standpoint) of the inflation tax. So a solution is to mandate the central bank to hold inflation at a desired, low and stable, level, but to pass the proceeds of seigniorage to the government.

By the same token, governments could be tempted to impose a tax on the banking system that would not optimise social welfare, either by failing to operate in an ex ante preventive fashion, or by being so draconian as to impede the essential intermediation and allocative functions of that system. Perotti's idea is to combine a low basic tax rate with prudential, time-varying surcharges: "Variable surcharges should be chosen by a macro prudential council where central banks play a significant role." The revenue from both the basic rate and the surcharges would flow to the government.

Whatever may be thought of this particular idea, a bank tax will have financial stability implications. It would surely be wrong to introduce such a tax without a full exploration of the relationship between the tax and the financial stability objective.

(ii) Sanctions

The Basel Committee on Banking Supervision has no formal legal status, being only an advisory standing committee to the G10 central bank Governors meeting at the BIS in Basel. It could only put recommendations and suggestions to the Governors. Understandably, but regrettably, they interpreted this as meaning that it was for each nation state, not for the BCBS, to decide how the proposed standards, especially the capital ratios, should be enforced. So the BCBS never discussed how sanctions might be imposed for shortfalls below the proposed ratio(s).

In effect, with no discussion of a ladder of increasingly tough sanctions, the Basel requirements became treated by everyone as minima, to be observed at all times. But, as already noted, such requirements were intentionally designed to raise capital levels above those that banks would want to keep of their own accord. So the available margin of safety, the buffer of excess capital beyond that required, was generally kept quite low by the banks. This led to a poor outcome, in that banks held a stock of required capital that could not be trenched upon without signalling a crisis occasion, while the usable buffer was just too small. An example of an appropriate ladder of sanctions is given by the FDIC Improvement Act of 1991. The BCBS and the Financial Stability Board (and the ECB and the European Systemic Risk Board) must overcome their hesitancy about advising on patterns of sanctions. For example, if banks had been prevented by regulatory sanctions from paying out dividends in the crisis, the system would have been much more robust.

But sanctions, like taxes, such as the prospective bank tax, depend on (national) democratic legislation and the rule of law. Thus, the systemic supervisor in each country will have to engage with their own government to get the appropriate pattern of sanctions (and taxes)

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[2] I owe the inspiration for this section entirely to Perotti, whose basic idea I have shamelessly pinched.

applied. Regulators have consistently tried to avoid such engagement. That should not continue.

(iii) Debt management

For over three centuries (1694–1997), a prime function of the Bank of England was to manage the national debt. But as that debt declined, both as a percentage of GDP and in relation to the size of the financial market, debt operations became simpler and standardised, falling into a routine pattern. Much the same happened in other countries. Under these circumstances, the transfer by Chancellor Gordon Brown in 1997 of such management to a separate and specialised Debt Management Office was hardly noticed or remarked, except by a few historians.

But now, many countries face the prospect of sharply rising debt levels, to a point that may, once more, test the confidence of market participants. Debt management is again becoming a critical element in the overall conduct of policy, as events in Greece have evidenced. Debt management can no longer be viewed as a routine function which can be delegated to a separate, independent body. Instead, such management lies at the crossroads between monetary policies (both inflation targets and systemic stability) and fiscal policy.

When markets get difficult – and government bond markets are likely to do so – the need is to combine an overall fiscal strategy with high-calibre market tactics. The latter is what central banks have as their métier. During the coming epoch of central banking, they should be encouraged to revert to their role of managing the national debt.

(iv) Bank resolution

A central bank can only provide liquidity; it cannot provide capital. If liquidation of a failing bank cannot be allowed and the market will not provide more capital, then the only remaining recourse is to taxpayer funding. That implies that politicians must have, on behalf of the taxpayer, a leading role and concern in resolution policies and mechanisms, and indeed in the preventive policies that the central bank, as systemic supervisor, may be putting in place. So long as taxpayer funding, or (partial) nationalisation, of failing banks remains a possibility, the relevant minister must be involved at all times, and in charge of the resolution exercise itself.

Of course, the necessary involvement of the political authorities could be much reduced if ”too big to fail” (TBTF) or “too interconnected to fail” never held. And there have been numerous proposals to try to prevent the need for future taxpayer funding and TBTF. For example, Senator Dodd’s bill, as of April 2010, will put more weight on:

(i) the prior completion of living wills or “funeral plans”;

(ii) the accumulation of a bank-financed “orderly liquidation fund”; and

(iii) the imposition of haircuts on unsecured and secured creditors in order of seniority.

While there are good arguments in favour of such proposals, I doubt whether such an “orderly liquidation process” will suffice to end TBTF. The losses that may need to be absorbed, partly as a result of fire sales into unwilling markets, are likely to deter investors from putting additional capital into other banks. So the dynamic market process, as began to emerge after the Lehman bankruptcy (and before the capital injections by governments), could bring a large proportion of the financial system towards default simultaneously. Could any government seriously envisage liquidating half (or more) of its banking system simultaneously? And if they did press on with such massive liquidation, would they be sensible to do so?

Even in the case of *one* large bank, and even assuming that depositors could be provided quickly with transaction balances elsewhere, the withdrawal of access to funds by borrowers

with unused credit facilities could have a devastating effect on them, especially if the liquidator sought early repayment of outstanding loans. This is not the place to go into more radical ideas, such as Larry Kotlikoff's mutual banking (similar to Islamic banking, with similar drawbacks), or making all banks "narrow" or tiny, or both. They will not happen, and for good reason.

The upshot is that government insurance of the systemically important parts of our financial systems will remain in place for the foreseeable future. As the ultimate provider of such insurance, governments will want, and need, to maintain a close involvement with the conduct of systemic stability.

(v) Interest rate setting

I have argued that liquidity management is integral to the management of systemic stability and the essential core of the operation, and raison d'être, of a central bank. Thus the institution running systemic stability will be, in practice, the central bank. But this institution does *not* necessarily also need to set the official interest rate. Should that be hived off to a separate body?

Throughout this subsection, I have emphasised that the central bank in its systemic stabilisation role will have to work closely with government. Indeed, despite the patent, but in the end hopeless, desire to get away from TBTF, I see the linkages between central bank and government becoming stronger, as the bank tax, the need for a ladder of sanctions and the much enhanced role of debt management all conspire to drive government and central bank back into each other's arms.

One of the arguments *for* separating interest rate setting from central banking (and systemic stability) is that the former depends for its credibility on independence, whereas the latter is conjoint with government. I have never been much swayed by this. An institution can wear two hats simultaneously. A similar argument is that the combination of responsibilities would lead to conflicts of interest. Again, I would tend to argue that the main failures of central banks, as interest rate setters, have lain in taking too little account of financial conditions and monetary developments, not too much.

Possibly a more persuasive argument is that the combination of operational independence to set interest rates *and* liquidity management together with prospective macroprudential regulation just vests too much power in a non-elected body. There is some force in this.

Arguments *against* separation mainly rely on the necessarily intimate connection between the two facets of monetary policy. For example, once the zero lower bound to interest rates is reached, then monetary policy, in the guise of inflation targeting, and systemic stability issues become indistinguishable. If you had an MPC separate from the central bank, who would decide on credit easing, or QE-type measures? And when the official interest rate rose above the zero bound, who would decide on the width of the corridor, or the terms and conditions of access to the discount window? One *could* envisage a completely separate body, whose sole function would be to determine the official interest rate, but I rather doubt whether this would be the most sensible approach.

C. Interactions with other regulators/supervisors at home and abroad

The regulator in charge of systemic stabilisation – which we assume, for the reasons given, to be the central bank – should also be a direct supervisor of the main systemic financial intermediaries. It should also have unquestioned supervisory access to such other banks and intermediaries which it considers may cause, or be involved in, systemic problems. But it need not, and probably should not, be the sole supervisor of even the most important and largest banks. Except in relatively small countries, or countries with few skilled professionals, there is little to be gained by concentrating all supervision within a single institution. Indeed,

when the focus of supervision differs between supervisory institutions – between the economic, market-based focus of the systemic supervisor and the more accountancy-oriented, legal stance of the microprudential supervisor – there may instead be actual benefits from having large and systemic intermediaries seen from two differing viewpoints.

Particularly if the central bank combines interest rate setting with its essential roles of liquidity management and systemic stabilisation, there is some question whether its role and functions are reaching the acceptable limit for a non-elected body within a democratic society. Under these conditions, it would, in my view, be unwise and inappropriate to also give the central bank the task of microprudential supervision, even for the domestic banking system, let alone the much wider set of financial intermediaries, including various forms of investment funds and insurance companies. If the interest rate setting function were to be hived off to a separate body, then there would be more of a case for combining both macro- and microprudential functions within the central bank.

But even then the central bank should seek to steer well clear of consumer protection issues, and should want to be consulted, but not take the lead, on questions about product design, innovation and safety. Similarly the actual administration of the resolution of a financial intermediary, when subject to a special resolution regime, is best left to the microprudential supervisor, if separate, or otherwise to a specialist body.

So, in a large, developed country there are likely to be, and should be, a number of regulatory/supervisory bodies with focused specialised purposes. There probably does need to be an oversight, coordinating committee. My own proposal is that, in normal times and whenever discussing measures for *preventing* crises, that committee should be chaired by the Governor of the central bank, but that in crisis periods and whenever discussing measures for *resolving* existing crises, that it would be chaired by the relevant minister. The distinction between the two cases should not be hard to make.

When we turn to the international (including here the euro zone) context, the problem of coordination becomes much more difficult. The basic problem is that the financial system is cross-border, if not global, whereas both the legal structure and fiscal competences remain national. There are two logical possibilities. The first is to make the financial system conform to national boundaries, but this would be anathema both to most of the cross-border financial intermediaries and, more important, to all those upholding the single European market. The second is to harmonise a limited, but appropriate, set of laws relating to the resolution of cross-border intermediate (Avgouleas et al (2010)) *and* to provide some form of agreement over fiscal burden-sharing. What needs to be done to achieve the latter is now reasonably well discerned (Fonteyne et al (2010)). The problem remains to get political agreement to take this programme forward. Absent such agreement, the treatment of cross-border financial crises will remain a dangerous dark hole.

D. Structural development in the financial sector

Direct government intervention in the financial sector in our second epoch, the 1930s to the 1960s, was consciously so far-reaching that, to a large extent, the structure of intermediation was largely determined by regulation and controls. Then in our third epoch, 1980–2007, the ethos changed. The government should set the overall framework, especially the rule of law and the monetary regime, but beyond that, structural changes were to be determined by private sector market processes and innovations. Whatever met the test of the market was, prima facie at least, considered to be good.

Now we are moving back, perhaps somewhat unconsciously in reaction to the crisis, towards the second, more interventionist, mode. Perhaps in this coming epoch, intervention will be less draconian, less based on direct quantitative control, and more on the pricing mechanism, perhaps via bank taxes and graduated macroprudential regulation. But such intervention will still shape the future structural development of the financial system.

What worries me is that the debate on systemic regulation is almost entirely reactive and backwards-looking; that is, the focus is on how such regulation might, if in place, have prevented or mitigated the crisis of 2007–10. While this is inevitable, what is also needed is forward thinking about what should be the desirable future structure of our financial systems, and how the various regulatory initiatives proposed might help to get us there.

Central banks used to be concerned with such structural issues. They saw themselves as having a deliberate role to play in shaping the developing structure of the financial system. More recently, they have eschewed such a role. As we return to an epoch of greater government (and central bank) intervention in markets, central banks had better brush up their understanding of, and participation in, such structural issues.

3. Conclusions

The first (Victorian) and third (1980–2007) epochs of central banking were characterised by highly successful monetary regimes (the gold standard and inflation targeting), reliance on market mechanisms and independent central banks. After an interregnum post-World War I, the first epoch came to a crashing halt in the 1929–33 Depression, and deflation then led to a period of government domination, direct controls and subservient central banks. Now there is a good chance – but not a certainty – that we are entering a fourth epoch, in the aftermath of the financial crisis of 2007–10.

This is likely to involve some return towards the second epoch, with more intrusive regulation, greater government involvement and less reliance on market mechanisms. I would hope that we only go part way back. Instead of central bank subservience, perhaps we could have a more even-handed partnership. But the range and scale of interaction with government, on the bank tax, on regulation and sanctions, on debt management and on bank resolution, is likely to increase. The idea of the central bank as an independent *institution* will be put aside.

I do not see that this greater extent of interaction between central bank and government on those other fronts need prevent the continuation of the present desirable procedure whereby the central bank *also* has operational independence to set the official short-term rate. But some will see an inconsistency. If so, their answer should be to hive off the interest rate setting function to a separate (study) group (of economists?). But do not confuse the study group with the central bank. Cobbold's dictum was valid.

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Comments on Charles Goodhart's paper "The changing role of central banks"

Stanley Fischer[3]

As expected, Charles Goodhart has written an interesting and challenging paper, which starts with the historical background of central banking, and then discusses a key set of issues that face all central banks at present and that will continue to face us in the months and years ahead.

As I read the paper, I recalled a line of Paul Samuelson's about what one expects from a paper: "It's not whether it's right or wrong that matters, it's whether it gives you a good run for your money" – meaning that a good paper is one that makes you think hard about things you believe or think you know. This paper succeeds splendidly in that regard.

I. Historical section

The historical background on central banking is well worth reading. It includes a few teasers, such as the mystery line "… the Bagehot rule for acting as Lender of Last Resort, which is … all too often misinterpreted." (p 3) In discussion with Charles after the session at the conference, I learned that the misinterpretation concerns lending at a penalty rate.

Many interpret Bagehot as requiring the lender of last resort to lend at a penalty rate relative to the market rate during the crisis. Goodhart's interpretation is that Bagehot's recommendation was that the lender of last resort should lend at a penalty rate relative to the normal market rate, ie relative to the market rate that the central bank expects will obtain after the crisis has been dealt with. Whether or not this is exactly what Bagehot meant, the advice is clearly logical.

This section also includes a persuasive answer to the question we must all have asked ourselves at some time: "How come there were so few financial crises or bank failures in the period after World War II, up to the early 1970s?" The relevant sentence is:

> "This was ***not*** due to any exertion of effort by central banks to maintain systemic stability; instead the controlled, constrained financial system was just a safe, but dull, place." (p 8)

No doubt there were times during the last few years when many central bankers would have preferred to be in a safe but dull place.

[3] Governor, Bank of Israel. This is an edited version of remarks delivered at the Annual BIS Research Conference, Luzern, 24 June 2010.

II. The future role of the central bank

This second section of the paper is the heart of the paper from the viewpoint of this conference. It is based on Goodhart's general view, "But, absent wars, it is the shifting balance between the central bank's monetary policy (stable prices) and its financial stability role that usually generates most interest."

I will take up six issues that Charles deals with in this section of the paper.

1. *Who sets the interest rate?* Throughout the paper Charles de-emphasizes the centrality of the central bank's function of setting the interest rate. He seems to argue that it is of little consequence whether the central bank or the treasury sets the interest rate; ie he regards the post-World War II UK arrangement up to 1992, in which the Treasury set the interest rate, as being consistent with the normal functioning of a central bank.

Goodhart notes that it is sometimes asked whether an institution that sets the interest rate and manages liquidity should also be given the task of managing financial stability. Rather, he says, the question should be whether an institution that manages liquidity and financial stability should also be given the authority to set the interest rate.

This question is followed by a lengthy discussion of whether there could or should be a separate organisation to set the interest rate. Since the interest rate decision has to be followed by market actions to make the decision operational, I find the distinction between the organisation that sets the interest rate and the organisation that manages liquidity puzzling, unless the following is an example.

In most central banks the monetary policy committee makes the interest rate decision. It does not have to decide what actions need to be taken to make the interest rate effective. That is left to its markets department, or the open market desk, or whomever it is that carries out market operations. One *could* say that the institution that makes the interest rate decision is the monetary policy committee and that the institution that manages liquidity is the open market desk – but that does not seem to be a useful way of thinking of the issue.

Possibly the issue that Charles is pursuing is whether the lender of last resort – the institution that controls the balance sheet of the organisation that can create liabilities that are accepted as money – should also set the interest rate. One can point to the UK arrangement post-World War II as an example of a separation of these two functions, but it is not a particularly happy one – and we should not be indifferent between having the interest rate set by an independent central bank or having it set by a treasury, which by definition is political.

In any case, one suspects by the end of this section that we have been sent on an intellectual wild goose chase, for Charles concludes: "One ***could*** imagine a completely separate body whose sole function would be to determine the official interest rate, but I rather doubt whether this would be the most sensible approach."

I take this as meaning that the paper comes out in favour of the financial stability function being placed in the central bank, which should also set the interest rate and manage liquidity. I agree.

2. *Managing the corridor system:* Charles suggests the interest rate corridor can be managed so that liquidity policy and interest rate policy could be varied in a largely independent fashion. That could indeed be the case, but then one has to ask what purpose the central bank interest rate is serving. A related but somewhat weaker point – that the central bank can gain a little extra flexibility in monetary policy by varying the width of the corridor, and/or by making it asymmetric – is evident from the actions taken by several central banks during the global financial crisis.

3. *The fiscal consequences of central bank actions:* Almost every action the central bank undertakes has fiscal consequences, for example, when the central bank

raises the interest rate, the government's interest bill rises. The central bank's profits are also affected by its monetary policy decisions, and since the profits are typically eventually transferred to the government, this too has fiscal consequences. These are inconvenient facts that make central bank independence all the more necessary.

There is one puzzling statement in this section of the paper: "A central bank can only provide liquidity; it cannot provide capital." This appears to be wrong. A central bank can provide capital to a bank by making it a low-interest loan, or by taking an ownership share. Whether these actions are wise, or permitted by law, is a separate issue.

4. *Taxing banks:* The paper argues that the central bank needs to be involved in this issue. It is not clear why, though presumably the bank regulator, who should have some responsibility for the stability of the banking system, should typically be consulted when governments decide to impose special taxes on banks.

5. *Debt management:* The paper suggests that the central bank should manage the national debt. The Bank of England used to do that, but it is not at all clear that the suggestion is a good one. The national debt is issued by the treasury, and can – and probably should – be managed either by the treasury, in consultation with the central bank, or by a separate debt office that should also manage the debt in consultation with the central bank.

6. *Concentration of power:* Charles asks "if the central bank is both central bank and financial stability authority, whether it isn't reaching the acceptable limit for a non-elected body within a democratic society".

This point needs to be taken seriously. It can be dealt with, as is planned in the UK under the new arrangements due to be implemented over the coming two years, by having separate decision-making bodies for monetary policy and for financial stability respectively. There can be greater government representation on the financial stability committee than in the monetary policy committee. In addition, this issue can be dealt with by moving conduct of business supervision out of the central bank and placing it in another institution, under separate control – this is the twin peaks model.

III. Final comment

Charles concludes that "The idea of the central bank as an independent institution will be set aside." This is a fittingly provocative remark with which to end a provocative paper, but it is not clear what it means.

One interpretation is that even an independent central bank needs to get used to the idea of working cooperatively with the government in those areas that are of mutual concern, while jealously guarding its independent right to make key decisions according to the authority granted it under the law. If not, the benefits of having a central bank that can take a longer term and apolitical view of what is good for the economy and take actions in support of that view will be lost – and that would be a costly mistake.

Comments on Charles Goodhart's paper "The changing role of central banks": what should central banks do?

Randall S Kroszner [4]

We have come to expect insightful, witty and provocative analysis of fundamental issues from Charles Goodhart, and this paper does not disappoint. The paper begins with an overview of how the roles of central banks have evolved as markets and institutions have changed from the mid-19th century to the present. This deep historical understanding provides the foundation for analysing what tasks are appropriate for central banks today in the light of the recent financial crisis.

Charles foresees an era that will more closely resemble the roughly half-century of "more intrusive regulation, greater government involvement, and less reliance on market mechanisms" that followed the Great Depression than the quarter-century of the "triumph of markets" that preceded the financial crisis. He sees much more interaction between the central bank and various parts of government – eg finance ministries, competition authorities, resolution authorities – but holds out hope that the operational independence of the central bank over monetary policy can remain. Intriguingly, he argues that if this independence cannot be maintained, then policymakers should consider farming out interest rate setting to a group of independent experts who might well be "a coven of Druids casting runes over the entrails of a chicken". Provocative indeed!

For Charles, the "essence of Central Banking lies in its power to create liquidity by manipulating its own balance sheet". While I very much agree that the lender of last resort and liquidity creation functions are at the heart of what central banks can and should do, I see a much closer connection to interest rate setting. A key channel through which central banks affect short-term interest rates is open market operations, that is, actions that affect their balance sheets. Charles discusses how liquidity provision could be undertaken independently of interest rate setting, and in many contexts it might be possible to do this. If we consider the extraordinary liquidity provision that central banks have undertaken in response to the crisis, however, it is difficult to see how central banks could have flooded markets with liquidity without significant downward pressure on the levels of short-term interest rates. It seems crucial to have at least some coordination between interest rate setting and liquidity provision in these circumstances since the supply of liquidity would probably overrule the pronouncements of the Druids.

The recent crisis and Charles's historical examples indeed underscore the unique power of using the balance sheet in response to crises. The success of implicit or explicit inflation targeting in the quarter-century prior to the recent crisis led many to forget or underappreciate the role of balance sheet manipulation in central banking. The ability to use the balance sheet to provide liquidity thus gives the central bank a fundamentally important role in financial stability (see eg Kroszner and Melick (2010)).

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Defining precisely the central bank's responsibility for financial stability is, however, less straightforward than it might seem. I believe that there are two views of the central bank's role with respect to financial stability: as a fire extinguisher or also as a smoke detector.

The "fire extinguisher" role is the classic one that central banks have played as lenders of last resort and liquidity creators in times of financial stress and tumult. This role emphasises that central banks should stand ready to act as the flames begin to appear. The central bank can then douse them with liquidity to prevent them from spreading from one institution or market to another in order to avoid a system-wide conflagration.

The "smoke detector" or "macroprudential" role emphasises that the central bank has a fundamental responsibility to act early to prevent the tinder from bursting into flames. Being proactive in monitoring individual institutions and interconnected markets for signs of froth and fragility is what macroprudential policy should focus upon. The macroprudential role certainly does not conflict with the more traditional "fire extinguisher" role, but it requires a much expanded set of authorities and activities on the part of the central bank.

Policymakers in many countries see a larger smoke detector role for central banks as a way to reduce the likelihood of future crises, and I think that it is inevitable that central banks will take on more of a macroprudential role in the post-crisis era. However, it is important for policymakers and market participants not to exaggerate what macroprudential policy can achieve. While it is valuable to expand the toolkit, I would caution that macroprudential supervision and regulation involve significant challenges to implement as an effective smoke detector and involve political risks for the central bank. Excessive faith in the ability of macroprudential policy to stop the build-up of risk concentrations and froth in markets could lead to reduced market discipline and forms of moral hazard. I will briefly mention three challenges for macroprudential policy.

The first key challenge concerns data and measurement. What will be the metrics or indicators of systemic risk to trigger macroprudential action? Following the financial and currency crises in emerging markets in the 1980s and 1990s, academics and researchers at institutions such as the IMF and the World Bank tried to develop "early warning" systems to better anticipate where and under what circumstances a crisis might occur. This exercise has proved to be extremely difficult, and there are no generally accepted crisis warning indicators that would allow authorities to act sufficiently far in advance to avoid one.

Much research is now being undertaken on these issues in the more micro setting of financial firms and markets. I certainly applaud this effort but believe it is still quite early to make commitments about the power of such metrics and indicators to predict trouble. New markets and instruments, for example, pose particularly vexing problems because, by their very nature, they would have short data trails by which risks could be assessed.

Even if a reasonable set of indicators can be developed, there is a second challenge that is more theoretical in nature. How strong a foundation can financial economics provide to supervisors and regulators that an asset is "overpriced" or a risk premium is "too low"? As I believe Larry Summers emphasised many years ago, financial economics and markets are extremely good at ensuring that a 24-ounce bottle of ketchup is priced at twice as much as a 12-ounce bottle but not quite as helpful for determining what an ounce of ketchup should be worth. Assumptions about preferences and the like are needed, and reasonable people could disagree.

Without a straightforward and theoretically grounded way of arguing that a risk is not properly being taken into account in market pricing, a supervisor or regulator is open to the criticism of being arbitrary and attempting to substitute her judgment for those of market participants who are putting their own money on the line. It can be difficult for the supervisor or regulator to "prove" her case. Unfortunately, this also opens the way for political judgments and pressures to determine what is and is not considered "arbitrary".

The third challenge concerns the political-economy dynamic. Will a central bank's independence be challenged if it is actively engaged in macroprudential policymaking? Charles emphasises this point when he suggests that it may be that "the combination of operational independence to set interest rates and liquidity management together with prospective macro-prudential regulation just vests too much power in a non-elected body".

Consider the case of housing. The US and many other countries have numerous government programmes and policies that encourage home ownership, ranging from reductions in down payments to subsidies and securitisation (in the US, for example, through the GSEs). If a central bank becomes concerned about "frothiness" in housing, how easy would it be to adopt policies that reduce loan-to-value ratios, restrict securitisation, raise capital requirements or otherwise increase the costs of mortgages? The unelected body of the central bank could be portrayed as trying to overrule public policies explicitly adopted by an elected body. This certainly could put the central bank in the political cross hairs. Effective macroprudential policies thus may involve risks for central bank independence.

To conclude: Charles has written a thoughtful paper about the fundamental issues of what central banks have done and what central banks should do. I very much agree with Charles that the ability to manipulate the balance sheet is central to central banking. In these comments, I have touched on only two other roles: interest rate setting and macroprudential policymaking. Charles analyses many other issues in his wide-ranging paper that I am certain will stimulate debate on the proper roles for central banks for many years to come.

Reference

Kroszner, R and W Melick (2010): "The response of the Federal Reserve to the recent banking and financial crisis", in A Posen et al (eds), *An ocean apart? Comparing transatlantic responses to the financial crisis*, Peterson Institute for International Economics.