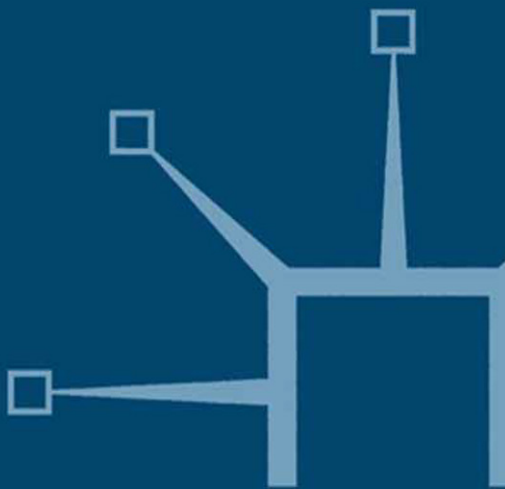


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The Global Curse of the Federal Reserve

Manifesto for a Second
Monetarist Revolution

Brendan Brown



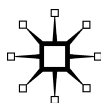
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To the memory of Irene Brown

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1

A 100-Year Monetary Disorder

Curse is a strong word to use about the global influence of a 100-year institution headed throughout by officials dedicated to public service in the world's greatest economy and greatest democracy. Yet, as the Scottish philosopher and economist John Stuart Mill wrote more than 200 years ago, the 'machine of money' has unique potential to cause trouble. Most of the time, Mill tells us, the machine called money is unimportant, but when it gets out of control it becomes the monkey wrench in all the other machinery of the economy (a line which Milton Friedman famously quoted on the eve of the first monetarist revolution – see Friedman, 2006). The machine of money in the US came under the command of the Federal Reserve soon after the outbreak of the First World War. The ensuing damage from a series of epic US monetary disorders has been of a global intensity that surely Mill himself could never have imagined. The US monetary machine when out of control becomes the monkey wrench in much of the other machinery of the global economy in countries far beyond the shores of the US, even on occasion unleashing forces in the geo-political landscape which determine war or peace.

Ever since the Federal Reserve opened its doors in 1914 (the Federal Reserve Act having been signed by President Wilson in December 1913) its actions have stirred great controversy and criticism. At the start, much of the controversy was deeply political (see Roberts, 1998). The Federal Reserve applied its authority to facilitating massive financial support operations for the Entente Powers (principally Britain and France) during the long period of US neutrality in the First World War (from August 1914 to March 1917). Opponents both within the Federal Reserve and outside argued that such action was against the principles of neutrality.

The Federal Reserve was making it more likely that the US would eventually be drawn into the war. The facilitating of loans reduced the pressure on the Entente Powers from financial exhaustion to lower their minimum demands (regarding territory, reparations, security) for entering peace talks (with the Central Powers). These would have had, as their aim, an early negotiated end to the war. Germany had less to gain from impressing Washington (in its role as peace-broker) by making concessions if the US was already financially allied to the Entente with no real prospect of its breaking that alliance.

Beyond that starting point during the First World War the main stream of criticism has been wholly in terms of how the Federal Reserve has failed to achieve monetary stability (in one or more of its dimensions). This failure has had varying bad results both at a domestic economic and political level and sometimes extending into the international arena.

The main focus in this book is on the international consequences of Federal Reserve induced monetary instability, starting with the global credit bubble of the 1920s, and ending with the global credit bubble of the 2000s. There are many destinations along the way (including the Great Inflation and collapse of the Global Dollar Standard, Latin American lending bubble, South Asian dollar bloc bubble and the lending and real estate bubbles around the world in the late 1980s) and a new crisis destination feared as Bernanke-ite time-bombs explode. The purpose is more than to present a distinct historical narrative. Rather it is to uncover the meaning of US monetary instability in a global context and suggest a way forward to less instability in the future.

The recommended path is radical. It proceeds via a second monetarist revolution evoking free market (rather than bureaucratic) determination of interest rates, monetary system reform (reverting to high non-interest bearing reserves), and an anchoring in the form of a stipulated low rate of increase in the monetary base (consisting of cash in circulation and reserves) which learns from the failure of the first monetarist revolution.

In this first chapter the narrative is largely historical so as to set the scene for the later discussion of what has gone wrong and what reform should take place. Greater space is given to earlier rather than later events as the latter are much more fully discussed in the course of subsequent chapters. Though the narrative is largely critical it starts with a concession to the extreme difficulties which the Federal Reserve confronted in its early days of existence.

The golden start which never took place

When the Federal Reserve Act was signed, the US was on the international gold standard. The piloting of the US economy as near as possible to ideal monetary stability was not a role that anyone imagined for the new institution. That piloting would surely continue as before with the invisible hands doing their work under the gold standard. As Senator Aldrich and his invited elite from Wall Street (including Paul Warburg and Benjamin Strong, later to be such powerful influences within the Federal Reserve) assembled in total secrecy during November 1910 at the Jekyll Island Club (see Rothbard, 2002a) to draw up plans for a federal reserve system, no one put on the agenda the topic of monetary stability.

Rather, a driving political force, at least just below the surface behind the journey towards the Federal Reserve, was the zest for reform which marked the 'Progressive era' in the US (1890s–1920s). Belief was widespread amongst the reformists that technical experts could solve the country's problems and should be given the authority to undercut political power that was based in saloons and corruption. Reform in the case of the Federal Reserve meant providing greater protection for the US financial system from the type of liquidity seize-ups which had shown up most recently in the panic of 1907. The hope of powerful backers on Wall Street was that they would be in a better position to compete with European, and particularly British, banking centres.

If those experts behind the drawing up of the Federal Reserve had sought to delve into the subject of monetary stability there was already to hand a literature stretching from J.S. Mill to the latest avant-garde writings from Vienna, most of which had been written on the assumption of a gold standard regime remaining firmly in place. For countries that belonged to the international gold standard (and in the decade before 1913 these had accounted for most of the world with the notable exception of China which was still on a silver standard), increases in the quantity of the aggregate monetary base were closely related to the mining of new gold supplies. Monetary base aggregated across the gold countries as a whole – let us call these 'the gold bloc' (this should not be confused with the brief actual bloc formed in the mid-1930s between a small number of European countries determined to remain on gold) – consisted of currency and gold coin in circulation plus the banks' holdings of vault cash (and gold) and reserve deposits (in the US there was no central bank with which to hold reserves, but there was a system

of regional banks holding reserve deposits with national banks). Each member currency was defined by a given weight of gold.

If costs and prices across the gold bloc as a whole fell substantially (perhaps under the influence of a technological revolution) meaning the cost of producing gold fell relative to its fixed price (in terms of the various monies) then that would spur gold production and cause the growth rate of monetary base to accelerate over the medium term. Eventually that would bring upward pressure on prices back in the direction of their long-run average level. Exchange rates between the participating currencies were fixed (though some small degree of fluctuation was possible within the gold export points determined by the costs of transporting gold). Fluctuations between price levels in different gold countries played an important role in achieving international economic equilibrium (with the average overall price level in common currency determined by the play of market forces subject to the anchor of base money growth across the gold bloc as a whole).

No one who thought about it would have interpreted monetary stability as meaning a stable price level over the short- or medium-term, either at a national level or at the level of the gold bloc as a whole. But there was an over-riding long-run expectation that the price level would tend to return to a stable long-run average when considered over several decades or more.

Overnight and other short-term interest rates in the money markets were determined broadly by supply and demand of cash (including gold coin). These rates could and did vary by considerable amounts across currency boundaries reflecting pressures in the exchange markets. A currency experiencing gold outflows would tend to have relatively high interest rates. The level of money rates across the gold bloc as a whole would be related to supply-and-demand conditions for monetary base (all constituents of which – gold coin, gold certificates, reserves – were non-interest bearing) across the gold bloc. Central banks, insofar as they existed (by 1913 they had been instituted almost everywhere except in the US), did not have committees deliberating for hours and days about where to peg short-term interest rates. Instead these were highly volatile and, to the extent that central banks played a role, it was via their emergency lending to relieve obvious acute shortages (in the money market) but only if all the rules of the system were currently being met (especially related to gold convertibility). In line with the lack of any significant role of central bankers in determining interest rates or monetary conditions more generally there were no great personalities. The Bank of England governor, for

example, served for a two-year term only and his name was virtually unknown except to those in the money markets.

As central bankers played no significant role in determining money rates or influencing expectations of where these would be in the future, longer-term rates were determined wholly by the supply and demand for capital in its different forms (whether low-risk government bonds or high-risk equities) taking full account of the extent to which these were imperfect substitutes for each other. Of course it would be possible for these long-term rates (whether defined with reference to high- or low-risk instruments) to get out of line with equilibrium levels (what a few economists then unknown to most market practitioners described as 'neutral' or 'natural') but these are always a matter of some mystery. Only estimates can be made of this unrevealed variable through time. Under the gold standard the estimation process was decentralized in the marketplace. And volatile short-term interest rates, together with confidence in long-term price level stability, tended to drive much commercial borrowing and lending into the capital markets, improving their information-gathering processes.

A lack of alignment between market rates and their neutral level could be caused simply by mal-estimations across the marketplace as a whole. For example, business people and the equity investors backing them (by buying the risky securities which corporations issued) collectively might be over-optimistic (dare one say, irrationally so!) in a particular period of time about returns (over the long run) to their new projects, in itself causing long-term fixed rates in the capital market to rise above a neutral level, where that is defined with reference to reasonable expectations. That type of misalignment, incidentally, may be no bad thing in the circumstances. Above-neutral long-term rates would help constrain the extent of mal-investment during the period of euphoria. No such constraining mechanism exists where central banks peg money rates on the basis of incomplete economic models, run on a lack of information, and the pegging operation (including heralded changes in the peg) seriously influences long-term rates. Another example of misalignment might be a situation of monetary disequilibrium percolating across into the longer-term rate markets (examples of monetary disequilibrium would be sudden acceleration in the growth of monetary base supply perhaps related to gold discoveries or a fall in the demand for monetary base) keeping rates somewhat below neutral there.

In general such 'getting out of line' (of long-term rates with neutral level) has become more troublesome under the monetary systems which followed the breakdown of the gold standard. The sheer extent

of monetary disequilibrium in various episodes has been a key driver of rates away from neutral and a big factor in temperature swings across the span of credit and asset markets. Temperature here means the extent of irrational exuberance in its various forms (see Brown, 2008). Such irrational exuberance, likely to be particularly great in some industrial sectors and asset markets, drives mal-investment.

In sum, the essential attributes of monetary stability for countries on the gold standard went well beyond long-run price level stability (defined with respect to the long run, not the short or medium term) and crucially included containment of disequilibrium episodes in the form of credit and asset market temperature swings with all the wasteful investment (mal-investment) of resources which resulted. These attributes stemmed from the collection of automatic mechanisms operating in a free market system with gold anchoring.

Crisis as the Great War erupts

As a matter of historical fact, as soon as the Federal Reserve opened its doors, the automatic mechanisms of the gold standard ceased to operate. The Great War erupting in Europe at the start of August 1914 brought a suspension, at least in practical terms, of much of the substance of the gold standard. During the crisis of late July 1914, it had been the dollar itself which was most under pressure as US businesses, active in international trade, could not renew trade credits in the London market, so they had to obtain funds from the US and convert these into sterling for the purpose of repayment.

Amidst a crisis of liquidity and gold loss, Treasury Secretary McAdoo, in close consultation with New York Federal Reserve President Benjamin Strong, ordered the closing of the New York Stock Exchange (which lasted eventually for three months) and took emergency measures so as to prevent any formal suspension of gold convertibility of the US dollar (see Silber, 2007). McAdoo prevailed against the contrary opinion of Secretary of State Bryan (a powerful figure on the liberal wing of the Democratic Party who had long campaigned as an enemy of gold, banks and the railroad companies) who had argued in favour of an immediate suspension of the gold standard. (Bryan had critically swung his supporters behind the nomination of Wilson as presidential candidate at the 1912 Democratic Convention; in 1913 he had provided key support to the Federal Reserve Bill in its passage through Congress).

McAdoo and Strong saw continued gold convertibility as essential to building up New York as a great financial capital in competition with

London. It is one of the many ironies of financial history, as we shall discover below, that if Bryan – the long time monetary populist – had got his way (about suspending the gold standard entirely) the US might well have escaped the great inflation which then swept the US during the next two-and-a-half years (prior to US entry into the war) due to the combination of the dollar ‘remaining on gold’ and huge gold inflows from the Entente Powers.

Benjamin Strong stemmed from the Morgan empire, having been the right-hand man of J.P. Morgan during the 1907 financial panic and later put at the head of Bankers Trust. Murray Rothbard (see Rothbard, 2002a) makes much of the importance of the ‘Morgan club’ as a factor in understanding Federal Reserve policy in its early years. Strong, in taking the position as head of the New York Federal Reserve, had confidently expected that in this role he would be the most powerful official in the new system, though there were some ambiguities about how power would be divided between New York and the Board in Washington. At the head of the Board was Charles Hamlin, also in the Morgan sphere, as was the Treasury Secretary McAdoo, whose railroad company had been bailed out personally by J.P. Morgan.

Under the initial organization of the Federal Reserve, the Treasury secretary was an ex-officio member of its board, and McAdoo (now son-in-law of President Wilson) regularly attended its meetings. Indeed, key members of the Board resented the perceived attempt of McAdoo to dominate proceedings and felt ‘degraded’ (see Wueschner, 1999). The main counterweight to the Morgan empire within the Federal Reserve was Paul Warburg who stemmed from the German banking family of that name and was close to, having married into, the New York banking house of Kuhn, Loeb.

Warburg has been seen by many historians as ‘the father of the Fed’ in the light of his powerful intellectual and political advocacy of a US central bank derived from his experience and admiration of German banking arrangements and his dismay at the ‘primitive state’ of monetary arrangements which he perceived on arrival in the US. Benjamin Strong himself described the Federal Reserve as Warburg’s ‘baby’ (see Ferguson, 2010).

Conflict within the Fed during the period of US neutrality

The importance of the Morgan connection was soon to play out in Federal Reserve policy debates and decision about a whole range of key issues during the period of US neutrality (from August 1914 to early

1917). One theme through much of the literature about this period (see Roberts, 1998; Rothbard, 2002a) has been the huge business (and profit) that the Morgan empire derived through arranging finance for the Allies and how this may have swayed US policy at all levels. Even so, historians concede that Benjamin Strong had strong beliefs which may have happily coincided with what turned out to be good for Morgan. He belonged to an East Coast upper class and Anglophile elite fully in tune with his view of the war as a 'global struggle between the forces of good and evil – Prussianism, Kaiserism, autocracy against freedom, civilization, and Christianity' (see Roberts, 2000).

Warburg, by contrast, in common with many other prominent figures on the political and economic scene in the US at that time believed that the best outcome from the dreadful war in Europe would be a negotiated settlement and this would be best achieved by the US remaining strictly neutral. They warned that facilitating Entente war financing in forms which jarred with strictly legal interpretations of neutrality made a negotiated outcome less likely and increased the risk that the US would eventually be drawn in as a protagonist on the Entente's side.

The arguments within the Federal Reserve about how far to facilitate allied financing turned on such issues as whether trade acceptance credits, which were obviously war financing bills rather than related to commercial trade (excluding ammunitions), should be discountable. In practical terms, the question was whether the New York desk of the Federal Reserve could buy them in the market or lend against them as collateral. (Note that prior to the creation of the Federal Reserve there was no official institution providing liquidity in this way. Hence the trade acceptance market in New York had remained narrow. In this sense, the new central bank's launch was timely for Entente war financing).

The protagonists discussed the issue in terms of banking risks versus developing New York as a financial centre (and all the bankers, Morgan and Kuhn Loeb, had supported the creation of the Federal Reserve in considerable part because of its potential to enhance their international business). But the real issues of war and peace were not far below the surface. Often Benjamin Strong used the independence of the New York Fed to defy, in effect, rulings from the Board in Washington. On one occasion, in April 1915, the Board was able (due to skilful moves by Warburg and Miller and the absence of Treasury Secretary McAdoo on ill-health) to get through a tough ruling against acceptance financing, which was camouflaged lending to belligerents (in practice the Entente Powers) – so-called regulation J. But then Benjamin Strong struggled

successfully to get this diluted with the support of McAdoo (see Roberts, 1998) who was concerned about the effect on potential export business. In general terms, Strong tended to get his way and this was in the wider political context of the Wilson Administration drawing closer to the Entente.

Already in Spring 1915, Wilson's chief political advisor, Edward House ('Colonel' House), on a visit to Europe had telegraphed that 'we can no longer remain neutral spectators'. This comment had been read out approvingly by Wilson to his Cabinet (see Bobbit, 2002). In June 1915, Secretary of State Bryan, the leading anti-war member of the Cabinet, had resigned in protest at the Wilson Administration's drift towards aggression (or away from strict neutrality).

There were setbacks for Strong and, notably in late 1916, the Wilson Administration did briefly rein back financing for the Entente Powers as part of its diplomatic efforts towards forcing a negotiated peace. It is doubtful, though, whether anyone in London saw this as more than an irritating temporary interruption in US financing or whether anyone in Berlin seriously saw this as a possible precursor to Washington abandoning its pro-Entente policies. According to Fischer (1967), President Wilson himself had intended to offer that the US would throw its full 'financial might' behind whichever side made a genuine effort to reach peace meaning the setting of realistic terms for negotiation, but was dissuaded from doing this in the final draft by Colonel House (who, as we have seen above, was already by this point solidly with Great Britain, having an excellent relationship with its Foreign Secretary Grey, even though in summer 1914 he had warned Wilson about how Britain and France were fanning war risks). Indeed, the collapse in the New York stock market which the Wilson Peace Note provoked may well have added to scepticism in Berlin about whether Washington would seriously curb the booming wartime export trade with the Entente (see Baruch, 1962).

Fritz Fischer (see above), the controversial German historian who has documented aggressive war aims amongst the imperial-militarist elites in Berlin before and during the war, casts doubt on whether a negotiated peace was at all possible in December 1916, even if Washington had been sincere in its 'even-handedness', drawing attention to the insistence (as revealed in papers) of Chancellor Bethmann-Hollweg in his 'peace diplomacy' to undiluted ambitions in Eastern Europe (Poland) and Western Europe (Belgium, Alsace). Critics of Fischer argue that the war aims before September 1914 were articulated only within the military high command and not by the wider political leadership

including the chancellor and the Reichstag. The growing cooperation of Britain with Russia and France (in the years up to 1914) was creating huge anxiety in Berlin about Germany's vulnerability to attack (hence the military's emphasis on pre-emptive action). The evidence of peace terms put on the table by Berlin in late 1916 consisted of no more than opening gambits for a diplomatic process which inevitably would bring concessions. Fischer himself virtually concedes that President Wilson had scuttled any real possibility of acting as peace-broker by the end of 1916 because of the close US alignment with the Entente Powers. The US was viewed as a virtual ally of the Entente by even those few peace-leaning key officials in Berlin.

First monetary failure – the great inflation of 1915–16

Concern about the high rate of inflation which appeared in 1915–16 permeated all the senior Federal Reserve System officials whatever their stance on the war. The huge shipments of gold by the Entente Powers to the US, against which they obtained dollar deposits at the official price of \$20.65 per ounce, fuelled growth in the US monetary base. (The Federal Reserve's role in the creation of the dollar deposits was at first circuitous, as the Treasury continued to conduct its fiscal operations via a network of deposits placed with the leading banks. Treasury Secretary McAdoo was in no hurry to transfer these operations to the Federal Reserve as provided for in the founding Act, but once the US entered the war the transfer became virtually complete – see Wueschner, 1999). Friedman and Schwartz (1963) maintain that this expansion of the monetary base would have been less (perhaps 20% or so) if the Federal Reserve had not been created and that, moreover, the multiplier effect of monetary base on wider money and credit supply would have been less (in that reserve requirements fell during this early period of the new system compared to what would have been the case under the old system).

As it was, the wholesale price level rose by 65% between June 1914 and March 1917 (the date when the US entered the war) with the stock of money rising by 46%. Over the subsequent period to May 1920 (when the price level peaked), wholesale prices rose a further 55% and the money stock by 49%. With or without the Federal Reserve, vast official purchases of gold would have generated an inflationary surge. Benjamin Strong used concern about inflation as an argument for extending war credits to the Entente Powers in that they would in consequence ship less gold to the US and there would be less monetary expansion.

Strangely there is no evidence of any discussion within the Federal Reserve about suspending the official price for gold and this is not an issue taken up by Friedman and Schwarz or other monetary historians. Essentially, under suspension, the Entente Powers could have used their gold only by selling this in a free market where its price (in dollars) might have plunged. In Europe, Switzerland, as a small neutral country swamped by gold inflows as soon as 1915, had taken such action and correspondingly the Swiss franc had risen far above its gold parity against the US dollar (see Brown, 2011).

The buyers of gold at its low wartime price in a US free market would have judged the likely profit to be made from an eventual return of the price to its official level, some time after the end of the war, was greater than the loss of interest in the mean time. (Indeed the suspension of official US gold buying, by arresting the growth of monetary base, would have allowed interest rates to rise sharply, hence containing inflationary pressures). Some US speculators (in a free gold market) might even have contemplated the possibility that the re-incarnation of an official gold price in dollars after the war would be at a higher level as part of a general international scheme for returning the European powers to gold.

So why was there such silence on this obvious policy step? The most plausible explanation is that it was a total non-starter in terms of the politics both within and outside the Federal Reserve. Suspending the official gold purchases would have hit Entente financing hard. In fact the Entente Powers were gathering inflation tax from the US by courtesy of the gold monetization. And they were borrowing at a low interest rate due to the swamping of the monetary base by gold inflows. Benjamin Strong was hardly likely to put forward the suggestion of suspending official gold purchases in total contradiction of his war sympathies, of Morgan interests, of Strong's ambitions to make the New York Federal Reserve all powerful within the Federal Reserve System, or of promoting New York as a world financial centre to compete with London.

Paul Warburg and his sometimes ally on the Board, Professor Adolph Miller, might have seen some considerable advantages of suspension in terms of tackling inflation – although there is absolutely no evidence on this point. Even so, Warburg shared Strong's enthusiasm for building up gold reserves within the Federal Reserve. Both had been concerned from the start that the Federal Reserve Act had opened the door to fiat money creation (in that Federal Reserve notes were the liability of the US government) and saw a strong gold backing (in terms of gold reserves within the Federal Reserve System being in excess of the legal

minimum specified in relation to notes outstanding) as a bulwark (see Silber, 2007). Yet both Warburg and Strong would have been deluding themselves if they indeed viewed wartime floods of gold into the US as providing a basis for monetary hardness especially when viewed in a global context.

If a much bigger share of gold reserves was now finding its way into the US to permanently back (at an unchanged gold-dollar parity) an inflated supply of Federal Reserve notes, matched by a permanently higher US price level, how could Europe ever return to a pre-war type of gold standard, where gold would be a modestly high proportion of the monetary base? If gold were to play a key role in post-war international arrangements under those conditions (with gold stocks concentrated in the US) it could only be on the basis of the US dollar continuing to be convertible into gold coin on demand with the currencies of the European one-time belligerents effectively on a dollar standard (meaning that the Federal Reserve would set the growth of monetary base in the US autonomously) and not themselves convertible into gold coin. That would be a far cry from the pre-world war gold standard in which the monetary base for the whole gold bloc was set by automatic forces operating globally.

There is no evidence that Strong or Warburg were looking ahead with any insight to the post-war order. Both shared ambitions for New York as a financial centre. Both saw the sustaining of global faith in the continuing gold convertibility of the dollar (at a fixed price throughout) as fundamental to realizing those ambitions. Perhaps they had some intuitive awareness that the gold sales by the English were corroding the foundations of Britain's financial hegemony in the pre-1914 world and implicitly welcomed that fact – but who knows for sure? In any case, they continued to worry about inflation without proposing any real solution.

From goods inflation to the great asset inflation of the 1920s

It is not clear how much the episode of high inflation during the period of neutrality supplemented by a further inflation surge in 1918–19 (with the Federal Reserve failing to take restrictive measures until early 1920 when a severe recession was already beginning to form and which was accompanied by a big fall in the price level) had any lasting impact on general perceptions about US monetary stability under the newly created Federal Reserve System. And as a matter of historical fact, wholesale

prices in the US had risen by 50% during the years 1897–1914 in a long wave of inflation possible under the gold standard, matched by the long deflation of the previous 20 years (see Friedman and Schwartz, 1963). Consequently, for many contemporary investors at the start of the 1920s there had been two decades of serious inflation.

An important point lost in some historical narratives is that the huge US monetary instability of the 1920s with its denouement of global credit bubble and bust (most of all in the US and Germany) did not emerge suddenly from a long preceding period of monetary stability. Yes, the instability of the earlier period had been most evident in terms of goods and prices inflation. The instability which was now to emerge was in the largely undiagnosed form of temperatures rising in asset and credit markets together with the accompanying mal-investment.

In assessing the responsibility of the Federal Reserve for the serious monetary instability of the 1920s we should concede that Benjamin Strong and his colleagues were operating in the wake of a shipwreck of the old monetary order which they had known well. Yes, they might well have contributed in some respects to the totality of the shipwreck by their role in the setting of monetary policy (and gold policy) through the period of neutrality and beyond. Be that as it may, the virtual collapse of the gold standard during the war had left the US economy without any anchor to its monetary system. Benjamin Strong or Paul Warburg had never cast themselves as monetary experts who could in a moment devise the rules of monetary stability to restore order from chaos. No longer were there automatic rules determining the growth of monetary base (either at the level of all countries participating in the gold standard or at the level of the US where gold inflows or outflows would determine differences from the global rate of monetary base expansion). No current central banker had proposed any alternative anchor for the US monetary system.

When Benjamin Strong and his colleagues in the Federal Reserve Board thought about the return to monetary stability in the aftermath of the First World War they had in mind the re-building of a truncated gold standard – meaning that other big countries would effectively peg their currencies to the US dollar without any simultaneous promise to convert these into gold coin on demand. The European countries had liquidated much of their gold reserves during the war and could not return to gold-backed currencies (in the sense of these being convertible on demand into gold coin).

Yes, a general agreement to raise the price of gold in dollars and set a realistic starting level of exchange rates (taking account of different

cumulative amounts of inflation in each country since 1914) might have made a return to a pre-war gold standard possible. The US would have had to agree to Britain, for example, issuing bonds in New York for the express purpose of buying gold to back its currency (inducing thereby a shrinkage of US gold reserves). And the UK government would have had to be convinced that such an expensive exercise towards re-gaining the gold reserves consumed during the war, essential to the resurrection of the international gold standard, was indeed worth the price. But none of these possibilities found their way on to the political or central bank agenda in the US or Europe.

Instead by default the Federal Reserve was piloting monetary base growth (no contemporary official would have seen it this way!) – a job for which there was no guidebook or manual. At first it found itself responding as a reflex action to movement of the gold reserves.

Consequently at the start of 1920, the Federal Reserve suddenly tightened monetary policy, having kept it exceptionally easy for a full year after the end of the war, catapulted by the coincident fall in the ratio of gold stocks (within the Federal Reserve) to outstanding deposits. Friedman and Schwartz (1963) blame this late action for the sharp recession which followed. The price level did indeed drop back (wholesale prices by 50% between mid-1920 and mid-1921) – consistent with the view of Strong that some such correction was essential if the US were to stay on gold as part of a re-constructed international monetary order (though he seems to have had in mind an international dollar standard based on gold convertibility in the US rather than a return to the pre-world war international gold standard).

Strong's presumption was that Great Britain, the 'leader of the orchestra' in the world of the pre-1914 gold standard, would 'return to gold' at its pre-war parity (in fact a return to the pre-war dollar–sterling parity with the pound no longer convertible into gold coin), even though in terms of purchasing power parity that would mean that sterling would now be very expensive versus the dollar. The hope was that a sharp decline in British prices would eliminate that over-valuation.

A monetary tightening on the scale required to that task, however, never materialized in Britain. Instead the Governor of the Bank of England (Montagu Norman) came repeatedly to his good friend Benjamin Strong pleading for easier US monetary policy. Strong complied with the requests on two significant occasions (1923 and 1927) even though such compliance was totally inconsistent with monetary stability in the US (defined in the dual sense discussed at the start of this chapter of money not becoming the monkey wrench in the machinery

of the economy either via driving temperature away from normal range in credit and asset markets – thereby triggering ultimately huge mal-investment and violent business cycle formation – or of undermining confidence in the price level being stable over the very long run, albeit with considerable fluctuations up and down over the medium-term).

US dollar and interest rates too low, monetary base growth too high

Unstable US monetary policy, together with a pattern of foreign governments – led initially by Britain – re-pegging their currencies in the mid-1920s at pre-war parities against the dollar even though this over-valued them in terms of purchasing power parity (France was the important exception to this), meant growing disequilibrium in the international economy. In principle the US, now a huge international creditor (a huge debtor in 1914), the world leader in a technological revolution (electrification, mass production of autos, radio) with matching investment opportunity (high profits), and with a consumer credit revolution occurring, should have emerged as net capital importer (the UK and France repaying wartime debts to the US would have been one form of capital import) from the rest of the world and running a matching trade deficit.

Correspondingly the level of the dollar against foreign currencies should have been well above pre-war rates in real terms. Interest rates in the US (and thereby across the gold bloc – now effectively a dollar bloc – as a whole on average) should have been at an above-normal level in line with the huge investment opportunities in the US (and the reconstruction which was occurring in Europe and in particular in Germany from 1924 onwards). The spurt of productivity growth in the US should have gone along with a tendency for the price level there to fall (though wage rates would be rising in nominal and even more so in real terms). That would have been the outcome under a well-functioning international gold standard.

The re-constituted and truncated ‘global gold standard’, however, was not well-functioning. Under the pre-war gold standard the supply of monetary base to the aggregate of all ‘gold countries’ was determined by the supply of new metal (itself influenced by the movement of the price level across the bloc relative to the gold price). In the post-war imperfect re-incarnation, the US Federal Reserve had considerable discretionary power, which it used, to affect substantially the US monetary base. It was able to do that because most other countries were now effectively

pegging their currencies to the US dollar and were ready to follow the lead of US monetary policy.

In the pre-war bloc, gradual and continuous shifts in relative prices meant that real exchange rates were generally in line with domestic and international equilibrium. After the interruption of the Great War and highly divergent inflation experiences, who had the least idea where the equilibrium real exchange rates (consistent with an efficient distribution of savings and investment across the globe, taking account of all such risk factors as might be relevant) would now be – though there was every reason (as above) to assume that the dollar was now fundamentally cheap in terms of such a concept? This under-valuation was in part due to foreign governments (Britain especially) returning to gold at pre-war parities without any commitment to allow monetary forces to correct relative prices. But it also fitted with the monetary disequilibrium and credit policies being pursued by the Federal Reserve.

Rothbard (1972) details the rapid periods of monetary base expansion which the Federal Reserve induced in bursts of activity (buying bonds mostly), especially in late 1921 and 1922, the second half of 1924, and the second half of 1927. Meltzer (2003) in his epic history of the Federal Reserve maintains that the growth of monetary base was fairly stable throughout, with spurts being later counter-balanced by slowdowns. Thus a four-quarter moving average of the monetary base was growing at 6% p.a. in early 1923, slowed to 2.5% p.a. in early 1924, blipped up to 4% p.a. in late 1924, decelerated to 2% p.a. in 1925–6, slowed further temporarily down to zero in late 1926, re-accelerated to 2% p.a. in 1927 and then decelerated to sub-zero rate from 1928 onwards. But this four-quarter moving average defence for the Federal Reserve against the charge of inducing monetary instability falls flat.

Even Friedman and Schwartz who, like Meltzer, have no place in their history for broader concepts of monetary stability to embrace swings in asset and credit market temperature, agree that Federal Reserve policy in the years 1921–5 was expansionary as viewed by the metric of the monetary base. In particular, they point out that the advent of the Federal Reserve System was leading to an economization in demand for excess reserves (the development of a market in the early 1920s for federal funds abetted this) and that a shift in demand from sight deposits to time deposits (stimulated by the new differential reserve requirement on the two, much lower on the former) lowered overall demand for reserves.

Furthermore, (this is not a point made by Friedman and Schwartz) even if the four-quarter moving average total of monetary base had

been on a steady path, big variations along the way could in themselves be dis-equilibrating especially regarding their influence on asset markets. These big variations were in the main prompted by support action for the British pound (as organized by Benjamin Strong) or response to passing business-cycle downturns in the US: the beginning of 'fine-tuning' operations much later to be criticized by Milton Friedman and other leaders of the first monetarist revolution. And the blatant smoothing of money market rates at a low level by the New York Federal Reserve (in contrast to the highly volatile money rates under the pre-war gold standard) meant that long-term interest rates played little (if any) buffer role against irrational exuberance. Risk arbitrage with the money markets, coupled with strong expectations that the New York Fed would continue to pin down short-term interest rates, meant that long-term rates did not rise substantially despite buoyant demand for capital.

Austrian views of 1920s disequilibrium

The sharp decline to sub-zero in the growth of monetary base beyond 1927 does not contradict the 'Austrian' story about the Federal Reserve's responsibility for the credit bubble, which formed from the mid-1920s. That bubble was rooted in monetary disequilibrium in the early/mid-1920s. The Austrians agreed with Friedman that by the time the Federal Reserve did start to tighten policies sharply in late 1928 and into 1929 out of concern about the obvious symptoms of a stock market bubble, it was already too late. Endogenous factors (in the bubble process) would bring about a bursting which could only be made worse by tightening at that late stage. The Florida land bubble had burst in early 1926. The real estate markets generally peaked in 1927 and the construction boom had reached its peak a year later. (In any analysis of US real estate markets allowance must always be made for the high degree of regional heterogeneity). Most of this had happened before the late deliberate raising of rates by the Federal Reserve to counter stock market speculation. The stock market peak (October 1929) came well beyond these other peaks.

Indeed the whole experience is a cautionary tale for economists who believe that the way forward for monetary frameworks is for central banks to continue targeting price level stability or inflation over the 'medium-term' (meaning around two years) whilst being 'ready' to discretionarily tighten policy (beyond the requirement of price level stability) if there are evident signs of asset and credit markets forming. By the time those signs were evident to the policy-makers in the late 1920s, many parts of the credit and asset universe were already at or near their

peak temperatures and most if not all of the mal-investment to match had already taken place.

Friedman and Schwartz suggest that if Benjamin Strong had still been alive in the final phase of the stock market bubble (from late 1928 onwards) he would have had better judgement than to tighten at that point, given the likelihood that endogenous forces (from within the bubble) would bring about a burst and that discretionary action could only make the inevitable bust worse. Perhaps – but they make no mention of the long list of criticisms relating to earlier monetary misjudgements of Strong as related by the Austrian school economists (in particular Hayek, 1931; Robbins, 1934; Rothbard, 1972).

The backdrop to the credit bubble in the US was the Federal Reserve targeting a low level of nominal interest rates in the money markets (despite strong growth and technological revolution), taking its cue from overall stability of the price level and influenced by the fashionable doctrine from Irving Fisher (1919) that monetary policy should be aimed at price level stability (implicitly defined over the medium term, meaning a few years). That was a departure from what would have occurred under the traditional gold standard (where interest rates throughout the gold bloc would have been higher and the price level in the US would have been falling under the influence of big rises in productivity as generated by the technological revolution) or from under a hypothetical regime of floating exchange rates and independent monetary policies around the globe in which the Federal Reserve was pursuing monetary stability in its broad sense.

Benjamin Strong fuels credit bubble in the Weimar Republic

One aspect of the low interest rate policy practised by the Federal Reserve at this time (the early and mid-1920s) was its attempt to encourage (as during the period of neutrality) a rapid growth of New York as a financial centre and in particular business in international acceptances (many of which were now issued in trade with Europe and in particular with Germany). Rothbard (1972) makes the cynical suggestion that the New York Federal Reserve's big support (via re-discounting and other liquidity operations) of the foreign acceptance market may have been in line with the current business interests of Paul Warburg.

Though Paul Warburg had resigned from the Federal Reserve in 1918, stung by President Wilson's delay in putting him forward for re-appointment in view of Congressional attacks on his German

connections (see Ferguson, 2010) – including the high-up position of a brother in the German secret service – he continued to exert considerable influence (as its ‘father’) within that institution. He had now become head of the International Acceptance Council and chairman of the International Acceptance Bank of New York (and a increasingly high proportion of business in acceptance paper in the New York markets was related to Germany). But more plausibly it was chiefly consistent with Warburg’s long-held view that an over-riding political objective in terms of global peace should be a re-building of war-crippled central Europe and that this also made good economic sense.

Paul Warburg did not succumb to the later ‘bubble mentality’ found in the US with respect to investment in Germany as generated under the glow of growing monetary disequilibrium created by the Federal Reserve, even though eventually the descent of the Weimar Republic into the economic and political abyss was to cost him dearly. When the monetary monkey wrench gets into the machinery of the economy, such as to drive interest rates pervasively below neutral level, irrational exuberance manifests itself, often with respect to higher yielding foreign assets about which domestic investors may be ill-informed. That is, at least, a main part of the story of the US lending boom to Germany in the mid 1920s.

Ferguson (2010) relates how Paul Warburg’s nephew, Sigmund Warburg, working in the US during the mid-1920s wrote (in 1927) that he ‘was well aware that American confidence in Germany was in part a function of ignorance. In New York I had been struck by how remarkably optimistic people were about the German currency; there was no real appreciation of the economy’s underlying weaknesses. As I saw when back in Germany the tax burdens had grown so enormous that an accumulation of capital and thus of new means of production had become practically impossible; businessmen thought they were lucky if they could keep their heads just above water.’

Ironically Benjamin Strong was now the conservative force within the Federal Reserve advising caution with respect to re-discounting of these acceptances – quite a difference from his stance during the period of neutrality when he had been the leading advocate of liberal treatment of risks related to the booming business in credits for the Entente Powers (see p.8). The boom in US lending abroad, especially to Germany, promoted in part by the New York Federal Reserve’s operations in the acceptance market as described, but also more generally by over-easy monetary conditions, all fitted together with the contemporary undervaluation of the US dollar (see p.8), in which Strong had played such a

large role bringing about via his negotiations with the Bank of England Governor Norman (see Ahamed, 2009).

In fact we could say that the huge US trade surpluses, foreign lending boom, undervalued dollar, and ‘forced saving’ (especially retained income in the corporate sector where profits were bulging far out of line with long-run sustainable patterns) were all part of the picture of disequilibrium. The main counterparts outside the US in this disequilibrium were Britain (in that the restoration of the pre-war US dollar–sterling parity meant that the British price level would have to fall substantially relative to the US, but the British authorities stood in the way of automatic monetary mechanisms operating in that direction) and Germany (the recipient of much of the foreign lending from the US and by 1926–7 ‘enjoying’ an almighty credit and real estate boom).

It is difficult in the case of Germany to argue whether or not the mark was fundamentally over-valued against the dollar at this time. The exchange rate between the mark and dollar had been fixed at the end of the hyper-inflation when there was really no domestic price level (all prices virtually were quoted in dollars in Germany at that point). But the flood of US loans into Germany (the international dimension of the credit bubble) under the regime of a fixed dollar–mark rate (as established by the Dawes Plan of 1924) did contribute directly to monetary disequilibrium inside Germany where a credit and real estate bubble formed. Real estate prices in Berlin multiplied by several times in five years amongst a frenzied nationwide construction boom. The only monetary recipe for that, on the German side, would have been a suspension of the fixed exchange rate, allowing the mark to float at least temporarily to a higher level, whilst tightening monetary policy. But that was unthinkable under the regime established (where any break of the dollar parity would have been viewed as increasing danger of hyper-inflation return and in any case was not consistent with Germany’s international treaty commitments).

Instead, Reichsbank President Hjalmar Schacht (later to become infamous for his role in the Nazi regime), becoming alarmed at the extent of domestic bubble characteristics, took draconian direct action to cool speculation on the equity market in 1927 – a clumsy set of actions which many contemporary and subsequent critics have blamed for adding to the turbulence of Germany’s path into its subsequent bubble-bursting phase and deep recession. (The German economy business cycle reached its peak in winter 1928–9. This was well ahead of the US peak in summer 1929.) Growing suspicions about the insolvency of Germany’s financial institutions in the aftermath of the bubble were to

play a key role in the flight of capital out of Germany in 1929–31, deepening the economic downturn and adding fuel to the forces of political extremism there.

Consider the counterfactual case of how the German economy would have evolved in a hypothetical situation of US monetary stability (rather than Fed-induced instability) through those years. US money rates, say, would have been two to three percentage points higher. Sterling could not have returned to gold at its pre-war parity in 1925 (as the near-recessionary British economy could not have borne – in the then political climate – much higher interest rates). There would have been less if any of a credit bubble in Germany (where interest rates would have been higher in line with the US). The business cycle in Germany, as globally, would have been much less violent with plausibly less adverse political consequences. US banks would have been running up less dubious loans to a German bubble economy later to trigger an insolvency crisis as regards UK and US banks (and intensify the global economic downturn from 1931–2).

A revisionist tale of Federal Reserve blunders in the Great Depression

In their monetary history of the US, Friedman and Schwartz suggest that the Federal Reserve could have taken various actions to ameliorate the violence of the economic downturn through the period 1930–3. The analysis is in terms of the US but can be extended to global consequences.

A first criticism relates to the failure of the Federal Reserve to act forcefully during the first banking crisis of late 1930 which they suggest was primarily a liquidity rather than solvency crisis stemming from a crop of bank suspensions in the farming states (and spreading to the failure of the Bank of United States in December 1930, which in fact the authors suggest should have been salvaged and would have been under the pre-Federal Reserve system).

A second (of several criticisms) relates to the Federal Reserve's failure to aggressively expand the monetary base during 1931–2 (other than a brief episode of high-volume open market operations in spring 1932) so as to prevent a shrinking of the wider money supply. The authors suggest that the monetary paralysis was in part due to a shift of power from New York to Washington. Whereas Benjamin Strong had boosted monetary base aggressively following the severe recession of 1920–1 (see above) – too aggressively according to Austrian school critics such

as Rothbard who cite this as leading on eventually to asset market inflation – no such action recurred in the Great Depression, due to the political battle for control between the Board in Washington and the New York Fed, as Benjamin Strong had died in 1928. And critically there was the savage monetary response (tightening) of autumn 1931 to the loss of gold in the wake of Germany's insolvency crisis and the UK's beggar-your-neighbour devaluation of sterling (see below).

Yet there may well have been key factors (not mentioned in the Friedman and Schwartz history) beyond politics within the Federal Reserve and monetary base growth patterns to account for the differences between 1921–2 (the strong economic recovery coupled with rebound of money supply and monetary base) and 1931–2. In the earlier episode (1921–2) a severe price fall had taken place in a very short time (during 1920). That fall, when coupled with expectations of a re-bounce of prices in the subsequent cyclical upturn (as had always occurred in previous cyclical history under the gold standard), helped to generate spending. With increased spending and economic activity came increased demand for bank loans and bank deposits.

This was not the situation in 1931–2. The Hoover Administration joined with business leaders and unions in an effort to hold up wages so as to 'prevent a fall in general purchasing power' (see Shlaes, 2007). The decline in prices, though large over the period as a whole (1929Q4 to 1933Q1), was not as concentrated in time as in 1920. When Britain left the gold standard in September 1931, the Federal Reserve responded swiftly to a drain of gold (as investors sought safety against a possible break of the dollar with gold) by raising interest rates sharply, even though there was no immediate lack of 'free gold'. Federal Reserve notes still had ample gold backing relative to the minimum legal requirement – which in any case could have been suspended temporarily in an emergency according to the present law and lowered on a longer-term basis if the Federal Reserve had requested Congress to do so (see Meltzer, 2009 and Butkiewicz, 2007). Researchers find that Federal Reserve President Meyer was particularly (and excessively) sensitive to warnings from Paris (Bank of France Governor Moret) about a potential flight out of the dollar and crash of the 'global monetary order'.

The failure of the Federal Reserve to stick to a policy of steady expansion of the monetary base during the autumn of 1931 coupled with the general state of anxiety about gold drains (and ultimately about a further seizing up of the 'global monetary system') surely meant that the normal (as when the international gold standard had been well-functioning) contra-cyclical mechanism of positive price level expectations (whereby

a recovery of prices from the present low level in the depths of recession would have meant that low positive nominal interest rates would have translated into negative real rates) would have been in suspense. In fact, in the broken down monetary framework of 1931, expectations may well have been widespread of much further price falls to come meaning that real rates would be abnormally high.

Whereas by 1922 growing evidence of a technology revolution was helping to stimulate the equity market and lead business spending forward, in late 1931 there were instead the grave new recessionary influences of Germany's descent into the economic and political abyss (especially following the banking freeze-up of July 1931 which led to a standstill on German debts) and sterling's devaluation. The importance of Germany, the second largest economy in the world, plunging into autarky, political extremism, and economic downfall cannot be exaggerated as a factor stalling any natural re-bound of the US (where the banks had huge exposures to German loans and paper) or other economies. With risk-free rates (as for example T-bill rates) already stuck at zero in nominal terms, any action by the Federal Reserve to flood the monetary base (bringing about a sudden expansion) would not have quickly percolated to wider money growth or economic recovery. The price level would have to fall to a low level from which expectations of a re-bound eventually would be strong, meaning that real risk-free interest could be very negative even though nominal rates were still positive.

The suspension of the dollar's link to gold in March 1933 by the incoming Roosevelt Administration and subsequent direct action to lower the value of the dollar against the remaining gold bloc currencies (especially the French franc), with gold inflows into the US then being monetized and so contributing to rapid monetary base growth, played a role in restoring confidence in price level recovery from depressed lows and correspondingly real interest rates plunged into negative territory. (This is not to say that the dollar devaluation was essential to this purpose. As we shall argue in subsequent chapters – see p.86 – a commitment to increase the monetary base at a steady gradual pace would also have nurtured expectations of a long-term price level recovery but this could all have taken time in the extreme disequilibrium conditions of 1932).

It was the turn in the global tide of capital towards the US (in hope of economic recovery and away from risks of the gold bloc disintegrating) which caused the monetary base growth in the US to accelerate (given the operating rule whereby gold purchases by the US Treasury

to stabilize the gold price at its new official level of \$35 – equivalent in principle to stabilizing the dollar against the French franc and other gold bloc currencies at the fixed exchange rate as derived from each money's gold parity – were monetized by the Federal Reserve). The explosion of the monetary base fuelled massive excess reserves in the US banking system as banks (and their shareholders) crippled by the bursting of the credit bubble and depression had only a gradually rising appetite for new high-risk loans even at margins which superficially might have been attractive compared to previous norms.

Towards asset price inflation of 1936–7 and the inevitable Roosevelt recession

From March 1933 to the business cycle peak of May 1937 money stock grew by 50% whereas the monetary base grew by 60%. The growing 'excess reserve problem' pre-occupied Federal Reserve officials, the fear being that this would trigger an inflation beyond the benign cyclical recovery of prices from the depression low-point. For example in 1935 propelled by gold inflows, the monetary base rose at an 18% annual rate for the first three quarters and at a 25% p.a. rate in the fourth quarter. Excess reserves tripled during that same period (Meltzer, 2003). Correspondingly in 1936 and early 1937, the equity market and commodity markets boomed (an index of primary product prices monitored by the BIS rising by 50% between mid-1936 and March 1937: US equity prices more than doubled between Spring 1935 and early 1937).

This pattern of rapid monetary base growth, short-term rates pinned at zero, and explosion in commodity and equity prices would together form a set of symptoms which suggest severe monetary disequilibrium (where this is interpreted to include the metric of temperature in asset and credit markets). In fact, officials within the Federal Reserve were concerned only with the metric of goods and services price inflation, with some confusing the continuing cyclical rise in the price level from its depression lows with actual monetary inflation. In any case, in the summer of 1936 the Federal Reserve initiated a first rise in reserve requirements towards reducing excess reserves, but the effectiveness of that step is dubious especially given that by the end of the year short-term and long-term government bond yields were pinned at record low levels and the temperature continued to rise in stock and commodity markets.

Then in early 1937 (1 March and 1 May) came two further increases in reserve requirements. Friedman in particular judges this sudden

tightening step as crucially responsible for the severe recession in the economy which started in May 1937 and over the next few months was more precipitous than the matching period of the recession starting in August 1929.

Friedman's account of how the Federal Reserve precipitated the recession of 1937–8 begs two issues. First, was the real problem not the monetary instability which the Federal Reserve fostered through 1935–6 by generating a massive increase in monetary base and pinning short-term rates down at zero? The temperature rise in commodity and equity markets was a consequence. If the Federal Reserve had not created so much excess (reserves) to start with and had allowed market forces to drive up interest rates sooner, there may not have been the sudden monetary shock which contributed to such a violent cool-down in asset and commodity markets from spring 1937 together with a steep fall in the economy. There would have been no bubble in those markets to puncture. Arguably the formation of bubbles caused economic growth to be substantially faster than otherwise in 1936 but correspondingly lower (and more negative) than otherwise into the subsequent slowdown.

Second, there were a host of factors playing a role in the economic downturn not directly stemming from the change in reserve requirements. In particular geo-political risk was rising (the re-militarization of the Rhineland, Japan's military assault on China); the break-up of the gold bloc in summer 1936 went along with a sudden rise of the US dollar in itself likely to cause some fall in expectations of future price level rises in the US (and thereby real interest rates becoming less negative); the Roosevelt Administration was raising taxes on business. All of this surely could bring a crash in the equity market (which also fed off increasingly grim real time economic data as the recession gathered force), as speculative temperatures fell back from their previously monetarily induced highs. In turn the Crash fortified the recession.

A new global dollar standard (1953–71) and still no US monetary stability

The failure of officials within the Federal Reserve, or mainstream economists outside, to adopt a concept of monetary stability which meant more than stable prices or low inflation as measured over periods of a few years continued without intermission into modern times. In fact during the Second World War – both the period of US neutrality to the end of 1941 and beyond – and its immediate aftermath, the Federal Reserve was not in any case pursuing monetary stability under

any guise, but became subservient to the US Treasury in carrying out the policy of pegging government bond prices (so as to keep long-term yields in nominal terms at around 2.5%) whilst accommodating a high rate of inflation. In 1946–7, in total contrast to after the First World War when in late 1919 the Federal Reserve (albeit belatedly) sharply tightened policy with the objective of reversing the rise in the price level during the first year of peace, the Federal Reserve pursued (implicitly) a policy of monetary inflation without interruption. This post-Second World War policy went well beyond allowing suppressed inflation to come to the surface as wartime rationing ended. The Federal Reserve in the tutelage of the US Treasury was still pegging short and long-term interest rates at 1–2.5% respectively in 1947, despite an annualized rate of inflation rising above 10% p.a..

The return of active monetary policy (independence from the Treasury came with the Accord of March 1951 but unofficial support for the bond market continued for a further two years) came fully by early 1953 and William McChesney Martin, the newly appointed chairman of the Federal Reserve (an office which he held from April 1951 to January 1970) was intent on following ‘independence within government’ (Meltzer, 2009a). As in the period of Federal Reserve independence before the war there was no guiding broad concept of monetary stability. There were some new legal benchmarks, however, for Federal Reserve policy.

First, there was the pivotal role of the US in the international dollar standard as established by the Bretton Woods Treaty (to which the US was a signatory and the treaty was ratified subsequently by the US Senate). Second, Congress, taking its cue from Keynesian economics, had passed the Employment Act (1946), which exhorted the federal government and its agencies (including the Federal Reserve) to pursue ‘maximum employment, production and purchasing power’, through cooperation with private enterprise. This Act was superseded by the Humphrey-Hawkins Full Employment Act in 1978 which established the much quoted ‘dual mandate’ whereby the Federal Reserve was to ‘promote effectively the goals of maximum employment, stable prices and moderate long-term interest rates’.

The congressional acts could not be seen as prescribing or promoting any vision of monetary stability in its broad sense (as defined above in line with the J.S. Mill concept of money not becoming the monkey wrench in the machinery of the economy – see p.6). The obvious Keynesian background thinking behind legal texts might have made problems for any Federal Reserve Board fully determined to follow the

J.S. Mill concept in that this is consistent with a considerable short and medium-term fluctuation of the price level, whilst eschewing altogether fine tuning (in response to an immediate business cycle outlook). Yet it would be naïve to suppose that a charismatic and articulate Federal Reserve chair fully steeped in the classical monetary tradition could not have wound a way around clumsy legal texts in his conversations with Congress.

In any case, as Meltzer points out there was an inherent contradiction facing the Federal Reserve in following both the Bretton Woods Treaty and the Employment Act. Essentially under the international dollar standard (as established by the Treaty) countries pegged their currency to the US dollar on the (implicit) understanding that the US would run a monetary policy such that on (weighted) average across the dollar bloc there would be virtually price level stability (interpreted implicitly over a period of many years, but not as long as under the gold standard). And the treaty commitment of the US to convert dollars into gold for the accounts of any non-residents at the official price of \$35 per ounce was surely meant to bolster confidence, globally, in the Federal Reserve following policies to match. For if the dollar bloc average price level (in dollars) rose sharply then the sustainability of the \$35 price would come into question.

If the Federal Reserve had pursued policies strictly in line with the US treaty obligation (as described) and also with monetary stability inside the US, then during the 1960s and 70s there should have been some periods of overall price level decline. The price levels of Japan and those big countries in Europe which were growing much more rapidly than the US with particularly high rates of productivity increase in their export sectors would have tended to rise (in dollar terms) relative to that in the US consistent with overall equilibrium in the international economy. (This equilibrium tendency is in line with the famous Balassa–Samuelson hypothesis which states that rapidly growing economies characterized by productivity rising relatively fast in the traded good sector experience a real appreciation of their currency). Hence broad stability of prices across the dollar bloc would mean the US price level should have drifted downwards.

In any case, according to the broad concept of monetary stability, a period of especially high productivity growth (relative to long-run historical trend) such as the US enjoyed in the 1950s and 60s should have been characterized by the price level falling to some extent (so-called good deflation), so long as there was no pre-existing inflationary bias in expectations. Such price declines during a decade-long spurt of productivity

growth would balance a subsequent price level increase during a less favourable decade and still be consistent with price level stability in the very long run (defined over several decades). The spurt of productivity growth puts some downward pressure on the path of prices (all the more so where these are measured so as to take account of improvements in product quality). And so if expectations of that path had been flat (prior to the spurt), the productivity good news brings, as a tendency, some decline in the price level. If the central bank tried to resist this price level decline by monetary stimulus, it could trigger temperature rises in asset and credit markets. That is what happened during the 1920s.

Perhaps it could be argued that in the 1950s, by contrast to the 1920s, there was already a 'default' climate of low inflation expectations explained by the continuation of monetary inflation for many years already following the end of the Second World War. Plausibly, monetary stability in the sense of no temperature rise in asset markets would have meant zero inflation rather than the normal steady state, say, 1% p.a. inflation (and correspondingly that would have meant a somewhat higher inflation rate in the economic miracle countries such as Germany and Japan). In that the US and global financial system in the 1950s and early 60s was highly curbed by regulations, monetary disequilibrium was arguably less likely (than in the 1920s) to display the symptom of rising temperature in credit and asset markets.

According to the historical accounts (see Meltzer, 2009a), the long-standing chairman of the Federal Reserve during that era, Martin, had no grand vision of monetary stability in any way at all. Rather he had an intuitive and practical sense to 'lean against the wind'. This meant tightening monetary policy when inflation rose. As Martin put it, the art of the central banker was to take away the punch-bowl just when the party was going well. It is not evident at all that Martin was referring here to asset markets. Rather the reference was primarily to goods and services inflation and to the balance of payments (swings into deficit as economy boomed meaning loss of gold if interest rates were held down below equilibrium level).

Some contemporaries, including notably Richard Nixon (following his defeat by John Kennedy in the 1960 presidential election), pointed their finger at Martin for his responsibility in generating stop-go for the US economy, marked by three serious cyclical downturns in the 1950s. In turn the experience of stop-go brought to the fore the Keynesian populists who surrounded the new President (Kennedy) and promised that by fiscal and monetary fine tuning they could avoid the stops and raise the overall level of employment and well-being. There was no

preacher yet for the alternative view that the problem (of repeated sharp recessions through the 1950s) was the absence of monetary framework based on a comprehensive concept of monetary stability.

Martin was ready to work within the climate of the new economics embraced by the Kennedy and Johnson administrations, lacking any clear intellectual or ideological basis on which to challenge the proposition that unemployment could be reduced by raising the overall pressure of demand (albeit meaning a somewhat higher average inflation rate). Martin saw the Federal Reserve as still playing a role in government financing and, under the new economics, deficits started to widen. With the passage of time Martin found himself surrounded by a growing number of Keynesian economists around the board table as these were appointed in turn by President Johnson. As the government deficit expanded under the influence of the Vietnam War and new social programmes, Martin delayed 'aggressive' action on the promise that a tax rise would soon be implemented. And when the tax rise was finally introduced, its temporary nature contributed towards it having much less effect on demand pressures than had been forecast. Belated efforts by the Martin Fed to tighten policy in the midst of the war brought a public rebuke from President Johnson.

Eventually the Federal Reserve went ahead with fairly aggressive tightening (less than Martin imagined because of his failure to distinguish nominal interest rates from real interest rates – see Meltzer), with the Federal funds rate reaching almost 10% in summer/autumn 1969. And boom gave way to the recession starting at the end of 1969, taking the prevailing Keynesian optimists by surprise. As Martin hung up his coat in early 1970 he admitted failure in that inflation had risen so far (with CPI inflation peaking at over 5%) (see Meltzer, 2009a).

The Martin–Burns Federal Reserve destroys the global dollar standard

The history books do not suggest that Martin thought over-much about the international dimension of the Federal Reserve's failure. Already in the early to mid-years of his reign, as far back as the late 1950s and the start of the 60s, there had been a first fracture in the international dollar standard, culminating in Germany re-valuing the mark. The miracle of the German economic renaissance through the 1950s had spawned an export boom and huge trade surplus. Arguably if the price level had been trending down in the US to a slight extent, German policy-makers might have put up with some mild degree of inflation for the sake of

external stability of the Deutsche mark. But given the cumulative rise in the US price level, the choice was between an uncomfortably high rate of inflation in Germany coupled with external stability of the mark or a revaluation of the currency together with a greater degree of internal stability (less inflation). The German government opted in March 1961 for a revaluation of the Deutsche mark.

Japan, by contrast to Germany, also experiencing an economic miracle (which continued throughout the 1960s, unlike in Germany where the miracle faded earlier), opted for less internal stability, with the Japanese price level rising persistently and significantly faster than in the US through the first half of the 1960s (see Brown, 2002). As the US inflation rate accelerated through the second half of the 1960s, Japanese inflation rose partly in step, meaning that the real value of the yen against the dollar continued to appreciate but more slowly. Germany was not ready to follow this path – external stability matched by accelerated internal depreciation – and so there was a further revaluation of the Deutsche mark in 1969. Then, as Martin's successor at the helm of the Federal Reserve, Arthur Burns, unleashed a bigger than ever before inflationary storm, Germany again buckled in May 1971 and floated the DM, thus effectively leaving the international dollar standard.

However, that is jumping ahead in the historical narrative. Another theme playing out in international monetary dialogue through the 1960s prompted in part by the course of US inflation (upwards) was possible revision in the role of gold. France in particular was pushing for a revaluation of gold (in terms of the dollar and all currencies pegged to the dollar) and for gold to have an enhanced monetary role (which was never spelt out, but seemed to mean that countries would hold a larger share of their reserves in gold and less in dollars). In turn, the IMF, led for much of the period by French chiefs, took its cue from the academic discussion about the non-sustainability of the official gold price in view of dollar inflation and rapid rise of dollar incomes (in aggregate) around the world. IMF reserves of liquidity, much of which was in gold, were falling behind global real incomes and as a consequence, the IMF became a constant critic of the insufficiency of international reserves. All such concerns stoked considerable flows of speculative funds out of dollars into gold. In 1968 the gold price had been set free in response to such pressures except in respect of official transactions between the central banks. In August 1970, when the French and some other European governments stepped up their demand for gold from the US, the Nixon Administration closed the gold window, signifying that all transactions now took place at the free rate.

The gold issue and the tensions in the gold market were a side-show to the main drama in the currency markets. This drama stemmed from the growing monetary disequilibrium created by the Federal Reserve. It is possible that the gold price could have been set completely free (the official market closed) and the international dollar standard sustained, if the US had belatedly been willing to conduct a monetary policy such that Germany and Japan in particular would no longer have to accept inflation rates well beyond their own domestic political tolerance. In Japan that political tolerance was higher than in Germany, but given the underlying upward pressures on the equilibrium real exchange rate of the yen from the continuing Japanese export miracle, the premium of Japanese inflation above already high US inflation would have been especially wide.

The arrival of Arthur Burns at the head of the Fed (in early 1970) under instructions from President Nixon to pave the way for his reelection by overcoming the present recession spread the final curse over the international dollar standard. The aggressively easy monetary policy pursued by Burns, despite inflation having barely fallen from the level at the peak of the previous boom, terrified the Bundesbank. A fixed dollar–mark rate meant that floods of money entered Germany and these were intensified by a speculative inflow in anticipation that the Deutsche mark would indeed be set free to float, which occurred in May 1971.

At the fateful Camp David Summit of early August 1971, President Nixon and his assembled senior officials (including Treasury Secretary Connolly and the Treasury Under-Secretary in charge of international affairs Paul Volcker) decided to launch an attack on Japan's trade surplus, seeing this issue as critical in gaining enhanced voter support. But rather than opening a direct bilateral trade and currency war against Japan, which would have jarred with international treaty commitments and the spirit of free trade, the Nixon Administration struck on the idea of calling for a general renegotiation of exchange rate parities around the world against the dollar of which the biggest would be for the yen. Meanwhile a stick was to be used – a temporary surcharge to be levied on imports into the US – until a set of exchange rate parities acceptable to Washington had been negotiated.

In sum, if it had not been for the vast monetary disequilibrium being generated in Washington the dollar standard could have continued, subject to an agreed economic programme between Japan and the US which would have involved Tokyo opening up its markets more fully to imports and committing itself to monetizing the inflow of funds

into Japan through the trade surplus (and so giving rise to a steady further real appreciation of the yen). Instead in the aftermath of the brief Smithsonian 'fix' of December 1971 (fixed exchange rates re-established at re-valued parities – and with wider bands of permitted fluctuation – between the US dollar and the other major currencies), US monetary disequilibrium increased until Germany, Switzerland and Japan all finally floated free of the dollar in early spring 1973.

In Germany and Switzerland the exodus from the international dollar standard was coupled with the launching of a new monetary order in these two countries described as 'monetary base control'. This was the start of the First Monetarist Revolution, explained in Chapter 3. In the US, grave monetary disorder was to continue for several years more before a short period of temporary remission in the early 1980s.

From the Great Asset Price Inflation of 1962–8 to the crashes of 1969 and 1973–4

The big symptom of virtually continuous US monetary disorder, which looms large in mainstream financial histories of the 1960s and 70s, has been the Great Inflation (which refers to the prices of goods and services). But alongside that there was a Great Asset Price Inflation, which in fact appeared in full before the goods and services inflation. In the seven years 1962–9, the S&P 500 rose by around 250%. Earnings yields came down below 6% and stayed there. This was an age of periodic financial scandal, for example, as that surrounding Bernie Cornfeld's mutual stock selling enterprise (see Aliber, 2001). This was the glorious period for the 'nifty fifty' (the 50 blue-chip US stocks which seemed to rise inexorably and formed part of everyone's stock portfolio). This was the age which made Warren Buffett and the commercial real estate titans.

The abrupt monetary tightening in the dying days of the Martin Fed had brought a near 35% collapse in the US equity market during 1969 and the first half of 1970. But then there had been a big re-bounce to new heights during the monetary explosion of 1971–2 (some 15% in late 1972 above its late 1968 peak). The tightening by the Burns Fed in 1973 in its belated struggle to undo vast inflationary disequilibrium triggered a 50% collapse of equity prices (in nominal terms – substantially larger in real terms) – between end-1972 and mid-1974 (with the oil shock, in large part induced by the preceding monetary instability, playing a big role). This stock market crash ranks alongside similar crashes with their origin in previous great monetary disequilibrium, whether 1907 or 1929.

After the equity market crash of 1973–4 followed a decade in which there was little evidence of temperature rise in domestic US credit and asset markets apart from a bubble (and bust) in agricultural land. But the further bouts of monetary disequilibrium which the Burns Federal Reserve emitted through 1975–7 (excessive ease leading to a new run-up in goods and services price inflation) percolated into the global economy, in particular into the fuelling of a bubble in lending to Latin America. Low or even negative real costs of dollar loans to the developing countries offered an apparently painless path to financing huge trade deficits which in the first place had been due to soaring energy prices and later to domestic spending booms made possible by cheap credit.

Investors around the world, desperate for real returns on their dollar funds (as against the low or negative real money market rates available), were willing to plough these into floating rate note issues or other types of capital notes issued by the leading money centre banks, without asking fundamental questions about what protection they had in the event of the underlying loan portfolios of the banks going bad. And in similar mode, equity investors looking for yield and strong earnings growth were captivated by bank stocks – lulled by the music of monetary disequilibrium into over-credulity. According to the fashionable hypothesis of this époque, the recycling of giant cash surpluses from the OPEC countries to the non-oil developing countries was a benign process with the blessing of the IMF. By the late 1970s, however, the OPEC surpluses had virtually evaporated and yet the lending continued unabated (most of all towards Latin America).

Towards the Volcker credit and asset bubble

The monetary tightening in the early years of the Volcker Fed (1980–2) is legendary. This was the brief period when the First Monetary Revolution (already noted above in Germany and Switzerland) and its advocated tool monetary base control arrived in the US. Unkind commentators could point out that Paul Volcker as Under-Secretary of the Treasury had been a main player in the Great Monetary Disequilibrium of 1971–3, in that he had led the negotiations with foreign governments leading up to the ‘agreed’ devaluations of the US dollar in autumn 1971 and spring 1973. Available evidence suggests that he shared the view that the US trade deficit was a ‘big problem’ to be solved rather than seeing the key source of disequilibrium as the monetary policy of the Arthur Burns Federal Reserve (see Wells, 1994). Indeed, Volcker had also been one of the designers of the Nixon Shock at Camp David. But

he was not the lead player – perhaps just a loyal and able second-in-command. And so analogies with the person who caused the inflationary fire being called in to put the fire out – a feat at which he proved remarkably successful using much skill – fell a little, albeit not very far, wide of the mark.

The word ‘little’ is used here because the subsequent record of Paul Volcker, beyond his renouncing of the monetarist revolution in late 1982 (the abandonment of monetary base control, discussed in much greater detail later in this volume), shows scant consideration for wider aspects of monetary stability. Instead his focus was narrowly on symptoms of goods and services inflation. He also kept an eye on the US trade balance as a factor in monetary decision-making (a hangover from the Camp David meeting where the Japanese–US trade imbalance was a key factor in the monetary decisions). Volcker was quite comfortable with strong-arm exchange rate policy, whether the Nixon Shock, or the much more polite Plaza Accord (autumn 1985), towards prodding the dollar down so as to reduce an ‘unsustainable US trade deficit’ (see Federal Reserve transcripts for this period), or the Louvre Accord (of spring 1987, which sought to prevent a further sharp fall of the dollar and stabilize it within its current range). In the job of managing exchange rates it was all part of the process to get on the phone to the Bundesbank chief to suggest that he should cut interest rates in tandem with a move by the Federal Reserve (rather than risk a sharper decline of the dollar).

At least, in retrospect, we could say that the Volcker Fed, in the years following its abandonment of the monetarist revolution, became over-concerned about fine-tuning the economy (as during the extended growth-recession of 1985–6), over-impressed by a short-term path of inflation (as when it dipped far under the weight of crashing oil prices in the mid-1980s), and under-impressed by symptoms of monetary instability in the form of temperatures rising in credit and asset markets. And so the late years of the Volcker Fed saw too little monetary response to such phenomena as the junk bond bubble (as pioneered by Michael Milken), the plunge of the US dollar, the global real estate and credit booms in part related to foreign central banks limiting the rise in their currencies, the S&L bubble, or by 1987 the feverish speculation in the equity market.

Of course, Paul Volcker could argue that central bankers had no special insight into whether bubbles existed or not (the term was not as much in use then as today). Arguably, however, if a strict monetary

base control regime had still been in place where long-term interest rates were freer of influence from the money rate peggers (see p.5), there would have been less danger of such temperature rises occurring (even if difficult to perceive in their early or intermediate stages). In conversation well after these events, Paul Volcker mentions an interest in Austrian economics as a student (see Volcker, 2001), but the key connection that teachers of that school would make between monetary stability and hot asset or credit markets appears not to have been made by the Volcker Federal Reserve in the mid-1980s.

The monetary instability generated by the Federal Reserve in the mid-1980s (not showing up as higher inflation at first but rather as an unperceived rising temperature across a range of credit and asset markets) fed directly into the currency markets bringing a sharp overall decline of the US dollar. The extent of the decline went far beyond anything which had been discussed at the famous (or infamous) Plaza Meeting of September 1985. There the US had hectored its leading G-7 partners – principally Japan – into direct action to lower the value of their currencies against the dollar. Direct action meant essentially a burst of foreign exchange market intervention and in the case of Japan a perverse rise in short-term interest rates. But beyond these immediate fireworks the dollar fell relentlessly throughout 1986 and early 1987, most spectacularly against the yen.

It was in response to this drama in the currency markets – and its potentially crippling impact on the export sector of the Japanese economy – that the Japanese government and central bank took the series of steps which ended up producing a far more grave monetary disequilibrium in Japan than in the US (see Brown, 2002). These steps included accelerated de-regulation of the banking system in Japan and pinning interest rates at far below the neutral level (which had surely risen in consequence of the overall liberalization of the financial system). The Bank of Japan at that time was even further away than the Federal Reserve from grappling with any Austrian concept in which monetary stability included the key dimension of not allowing money to become the monkey wrench in the machinery of the economy via stimulating temperature rises in credit and asset markets. Instead the Bank of Japan's excessively short-term focus was on just one dimension (of monetary stability) – inflation – and this was very low under the influence of the super-strong yen and the sharp rise of productivity which accompanied the capital spending boom.

Greenspan heresy fuels bubble and bust in Asia 1993–7 and US 1996–2002

The successor to Paul Volcker, appointed by President Reagan in summer 1987, Alan Greenspan, was even more distant than his predecessor from any concept of monetary stability which embraced anything other than the short-term behaviour of inflation. Even though he had been a protégé of Ayn Rand (whose political views were in line with radical *laissez-faire*) and had written an early article advocating the gold standard, he never demonstrated any awareness of the Austrian school ideas (according to one biographer, he attended, with Ayn Rand, one lecture by von Mises – see Sechrest, 2005). Rather the Greenspan era brought a throw-back to the Arthur Burns era in its concentration on micro-responding to each perceived micro-turn in the business cycle. And Alan Greenspan, like Arthur Burns, had an encyclopaedic knowledge of all current indicators about the state of the economy (plus full access to a huge arena of contacts for assembling anecdotal information).

The composition, however, of the giant monetary disequilibrium which was to develop ultimately under Alan Greenspan was different than that under Arthur Burns. This time it was somewhat more ‘Austrian’ in nature (asset and credit market temperature rise and fall with all the related cyclical violence and waste) and less dominated by goods and services inflation (which remained fairly low).

In some respects the monetary disequilibrium under Greenspan was a throw-back to the disequilibrium generated by Strong in the 1920s but the analogies are far from complete. Then as in the mid/late 1990s, there were downward pressures on the price level in consequence of a spurt in productivity growth driven by a technology revolution. These lulled the Federal Reserve into driving market interest rates inadvertently (via its pegging of short-term money rates) well below the neutral level, in consequence generating a sequence of temperature rises in asset and credit markets. (The neutral level is unknown but market rates, especially in capital markets, are likely to gravitate closer towards this level over time where no manipulation occurs of interest rates by the central bank operating within a stable monetary order. In the 1990s the temperature rise occurred principally in the equity market as evidenced eventually by the NASDAQ bubble and the related mal-investment (especially in telecommunications). There was not, as yet, within the US a broader credit and real estate bubble such as developed in the 1920s (though it is plausible that there was already some degree of temperature rise in some credit markets but not to bubble levels).

Correspondingly the global implications of monetary disequilibrium during the mid-late 1990s in the US were less disturbing overall than in the more severe situation of the 1920s. Yet it is plausible that the below-neutral level of rates in the US, stemming from money interest rate manipulation (within the context of overall monetary disequilibrium), played a significant role in the germination of the South and South East Asian credit and asset bubbles which finally burst in summer 1997. Given that many of the economies there were part of an Asian dollar bloc, below-neutral rates in the US would very likely put them into disequilibrium too unless their investment opportunities were limited and their excess savings flowed into hotter territory elsewhere.

In fact this was a period (the mid-1990s) when the prospects for the Tiger and Cub economies in the region had improved suddenly, in part related to the simultaneous huge appreciation of the Japanese yen, but also to the rapid globalization of production processes made possible in part by the IT revolution. And several of those economies were also becoming key parts of the production chain in the manufacture of IT hardware and software. The East and South East Asian bubbles – as all bubbles – had an origin in severe monetary disequilibrium of which one part could be traced to the US. The other part stemmed from the fact of the dollar bloc itself. In such circumstances of huge optimism (even more in Asia than the US), monetary neutrality would have required an early exit of the Tigers and Cubs from the dollar bloc. The once member countries would have allowed their currencies to float up and their central banks pursued tighter monetary policies.

The great monetary disequilibrium which developed under the Greenspan Federal Reserve beyond the recession of 2001 (which followed the bursting of the NASDAQ bubble) and particularly during 2003–5 was driven by an extraordinary impatience with the potentially slow recovery process from the excesses of the IT spending boom (it would take time for the combination of entrepreneurship, discovery of new opportunities in whatever form to make profit, relative price and wage adjustment, new technology, risk-appetite of investors) to re-route the US economy on a new path to prosperity. The newly arrived governor in the FOMC from Princeton University, Ben Bernanke, seems to have had an extraordinary influence on policy-making, through raising the spectre of potential ‘deflation’ and a Japanese-style ‘lost decade’.

We return to the misdiagnosis and impatience of the Federal Reserve during those years in subsequent chapters. But the key point for the development of monetary disequilibrium was that the Greenspan Fed

cut rates in early 2003 to the then extraordinarily low level of 1% p.a. and then only started to raise them at a glacial pace after an almost two-year lag despite a powerful growth cycle upturn under way and despite acknowledgement that the neutral level of interest rates was much higher (4% plus).

How the Fed failed to spot all the symptoms of monetary disequilibrium 2003–6

Monetary disequilibrium does not inevitably produce immediate symptoms and when these do begin to appear there may be much uncertainty for a prolonged period about their seriousness. By the time that a reasonably confident diagnosis can be made, the economy may be well off track for sustainable healthy growth. This is all especially relevant to the situation where the symptoms are mainly in the form of asset and credit market temperature rise about which there is much more subjectivity in appraisal than for the more simple case of goods and services price inflation.

In this episode (2003–6), monetary disequilibrium showed up in this first form (asset and credit market temperature). The high amount of excess capacity, high unemployment, and continuing productivity bonus from a wider exploitation of already installed IT equipment and system, meant that there was no symptom in the form of inflation. Rather the symptoms came eventually in the credit markets, real estate markets, and equity markets related to these. And by the time any Fed official could be even tentatively confident in diagnosing such symptoms much mal-investment in the economy (capital and labour pouring into bubble sectors with no long-run future) had already taken place. The lost decade becomes apparent through the rear-view mirror.

In tracking the global implications of the monetary disequilibrium created by the Greenspan Federal Reserve in the years 2003–6 we have to realize that leading central banks in Europe were treading similar paths (of disequilibrium) out of identical concern about perils of 'Japanese-style deflation'. Investors outside the US, in many cases out of desperation at low rates and awed by various speculative opportunities, poured funds (sometimes on a currency hedged basis) into the warming US asset and credit markets. Markets in the equities of European banks were hot and applauded the apparently high returns from their participation in the 'dynamic and innovatory' US credit markets alongside their aggressive strategies in the newly integrated European credit markets and elsewhere.

As in some past episodes, monetary disequilibrium in the US did also prompt US investors and banks in particular to become leading participants in simultaneously produced high-temperature asset and credit markets abroad. But this time there was some considerable degree of circularity. For example, US investors seeking higher yields poured capital into US money market funds which in turn were putting a large share of their liquidity into higher yielding dollar lending (on a secured basis against collateral of so-called triple-A assets) to European financial institutions who in turn on-lent this either to emerging market countries in Eastern Europe and East Asia or back into the US mortgage and leveraged corporate credit market.

East Asia did not cause the global credit bubble!

The US economic boom of late 2003 to mid-2006 went along with soaring US demand for imports from East Asia especially China. The corporate sector there (in China) ploughed huge amounts of forced savings out of ballooning export revenues into state banking institutions and the government in turn ploughed them into US Treasuries or agency bonds. Insofar as the Asian governments bought agencies (as issued by the federally sponsored housing finance corporations) they were tangentially participating in the US bubble (as it was by no means certain that the US Federal Government guaranteed fully agencies, though this turned out to be the case in hindsight when the Bush Administration subsequently assumed responsibility for their liabilities). That could not be said with respect to the purchase of T-bonds.

Listening to the stream of apologies from Federal Reserve officials in the years that followed the bubble and bust, one dominant theme is that the East Asian savers were the curse of the global economy, not disequilibrium monetary policies pursued in the US, Europe and Japan. Alan Greenspan and Ben Bernanke have repeatedly laid the blame at the door of ultra-low interest rates (especially long-term) induced by high East Asian savings in that these encouraged wild speculation in real estate markets and imprudent lending. This strand in the blame game fails to make the key distinction between interest rates, which are ultra low but in line with an ultra-low neutral level and interest rates, which are ultra low but significantly under neutral levels.

The first situation (actual rates and neutral rates both very low) cannot be the source of a mega credit bubble within a stable monetary order. Yes, Greenspan and Bernanke might have a point that the Asian savings surplus depressed the average global level of neutral risk-free interest

rates in real terms by even as much as 50–100bp (allowing for the risk aversion of the official Asian savers). And some investors globally may have responded irrationally by choosing to wear rose-coloured spectacles and chase higher yields in risky debt assets without soberly dissecting the dangers. But such irrationality in a well-functioning monetary framework would have endogenously produced self-correcting forces in the form of a transitory rise of interest rates – especially long-term rates – to well above-neutral level as demand for capital surged in line with the (falsely) apparent new prosperity and opportunity. This would have occurred well before speculative fever reached such a dangerous point that the level of temperature in credit and asset markets would strike the central bankers as cause for action. Instead the obsessive money interest rate pegging and inflation-targeting practices of the Federal Reserve (and of the ECB, and BoE) prevented those self-correcting forces from emerging.

2

Phobia of Deflation Menaces Prosperity

It is hard to believe that once upon a time – in fact as recently as the 1920s and 30s – periods of price level rises were just as frequent as those of price level falls. Some of these periods were short – others were long. Sometimes the cumulative price fall would be large – other times small. Over the very long run (meaning several decades) the price level was stable. (If the price level were measured as of today to take account of continuing quality improvements – for example a constant quoted price for a computer despite an increase in computing power – then there would have been some long-run downward drift). That was the situation for the group of countries which were on the gold standard; indeed it was only for around 40 years before the First World War that the gold standard could be described as almost global.

Yet in the modern era, say, since the US dollar's full convertibility into gold was broken in March 1933, any actual or potential period of price level fall has triggered fear. Monetary policy-makers in fighting against the 'evils of deflation' appear to win popular support. Central bankers only have to mention, during a period of business cycle downturn, the deflation of the Great Depression or the 'the perils of Japanese deflation' in the long aftermath of the 1986–90 bubble economy to win over their audiences to their platforms of interventionism. At the front of the scaremongers has been the Federal Reserve, especially in the personification of its present chair (in 2011), Professor Bernanke.

As a point of fact, however, the perils of Japanese deflation belong to the world of fiction. Japan's price level (CPI) continued to rise by more than 1% p.a. from 1991 to 1994 and, ignoring indirect tax increases, fell only by a cumulative 2% in the subsequent 15 years (to 2010). The first episode of price-level decline, remarkably gentle, was from 1998 to 2003 (the dominant downward influences on prices were initially a spurt in

productivity attributable to the IT revolution and rapid economic integration with China and later, during 2001–2, recession). Subsequently a cyclical re-bounce of prices occurred during 2006–7 followed by a cyclical fall.

Yet in spring 2003 both the Federal Reserve and ECB, taking their cues from the Japanese experience, set out revised frameworks for monetary policy which had as a central component the ‘avoiding of deflation’, in other words, a fall of inflation to below 2% p.a. was sufficient to trigger a monetary counter-attack. What lies behind this horror of deflation?

Deflation mythology of the Great Depression

This historical association of deflation with the Great Depression is evidently one explanation for the phobia about this condition. But association is not a rational basis for fear. The Great Depression was not a phenomenon which occurred in a well-functioning monetary order. The international Gold Standard had collapsed in the First World War. The truncated combination of a US domestic gold standard coupled with a global dollar standard, in which the Federal Reserve had almost total discretionary control of the US monetary base on the one hand with a disequilibrium structure of fixed exchange rates on the other hand, permitted vast monetary disorder to form (see p.21). The severe deflation and economic collapse of the early 1930s had, as pre-conditions, monetary disequilibrium stretching forward from the early 1920s and highly destabilizing monetary policy actions once the severe economic downturn had started. And critically by the time of the second severe phase of US recession – from autumn 1931 to summer 1932 – the US and global monetary disorder was so intense that there was no basis for rational expectation of prices re-bouncing any time soon.

In particular, after Britain’s departure from the gold standard (September 1931) the Federal Reserve’s vehement response, a big hike in interest rates, to gold loss (explained by a sudden loss of confidence in the US dollar remaining convertible into gold) meant that economic agents were looking at the prospect of a new plunge in the price level, no re-bounce. The gold standard in-built stability mechanism, which generates an increase in monetary base at times of low prices by stimulating production of gold, was largely broken in the context of a new monetary ‘order’ (as after the First World War) where gold supplies had little, if any, relation to monetary base growth (for the gold countries as a whole) (see Chapter 3). The shock of German political and economic

collapse occurring through 1931 and the massive US monetary contraction surely explained a plunge in equity markets. In the 'good cyclical deflations' of textbook theory, by contrast, the deflation phase should be accompanied by a re-bounce of equity markets which leads the economy forward, as investors anticipate the recovery of profits further ahead in a continuing climate of negative real risk-free rates (expectations of price recovery mean low or zero nominal rates are negative in real terms).

It is useful, before proceeding in this discussion of deflation phobia, to back-track first to key definitions. Clarity on these can help deal with the horror, which is, in fact, phobic rather than rationally based.

Definitions of deflation – popular, Austrian school and monetarist

The most popular definition of deflation is a period, generally understood to last for at least several quarters, of a falling price level.

A less popular definition found in older economic textbooks, most particularly associated with the Austrian school (see Bagus, 2003), describes deflation as a sustained monetary disequilibrium in which a 'shortage of money' drives 'the price level' downwards. (Note, however, that Austrian school economists are adverse to using aggregates such as 'price level', stressing instead the huge heterogeneity of economic life). In particular, von Mises defines deflation not as declining prices *per se* but as 'a diminution of the quantity of money (in the broader sense), which is not offset by a corresponding diminution of the demand for money (in the broader sense) so that an increase in the objective exchange value must occur' (Von Mises, 1981). Money shortage in the sense of the Austrian definition would go along with market rates of interest rising far above so-called natural or neutral level. Deflation on the von Mises' definition would not include episodes of a falling price level due to, say, accelerated productivity growth or business cycle fluctuations where there was no accompanying monetary shortage.

Deflation in its full von Mises' context of actually meaning a fall in the price level driven by monetary disequilibrium did occur on a sustained basis on several occasions in the decades before 1914. In the era of the international gold standard episodes (of von Mises-type deflation) for the gold bloc as a whole were characterized by a contraction in new gold supplies or by a sudden rise in demand for physical gold (as occurred after the Franco-Prussian War when the newly formed German Empire adopted the gold standard). Otherwise one or more countries

within the gold bloc might have experienced deflationary monetary disequilibrium as a consequence of deterioration in their balance of payments. In the hybrid US domestic gold standard and global dollar standard of the interwar years, episodes of monetary deflation included the attempts of various central banks in succession to defend their gold or dollar parities by shrinking the supply of monetary base.

In the decades since the end of the Second World War, episodes of deflationary disequilibrium in the von Mises' sense (of actual decline in the price level against the background of monetary disequilibrium) have been found in the case of countries defending fixed exchange rates. For example, Hong Kong's actions to defend its dollar parity in the wake of the Asian debt crisis of 1997 led on to a powerful deflation.

In terms of modern monetary analysis (to fit the world of fiat monies) it is useful to focus on the broader concept of *deflationary monetary disequilibrium* which includes von Mises' deflation as one special case. Deflationary monetary disequilibrium is characterized by a significant shortage of money which has the effect of driving market interest rates (especially those quoted in the capital markets) above neutral on a sustained basis. In the context, however, of normally ingrained expectations of inflation, such monetary disequilibrium only rarely displays the features of von Mises' deflation. Rather the evident symptoms include 'disinflation' and asset price 'deflation'. Disinflation refers to the situation where the monetary authorities are seeking to roll back inflation from unacceptably high levels by keeping money in short supply relative to demand.

In general terms, episodes of deflationary monetary disequilibrium (where money is in short supply) might indeed have, as a symptom, a sustained fall in the price level but that is not always the case. Deflationary monetary disequilibrium might be reflected primarily in the asset markets where prices would be weak whilst the price level for goods and services could be stable or even rising. As an example of that juxtaposition, consider a sudden disruption in the supply of real resources – for example by natural disaster or war. With the supply of money on an unchanged path there would be monetary disequilibrium (as the demand for money rose in line with nominal transactions volume). Weakness in the asset markets would stem from the above-neutral level of interest rates reflecting monetary disequilibrium and the general economic hardship provoked by the shortage of resources.

Alternatively, deflationary monetary disequilibrium might develop in a situation where there are strong in-built expectations of prices rising over time based on extrapolation from recent history and on perceived

long-run stance of monetary policy (sufficient monetary growth to validate those extrapolations). A sudden shift upwards in the demand for money (as might happen during a period of financial distress) or drop in the supply of money (with the central bank trying to restore absolute price level stability rather than living with perpetual inflation) would bring a fall in inflation (*disinflation* as defined above) in the context of money shortage but no fall in the price level.

Conversely, it is possible to observe a sustained fall in prices (deflation according to the most popular definition) which is not symptomatic at all of deflationary monetary disequilibrium either in the von Mises sense or according to the broader interpretation of the concept. This could be the case where there is a sudden large jump in the rate of productivity growth or a sudden improving trend in the terms of trade (meaning a fall, for example, in the price of imports on a sustained basis). Such so-called 'good deflation' occurs with the money supply following a path virtually in line with demand for real money balances, signifying no overall monetary shortage.

Other examples of false-positive diagnoses of deflationary disequilibrium based on the popular measure of deflation (falling prices) include benign cyclical price declines (prices falling to a lower level during recessions coupled with expectations of an eventual re-bounce into economic recovery), a fall in prices driven by a secular rise in savings, or a process of price decline wholly in line with stable, firmly held expectations across the economy (about a long-run trend fall in prices) and ratified by an appropriate monetary course.

Benign cyclical price decline (one good form of deflation in its popular sense which does not correspond with von Mises' deflation) is driven by weak demand in a business recession. Businesses in many sectors of the economy cut prices to lift sales. Also featuring as part of that same phenomenon could be price declines related to inventory liquidation and labour accepting temporary pay-cuts (especially in cyclical industries). And much of the price discounting may occur secretly (and thereby not registered in the data collection which underpins official estimates of the price level). In a revealing article about prices in depression, Morgenstern (1931) draws attention to the extent to which businesses grant unofficial discounts to their consumers and business customers and how these are withdrawn when business improves.

All of this is benign in that price declines to a lower level now, coupled with expectations of a re-bounce in the future when the economic cycle turns upwards, provide a stimulus to present spending (both by businesses and households). It may be that the benign process in fact

runs into the 'headwinds' of monetary disequilibrium, as would occur if for some reason money supply is not keeping up with real demand for money. But such headwinds are not inevitable and indeed the cyclical fall in prices in itself would boost the supply of money in real terms.

Take the example of a false-positive diagnosis of deflationary disequilibrium based on a secular rise in savings. It could be that the propensity to save rises to such a degree (perhaps under demographic influences or in line with a big increase in uncertainty about future economic prosperity) that the neutral rate of interest (as measured say with respect to medium-maturity, default-free, debt paper) becomes negative in real terms. The process by which the invisible hands of market forces generate negative real rates might well involve, first, a fall of the price level. The initial fall coupled with expectations of a subsequent rise would produce a negative real rate. Moreover, in the context of the gold standard world, the fall in prices in the immediate term would mean a lower cost of mining the yellow metal, which together with its fixed price in money terms would produce some increase in gold supplies, favouring some recovery of the general price level over the long run.

In history it is possible that the so-called 'great deflation', which spanned much of the 1870s and 80s and was a global phenomenon, could be partly explained by such a process of a rising savings rate. Savings were increasing as the populations in Western Europe and the US started to provide for their retirement in some cases through national pension schemes. Britain and France swung into a huge savings surplus as domestic investment opportunity fell behind savings (with lending or investment abroad booming). From the lower level of prices reached at the end of 1880s, price recovery had surely become more likely than further price level decline. Underpinning such a probability calculus would have been the outlook for revived monetary growth. Lower costs of mining (in part reflecting the fall of prices generally of inputs) played some role together with new discoveries in driving gold production higher. The decade or more before the outbreak of the First World War was essentially one of significantly negative risk-free rates in real terms (see Chapter 1, p.13 for analysis of this historical fact in a US context).

The last example here of false positives (on deflationary disequilibrium), as signalled by falling prices, is found in a situation where there are already built-in expectations of price level decline. These (expectations) might have formed over a long period of time and the central bank might be seen as piloting a monetary course which would be consistent with this steady-state decline continuing. Indeed in one essay,

Milton Friedman (see Friedman, 2006) hypothesizes that such a steady state of deflation might be ideal in terms of economic welfare – in that non-interest bearing banknotes and sight deposits would provide a low real return, in the sense that the public would not seek to reduce their holdings out of concern at opportunity cost, and so give up convenience yield, when in fact the marginal cost of producing fiat money is zero.

Such a steady-state falling trend in prices, wholly in line with long-run monetary trends could be described as a benign monetary deflation. Friedman does not consider, however, the need for variations in the pace of price decline, including sometimes a rise in prices, as essential for generating negative real interest rates in line with fluctuations of the neutral level, as described here, for various hypothetical situations (including business recession, rise in savings surplus). Benign monetary deflation in the Friedman sense should be contemplated as an ideal only for the very long run, not over short and medium-term periods of time. And, in any case, providing a real yield on cash over the long run on average may clash with the need to strengthen the pivotal role of monetary base in the construction of a stable money order as we shall discover in Chapter 3.

Bad deflation stems from bad monetary systems

Many economists (especially those drawn along by the popular current of Bernanke-ism, which will be defined in the last chapter of this volume) would argue that inflationary monetary disequilibrium (where an over-abundance of money supply relative to demand is pressing market interest rates below neutral level, likely giving rise eventually to symptoms of either temperature rise in asset and credit markets, or goods and services price inflation, or both) is a better occurrence than deflationary monetary disequilibrium.

Such arguments are sometimes based on the hypothesis that, in the period of time until the inflationary disequilibrium is widely recognized, there could be some positive effects on real economic activity. This hypothesis was most popular in the heyday of Keynesian economics as allied to the ‘pro-growth’ agenda of the Kennedy and Johnson Administrations. But it was discredited to a considerable degree by the experience of the Great Inflation.

A weightier argument as to why deflationary disequilibrium is so serious relates to the residue of obstacles which it may leave behind in the wake of returning to overall economic equilibrium. Yes, there may

be no difficulty in increasing the supply of money so as to eventually relieve any shortage. If, however, expectations of price declines have meanwhile become prevalent and the neutral risk-free rate of interest is very low, or even negative in real terms, then the normal processes, by which the capital market estimates this and positions market rates around the estimated level, might seize up. Instead, the risk-free interest rate in, for example, medium-maturity bond markets would remain fixed above the level consistent with overall equilibrium.

This situation of interest rates trapped at above equilibrium levels under deflationary or near-deflationary conditions has come to be known as the 'problem of the zero-rate boundary'. This problem arises where the equilibrium interest rate (in nominal terms) for maturities up to a few years into the future has become negative (as in deep recession) and yet money interest rates cannot fall below zero in a conventional monetary system (as, if they did, depositors would withdraw their funds from banks and hold banknotes instead).

In fact, the zero-rate boundary problem was not a focus of complaint or attention by mainstream contemporaries writing during the heyday of the gold standard as expectations of how the price level would fluctuate moved in such a way as to provide an automatic solution. The over-riding implicit assumption of economic agents was that periods of deflationary monetary disequilibrium would be short-lived and self-limiting.

This assumption was founded on two key aspects of the gold standard order. First, any sustained fall in the price level would bring a rise in gold production and thereby in the monetary base of the gold bloc countries in aggregate. And second, monetary base had a stable long-run relationship to nominal incomes and price. An increase in the monetary base would eventually go along with a reversal of the price decline. Expectations of price level recovery meant that low nominal interest rates could be substantially negative in real terms.

As we see in the next chapter a revamped system of monetary base control, borrowing key features from the gold standard world, might well re-create those two aspects which provided safety valves against deflation turning sinister (in the sense of driving the economy away from equilibrium rather than towards it). But the possibility of such revamping is far away from the attention of modern central banks, including critically the Federal Reserve. And these same central banks have no inclination to examine the stabilizing function (for the economy, both nationally and internationally) of so-called 'good deflation', whether cyclical or secular.

The label of 'good deflation' does not apply here to a long-run secular fall in the price level with low probability of a subsequent re-bound, though, as we have seen, Milton Friedman hypothesized that such a situation could be benign so long as the rate of price decline was only modest (see p.47). Rather, good deflation refers to an episode of price level fall very likely to be followed by stability or reversal (price-level re-bound), where the process of price fluctuation through time (up and down) is a key mechanism in the economy continuously finding an efficient path forward consistent with overall monetary stability in its widest sense (to include lack of temperature rise or fall in asset and credit markets and minimization of related mal-investment).

A long-run secular fall in the price level (alongside expectations of price level decline to match) with no highly likely end or reversal does become a source of concern, as at some stage there will be a cyclical downturn. And even in normal non-recessionary periods the equilibrium risk-free interest rate in real terms may fall to below the expected rate of price deflation (for example 2% p.a. deflation coupled with a 1% p.a. neutral rate in real terms). Then well-informed capital markets cannot generate an equilibrium capital cost (across all asset classes) consistent with economic equilibrium.

The origins of deflation phobia

The predilection of all economists against non-reversing serious deflation (for reasons just described) does not mean there is a consensus opinion regarding the desirability or not of absolute price level stability as measured over the long run (allowing for episodes of price falls and price rises). For example, perma-pessimists regarding economic progress argue in favour of long-run inflation on the basis that the equilibrium real interest rate is normally negative (as would be the case if investment opportunities were continually scanty relative to an abundant supply of savings) and so the zero-rate boundary problem could be present for much of the time. But it is surely unlikely in a well-functioning capitalist economy (with robust entrepreneurship and technological progress at a normal rate) that the risk-free real neutral rate would be below zero for long periods, and much more likely would be 1% p.a. plus. To understand the aversion of many modern central bankers to 'good deflation' (which reverses itself) we have to look at a collection of prejudices which have come to the fore in the Federal Reserve under Professor Bernanke but which have long been a feature of the analysis so dominant in that institution's economic modelling.

One source of the antipathy towards pro-cyclical price fluctuation (price level falls to a lower level during recession and higher level during recovery or expansion phase of the business cycle) is the Keynesian hypothesis that wage reductions during recession just make matters worse. The wage-earners have less to spend and so aggregate demand falls. This analysis proceeds as if the next period to the one under consideration does not exist. And so there is by definition no role for price-re-bounce expectations (meaning real interest rates would fall into negative territory). Wage-earners who now have their pay cut would not spend out of the expected re-bounce of their wages further ahead (as the period ahead does not exist). And in the world of Keynesian economists there is no heterogeneity. It is beyond the IS-LM model popularized by Hicks to consider such sophistications as whether a wage cut in a highly cyclical industry might in fact be wholly normal (and fully in line with the expectations of all those working in the industry, in the same way as the subsequent bounce-back of wages would be expected in the recovery) and consistent with a lower-than-otherwise cost of capital there (in that wage-earners in fact assume some of the equity risks). A willingness of labour to assume some element of cyclical risk (in their pay) is key to the highly cyclical industries enjoying a lower-than-otherwise cost of equity capital and sustaining thereby a higher-than-otherwise level of investment and output over the cycle as a whole.

Moreover, it may well be that during the period of economic boom many of the new jobs created were in the most 'bubbly' areas of the economy – such as construction, finance, or automobile production – where enterprises obtained capital from investors wearing rose-coloured spectacles (in viewing future likely returns) and did not spot such dangers as over-supply and over-leverage. In effect, the raised level of speculative temperatures in asset and credit markets, as produced by monetary disequilibrium, lay behind the remarkably strong employment growth. The shake-out of labour from those dead-end sectors once the temperature falls (and perhaps post-bubble reality sinks in) would most likely go along with some fall in observed wage-rates in some areas of the economy as part of the process whereby the invisible hands (entrepreneurship, technological change, relative price and wage changes) bring about new profit and employment opportunity – including those parts of the labour force where human capital destruction (obsolescence of training) was especially great.

Another source of antipathy towards pro-cyclical price fluctuation during the 'good deflation' phase is the observation that prices (and sometimes wages) on average often continue falling for some

considerable time. Hence it could be that over short periods of time good deflation goes along with perversely high real interest rates – insofar as economic agents are discounting a succession of price falls. Rather than economic agents focusing on low prices now compared to higher prices in the cyclical re-bounce and thereby bringing forward spending, they may be looking at the likelihood of further price cuts which might emerge first during the current recession and so delay spending.

Official price level statistics may exaggerate the potential problem of drawn-out price cuts during recession in that they do not reflect the secret discounts which might in some cases pre-date list price reductions or which might be bunched at the severest point of the recession (see p.45). But even leaving this statistical point to one side, the problem with this model of how good deflation might generate perverse saving during a recession is that it fails to acknowledge the key uncertainties of the learning process found so often in market action.

Businesses recognize that demand for their product has weakened and that some type of business cycle slow down has emerged. And so some businesses cut prices in line with the perceived weakness. Perhaps in another quarter or so, they would perceive a further deterioration in demand and cut prices again. But that was far from inevitable. The appearance of a run of price cuts with the benefit of hindsight does not mean that economic agents would have forecast these rationally to start with. It is the same phenomenon in asset markets where learning about a continuing background change relevant to valuation (where learning could mean either further appreciation of what is already there, or that what was already there has become stronger in shape) can produce a pattern of price runs without implying any inefficiency or ex-ante profits opportunity.

This pattern of price runs downwards is clearly evident during severe recessions. In spring 1930 few economic agents were putting a high probability, if any, on the recession turning into a Great Depression. As one down-wave of recession followed another – triggered by the sequence of policy blunders coupled with new outside events – prices came under further downward pressure. But already in spring 1931, just before the German credit crisis erupted in its fullest and most sinister form setting off a new phase of intense deflationary disequilibrium in the US, it would have been rational for business people and consumers with cash to take advantage of already low prices (by comparison to long-run hypothesized norms).

One further point of caution applies to the observation of trend decline in prices during a recession. What is true for the overall price

index is not true for each price of each good or service. It may be that one-off price cuts occur at different points in the economic downturn for different sectors of the economy. Once the price cuts have occurred in sector A there is no point in consumers holding back for another price cut there – rather their attention would be on the eventual rescinding of the price cut – even though other price cuts might yet emerge in other sectors of the economy.

Virulent Bernanke-ite strain of deflation phobia

Even those ‘anti-deflationists’ who accept all the points so far (about the benefits of good deflation – whether in the context of a business cycle recession or a period of spectacular productivity growth – and the irrelevance of ex-post trends in the context of a learning process) may still have concerns based on so-called unfavourable balance sheet effects. These were first analysed by Irving Fisher in the context of the Great Depression, but made much of by some inflation target proponents, including Bernanke (2000). The concern is that the fall in the price level means an increase in the real indebtedness of businesses, which would hinder their prospects of weathering the recession and moving forward to take advantage of new investment opportunities.

The antidote to this concern is the realization that the recovery of the price level further ahead (beyond the present fall related to recession or productivity spurt) will go along with a decline in the real value of debt (or equivalently there will be a period of substantially negative interest rates) offsetting the rise in real value during the ‘good deflation’. Hence, in the context of long-run price level stability, good deflation would not ‘permanently’ re-distribute wealth between shareholders and bondholders (and other creditors) or affect financial risk (of the corporation). And even in the short run, the equity shareholders should not suffer if the prospective fall of real interest rates into negative territory also goes along with a fall in equity capital costs (equivalently a rise in P/E ratios to above where they would otherwise be and thereby an increase in equity price). Note that the prospective fall of real interest rates to negative levels (as price recovery prospects emerge) does not bring capital gain for bond holders as rates in nominal terms remain above zero.

In sum, the negative balance sheet effects of deflation (raising real indebtedness) only emerge where markets fail to put any significant weight on a possible later price level recovery meaning substantially negative real interest rates. Even in that case, there is the potential for

companies to lower their leverage ratio back to a more comfortable level (in terms of bankruptcy risks) by issuing equity to retire debt. The problem with such a de-leverage strategy could be that it involves driving up the price of now risky debt (in that higher leverage due to price level fall means that the same bonds outstanding as before became riskier) and thereby handing a windfall gain to the bondholders (at the expense of equity holders). In some situations this problem can be solved, in part, by direct negotiation between bondholders and equity holders so that the gains from de-leverage can be more equally shared.

Deflation and social justice

The issue of balance sheet effects of deflation is tangential to a wider 'social justice' question sometimes raised in the literature. The charge is that deflation favours the *rentier* (investor whose income mainly comes in the form of interest rate payments on nominal debt securities or equivalent) and the salary-earner in 'safe employment' (especially government) where nominal wage-rates are fixed and disfavours the risk-taker, whether the equity owner or the worker in risky employment (where wage-rates may be cut in nominal terms). Surely this type of redistribution is 'undesirable', especially at a time of economic hardship, as would be the case during a severe recession? In particular, Keynes, who wished for the 'euthanasia of the *rentier*', would have had no liking for good deflation, even if he had been persuaded of the economic rationale.

In fact, as has been explained here, the *rentier* does not do well in any long-run sense out of good deflation during a business cycle downturn where long-term price level stability still reins. His or her gains during the period of price level fall are subsequently eroded. It is different with respect to persons in safe employment whose wages are fixed in nominal terms (not subject to any possible wage-cuts such as those occurring in other parts of the labour market). In principle, however, the safety of nominal wage-income in some employments should be reflected in lesser upward potential during good economic times and a lower level of income overall than otherwise (to reflect a risk premium for safety). In practice this may not happen if public sector unions exert great power over the wage-determination process.

Some economists have pinpointed the fleeting gains which good cyclical deflation might bring to holders of money (and bonds where the principal and interest are fixed in nominal terms) as one key source of recovery. (They do not point out that the gains are fleeting as they

do not describe a process of subsequent price level re-bound). This is the basis of the so-called 'Pigou effect' which also features importantly in the work of Patinkin (1989). The idea is that the fall in prices boosts the real spending power of money and bond holders. (The Pigou theorists admit some offset via the real loss suffered by equity holders in the businesses or by the households which have issued bonds or borrowed from the banks and focus instead on 'outside' money and bonds which are matched by the government on the other side). But these authors do not consider the likely negative real income to materialize (taking account of still very low or zero nominal interest rates) once the price level starts to recover. More important to the economic upturn process, than the initial 'real balance effect', is the negative real rates that go along with price level recovery and the lowered cost of equity capital which accompany these.

A final retort of the 'anti-deflationists' relates to the difficulty of cutting wages. They argue that it is just so difficult for an employer to reduce nominal pay-rates – not least in terms of bad feelings created, work relationships and incentives. And in the unionized segments of the labour market, wage-cuts might be out of the question due to the huge possible costs of strike action. A first point to make here is that good deflation during a business cycle downturn does not necessarily involve widespread wage cuts. Rather, what may be at stake is reduced or foregone bonuses – especially in cyclical industries where such bonus payments related to the state of the cycle could be prevalent. Second, wage cuts in a situation where prices have fallen might mean no loss in real standard of living even for those affected. Third, the record over recent decades in Europe and the US shows that unions in the private sector are ready to accept wage flexibility in a downward direction. The juxtaposition between union power and economic adjustment is mainly a feature of public sectors where unions are in effect bargaining for a share of tax revenues or monopoly rents.

The good deflations which did not occur – in the US, Japan and Switzerland

Counterfactual history is full of hazards. Nonetheless, a historical look at good deflations which might have occurred and did not is an enterprise which could well yield insights. The discovery of a better outcome if deflation-phobic central banks had not got in the way would help not just in the understanding of good deflation but also in the search for a cure to deflation phobia. Such a counterfactual exercise is by no means

confined to the US but extends also to good deflations which did not occur in Europe and Japan.

The first chapter of this book has already included some discussion of the good deflations which did not take place in the US and with what detrimental consequences. One key instance was the good deflation which did not occur in the 1920s under the influence of the then productivity spurt (related to a technological revolution embracing radio, electrification, telephone, assembly line for automobiles). If the Federal Reserve had kept the growth of monetary base on a path consistent with long-run price stability (at a normal productivity growth trend) then prices would have fallen as productivity spurted ahead (see p.17). Instead the Federal Reserve allowed the monetary base to run ahead of demand (and demand was depressed by a changed pattern of reserve requirements) – with big monetary injections at three points – and so a natural tendency for price falls was resisted. But that same monetary excess produced the rise of temperature in credit and asset markets.

A second instance was the good deflation which the Martin Federal Reserve did not allow to occur through the post-war economic renaissance period of the mid-late 1950s and the early/mid-1960s when economic miracles were appearing in Japan and parts of Western Europe (see p.27). Some tendency towards US price level fall and tighter monetary conditions would have moderated the eventual temperature rise in asset markets (followed by the burst of 1969) whilst securing the global dollar standard.

The third instance was the good deflation which did not happen in the US during the IT revolution of the mid-late 1990s (see p.36) with the result of an IT bubble in the equity market (NASDAQ) together with the mal-investment (excess capacity created at the time in telecommunications and other ‘new economy’ areas). The fourth instance was the good cyclical deflation which the Greenspan Federal Reserve did so much to prevent in 2002–3 including the embracing of a revolutionary policy of ‘breathing back inflation’.

The fifth instance could be the good deflation which was pre-empted in late 2008 and into 2009/10. Suppose the Bernanke Federal Reserve had not planted its massive monetary time bombs, called quantitative easing, on the rails of the US economy first during winter 2008/9 and into spring 2009, later in winter 2010/11. Then most likely the plunge of the US dollar and jump to the sky in the price of global commodities would not have taken place. (One factor in the latter was the simultaneous actual explosion of a monetary bomb by the People’s Bank of China, with the Chinese currency at a tightly controlled exchange rate

to the US dollar). Prices most likely would have fallen across many sectors of the US economy carrying forward a process already evident as businesses liquidated excess inventories. Some wage-rates would also have fallen. In principle this good deflation coupled with expectations of eventual price level re-bounce as economic recovery emerged would have meant negative real interest rates (for say 2–5 year maturities) – less fleeting than what the Bernanke Fed could manufacture by stimulating speculative fever in global asset (including commodity) markets.

The policy of directly fanning expectations of inflation as decided upon by the Bernanke Fed in 2009–10 (with the adoption of two successive programmes of massive ‘quantitative easing’ (QE) involved a contradiction. The Federal Reserve was at the same time telling everyone that it intended to exit QE and remove all the excess reserves created as economic conditions improved and yet relying on those excess reserves into frightening economic agents into believing that inflation would rise substantially and so bring forward their spending.

Even if the Bernanke Fed had desisted from planting its QE (quantitative easing) time bombs and there had not been the simultaneous giant monetary bomb exploded by China, there was a potential obstacle in the way of good deflation emerging in the circumstances of the 2008/9 recession. This was the absence of any monetary framework which would generate, with a high degree of certainty, a re-bounce (from the recession low-point) of the price level into the subsequent recovery and expansion phase of the business. In the gold standard world, the growing expansionary forces operating on the monetary base (for the gold bloc as a whole) as prices fell (see p.48) justified a high degree of certainty about a price level re-bounce further ahead. But in the US (and indeed throughout the global economy) monetary base had been removed from the pivot of the monetary system by the time of the Great Recession (2007–9). The future path of the price level depended entirely on discretionary decision-making by the central bankers. Even so, there was much reason to expect the Federal Reserve to use its discretionary powers to successfully promote a re-bounce of the price level in the long run (though when that re-bounce would take place and by what process of fits and starts was almost impossible to predict).

Of course it is far from certain that a fall in the US price level would have occurred in late 2008 and 2009 even if the Bernanke Fed and People’s Bank of China had not got in the way, though positive evidence for this hypothesis includes the anecdotal evidence of widespread price-cutting related to clearance of huge piles of excess inventories which built up, both at a retail and wholesale level. (The Bank of China by its

policy of massive monetary explosion starting in early 2009 became a key catalyst to a wave of speculation in global commodity markets pushing prices there sky-high with ripple effects into recorded inflation for the advanced economies). Vigorous cyclical deflation (coupled with robust expectations of price level re-bounce into a recovery) depends in part on widespread skilful practice amongst firms and other sellers of goods and services. Businesses learn, from previous recessions, the advantages of prompt and bold action on prices and so do wage-earners (with respect to recognizing that wage-cuts are not as bad as they might seem at first sight given that prices are falling and that income prospects further ahead should improve).

There has been such a long period of history during which good deflation has been in suspense that contemporary economic agents would have to re-learn what was well known to their forebearers under a gold standard environment. This problem of re-learning is not in itself justification for the Federal Reserve or any other central bank to refuse treatment for their deflation phobia. In practice, though, that treatment would go along with some withdrawal symptoms in the economy (during a recessionary phase) until new learning had taken place. And realistically the treatment would have to be prescribed by the political democratic forces to which the central bankers are answerable. (We return to the political economics of monetary reform in subsequent chapters).

Moving outside the US, a prime counterfactual case of the good cyclical deflation which did not take place is Japan in the aftermath of the gigantesque credit and asset bubble which started to burst in early 1990 (see Brown, 2002). In fact, the overall price level as measured by the CPI continued to rise (by 1–2% p.a.) through 1990–2, followed by broad price level stability (as described at the start of this chapter). The absence of good deflation in Japan during those early years following the burst of the bubble is indeed extraordinary. Good deflation would have been a benign development both in terms of spurring a business cycle recovery and in terms of facilitating (reducing frictions along the way) a secular shift of the Japanese economy towards a higher level of savings. A cyclical recovery and secular renaissance would require a prolonged period of significantly negative real interest rates (defined with respect to zero-risk assets) and to generate these, the price level would have to fall first to a level well below its long-run expected average level. (A negative real interest rate – insofar as equilibrium real rates were not being similarly depressed elsewhere – would go along in principle with a low real exchange rate value of the yen. The real cheapening of the

yen against foreign currencies would moderate the extent to which a steep fall of real interest rates into negative territory would be necessary given the stimulus to the traded goods sector).

The failure of good deflation to emerge in Japan during 1990–3 cannot be blamed on monetary policy. Indeed the universal criticism of the Bank of Japan during that period is that it maintained too tight a monetary stance in part out of a misplaced effort to exorcise speculation (in the land market particularly) and in part out of a bizarre enthusiasm for a strong currency (which coincided with Washington pressing for measures to reduce Japan's trade surplus, of which yen appreciation could be one – see Brown, 2002). And the perverse jump of the yen could have at least given some impetus to good deflation.

Plausibly, mega-fiscal stimulus programmes played some role in thwarting a downward move of the price level. Also playing a role was the extension of new credits to zombie companies (effectively insolvent but kept going by rolling over loans at virtually no interest) by a banking system which was effectively insolvent. The lenders would not stomach bold price-cutting by their zombie clients and nor would they enter into debt-equity swaps at an immediate loss so as to allow them to emerge as solvent entities able to price their goods and services downwards to market conditions. It is also highly plausible that the Japanese private sector was just not flexible enough or attuned to making the ideal market responses to a sharp post-bubble decline in demand across much of the economy. Impediments possibly included lack of competition, life-time employment practices (meaning that excess supply of labour remained hidden as large firms simply kept idle labour on the payroll), stifling regulations and restrictive practices.

All these impediments to the free play of market forces would have limited the scope for the potentially powerful mechanism of good deflation (where prices in the recession fall far below their level expected in the long-run, meaning that real interest rates become highly negative) to drive the Japanese economy back to the path of prosperity. Instead, business upturns occurred erratically, sometimes led by massive fiscal expansion, sometimes by robust export demand (stemming from booming economies abroad), and sometimes through endogenous power sources such as technological progress together with real income gains resulting from an improvement in the terms of trade (as occurred in the rapid integration with China in the mid-late 1990s). It is to the credit of the dynamism and good fortune of the Japanese economy that bouts of economic recovery unrelated to fiscal spending did indeed occur on a powerful scale. But the counterfactual historian still has a

strong case to argue how much better the outcome would have been (in terms of overall economic prosperity) if good deflation at the start had replaced years of fiscal profligacy financed via the leviathan under the name of the Japanese postal savings system. The combination of highly negative real rates (and correspondingly lower cost of equity capital) in Japan through the mid-1990s and a correspondingly lower real value of the yen would have ignited a powerful rise in investment and exports sufficient to replace the government spending on projects with negative return driven so often by specific local patronage and similar non-economic motive.

One insight to be gained from the counterfactual Japanese good deflation which never occurred is the role that domestic price level falls can play in offsetting apparently perverse and indeed debilitating exchange rate fluctuations. Indeed, the bizarre attachment of Bank of Japan Governor Mieno to a 'hard currency' coupled with Washington's campaign to reduce Japan's trade surplus contributed to a big overshoot of the yen in the aftermath of the bursting of the credit and asset bubbles. The yen's rise was characterized by upward spirals starting in late 1990 and finishing in spring 1995. A prompt fall of prices and wages in nominal terms across much of the traded goods and services sector of the Japanese economy would have both mitigated the real overshoot of the yen at that time and also prepared the way for the remedy of a prolonged period of negative real interest rates (on the basis of price recovery prospects). That did not happen.

That counterfactual case of Japan leads on to another episode of currency overshoot – this time in Switzerland – where good deflation did not occur. The distinct point to demonstrate in the Swiss example is that a deflation – later to be reversed by price re-bounce – can be intrinsic to the equilibrium process of an economy adjusting to a shift in international popularity of its currency. In that sense the deflation could be described as 'good'. For this reason, consider the situation in late 2009 and into 2010 as a wave of pessimism developed about the future of the euro and its likely long-time decline as an international currency. The counterpart to this was a surge in demand (relative to size) for the Swiss franc. This was not likely to be just a fleeting development but backed by long-run changes in portfolio weightings (away from the euro) across the investor universe, including Swiss and non-Swiss. So how would the Swiss economy adjust to this increased global demand for its currency?

The Swiss economy would have to go through a prolonged period of substantially negative real interest rates for francs. These negative real rates (on risk-free assets) coupled with a general lowering of the

Swiss cost of capital would drive up consumer and investment spending inside Switzerland, offsetting the drag from expanding imports and falling exports (brought about by the strength of the Swiss franc). In turn the widening of the trade deficit (or fall in trade surplus) would accommodate an increased flow of international capital into the franc.

The negative real rates would be produced by the combination of the price level falling in the immediate (as the counterpart to sky-rocketing of the franc in the foreign exchange markets) coupled with an expectation that the price level would recover in the longer-term (consistent, for example, with long-run continued monetary growth at an unchanged pace). The immediate climb of the franc (together with a fall in Swiss price level) plays a key role in the adjustment process by triggering increased demand (as part of a re-balancing process) for foreign currency assets by Swiss based investors, in that the exchange rate change would have caused the foreign share in their portfolios to fall. Similarly, foreign investors would find the share of francs in their portfolios rising without having to make new transactions (buying francs in the foreign exchange market). The fall in the Swiss price level could create some real wealth effects (via gains in the Swiss purchasing power of franc money and bonds) inside Switzerland, whereby residents would increase their purchases of goods, services, and foreign assets (beyond portfolio re-balancing).

The Swiss National Bank in its reaction to the surge in demand for its currency revealed absolutely no acknowledgement of the potential benign role which a period of good deflation could play in such circumstances nor of the shock-absorbing effect of a temporary decline of prices (and possibly wages) in the traded goods and services sectors under the impact of franc shock (sudden surge of the currency). Instead it justified massive intervention in the foreign exchange markets on the basis of 'avoiding any deflation'. Whereas a free float up of the franc coupled with good deflation would have set Switzerland on a course of domestic demand growth and efficient portfolio diversification (with Swiss residents induced to buy a range of foreign assets at cheap prices in francs), the Swiss National Bank instead became an even larger holder of foreign government bonds and bills relative to its economic size than the People's Bank of China. In sum, the Swiss National Bank provides an extreme, if small, example of intense deflation phobia.

No doubt some SNB officials would answer that charge by raising doubts as to flexibility of wages and prices in a downward direction (and if not flexible, the rise of the franc might cause a bout of high

unemployment amidst general demand weakness) and the extent of recovery in prices which would be widely forecast. Deflation might produce perverse expectations of further deflation. The answer to that last point is the building of a credible monetary framework which would reinforce long-run expectations of price stability, a subject to which we return in the next chapter.

Fantasies of the money helicopter

In the remainder of this chapter we turn to a discussion of the second-best (compared to first-best case of an economy re-finding equilibrium via a process of good deflation) in a context where downward rigidity of prices or lack of a stable and trusted monetary framework means no confidence exists in long-run price level stability. There would be little possibility in such a situation of a good deflation getting under way with its essential characteristic of price recovery expectations (from an initially sunken level) producing a spell of negative real interest rates as required for a return of the economy to equilibrium. The starting position of economic disequilibrium from which negative real interest rates would be the means of exit could be a cyclical recession characterized by a bulge in private sector savings and inflamed aversion to equity risk. Or the starting point could be a long episode in which investment opportunity has narrowed and savings increased beyond just the weak phase of the business cycle but across one or more cycles as a whole such as to mean that the neutral real rate has become negative. An alternative starting point could be the immediate aftermath of a sharp upward move in the equilibrium value of the national currency under the influence of global monetary demand (as in the Swiss example above).

The puzzle of the second-best is to devise the least bad solution to getting the risk-free real interest rate well down into negative territory where the invisible hands of market forces are not working well, either because they lack strength, or because the monetary environment is unstable, or some combination of the two. One possible solution which has long been discussed in economic textbooks has been to send out the monetary helicopters. This has its origins in the writings of Milton Friedman (see Friedman, 2006). The starkest example is that helicopters would spray banknotes over the towns and countryside, individuals would pick them up and spend, and so the economy would move forward from a starting position of paralysis (characterized by excess savings, where equilibrium interest rates for short maturities at least are negative in real terms, but because inflation expectations are so low or

even negative, nominal rates cannot fall sufficiently given the zero-rate boundary to nominal rates).

This sortie of the monetary helicopters, however, does nothing towards jump-starting the process of business cycle recovery or economic renaissance in any fundamental sense. Those processes require the combination of healthy equity risk appetites, ample supply of savings, entrepreneurship, technological progress, and relative price and wage flexibility: as outlined for example in Schumpeter (1939) and summarized under his concept of 'creative destruction'. Rather, the monetary helicopters would trigger a mad rush by all holders of money (whether newly distributed or old) to spend it before its real value collapsed. This would be largely a zero sum game, with those quick off the mark able to gain at the advantage of their slower fellow humans. After the mad rush to spend was over, there would be a period of great withdrawal and business slump amidst a potentially or actually revolutionary re-distribution of wealth.

Note further that the monetary helicopter mission occurs on the basis of there being no subsequent attempt to mop up the newly created money. The government debt on the books of the central bank which matches the new banknotes used in the helicopter missions must be non-interest bearing and with no fixed maturity (in fact perpetual debt) so that there is no restraining influence (on spending) of concern amongst citizens about higher taxes in the future.

In practice it was no such helicopter mission that Federal Reserve Chairman Bernanke intended when he launched his quantitative easing (QE) time bombs in early spring 2009 or the subsequent QE-2 time bombs in autumn 2010 (albeit his helicopter speech in 2002 had gained widespread notoriety). Rather, the evidence, from speeches and testimony, suggests Bernanke was acting on the hypothesis that a huge quantity of excess reserves in the banking system would impress everyone that the Federal Reserve would long hold money rates well below neutral level once this again became positive with the arrival of economic recovery (whenever that would be) so as to ensure that inflation would return at a low positive level.

Cynics could say that there was a deliberate element of causing anxiety (albeit an irrational type according to Bernanke-ism) about long-term inflation so as to trigger an immediate fall of the dollar and speculative rise in commodity and US equity prices. Such anxiety could stem from the realization that the Federal Reserve would be in command control of short-term rates outside any rules-based system of monetary control for a long time to come and could set off high inflation either by

mistake or in part due to political calculation. Even so, there was nothing in any of this to provide rationalization for a sustained near-term rise in the price level or durable economic recovery.

Negative interest rate regimes as second-best to good deflations

So what other second-best routes are there to negative real rates where there is some combination of non-functioning price flexibility and non-functioning long-run anchor to the price level and yet where the zero-rate boundary is effective, that is, at prevailing low or zero inflation expectations, nominal rates cannot fall to a negative real level? Here we come to the various proposals for emergency negative interest rates (see Brown, 2008 and 2010; Mankiw, 2009; Woodford, 2003; Buiter, 2009). All of these include some device for suspending the normal 1:1 convertibility of bank deposits into banknotes. For without this, if rates became negative on deposits, there would be huge withdrawals of funds from banks to simply hoard instead.

The proposal made by this author over the years (from the late 1990s onwards, see Brown, 2002), has been to announce a conversion for banknotes at a fixed date in the future, for example, 100 old banknotes equals 90 new, and in the interim there is a sliding scale for converting banknotes into deposits or conversely. In the retail economy there would be two-tier pricing – one set of prices for payment in cash (banknotes) and one for payment by any other means (with cash prices progressively higher relative to cheque payments the closer we get to the conversion date). ATM machines would dispense cash at a rising premium to deposit values.

An alternative device for solving the problem of cash hoarding under a negative interest rate regime is for the central bank to ration the supply of new banknotes as soon as interest rates are driven into negative territory (see Pollock, 2009). Hence banknotes jump to a premium value over bank deposits. The size of that premium reflects a combination of expectations regarding the length of time and extent of negative rates and also the convenience yield of banknotes to a wide variety of users (especially in the grey or black economy). An obvious advantage of this proposed device is a no conversion process for banknotes with all its associated costs. A disadvantage could be the day-to-day floating ‘exchange rate’ between banknotes and deposits reflecting supply and demand (as against the crawling peg adjustment under the conversion proposal, where the central bank stands ready to convert deposits with

itself into banknotes – and banknotes into deposits – at the pre-announced exchange rate for the given week or month) and the frequent shortages of cash which retail users would encounter. There could be a social justice issue about a big windfall profit for black economy hoarders of banknotes. A bigger drawback than any of these disadvantages (with respect to limiting the supply of banknotes and thereby driving these up to a premium price) could be the engendering of perverse expectations.

In order to appreciate this drawback, let's examine first the possible expectation effects engendered by the alternative note conversion method (outlined above) of driving interest rates into negative territory. Specifically, if at any point in the future rumours emerged about a possible shift to negative interest rates including a banknote conversion plan (for a fixed date, say, two years into the future) that would cause term interest rates to fall sharply and probably into negative territory (for example, three-month interest rate futures for delivery, say, six months to two years from now might plummet). But there would be no effect in terms of triggering cash hoarding (the spot three-month and short-maturity money rates would remain positive). And the rumours would in no way force the authorities' hands.

By contrast, if rumours started to form about a negative interest rate scheme twinned with rationing banknote supply (the Pollock proposal) there could still be a fall of term rates to negative levels but short-term rates would soar as depositors rushed to withdraw deposits in cash on speculation that this would go to a big premium. This could force immediate action by the authorities. Moreover once there had been any episode of negative interest rates coupled with cash rationing there could be recurrent speculation on another episode. And so in any future recession for example, a cash drain causing upward pressure on interest rates might perversely develop.

Beyond the technical problems associated with breaking the 1:1 link between currency and deposits during episodes of negative interest rates, there are a whole range of overall weightier concerns. In particular a negative interest rate regime requires a large dose of discretionary policy-making – when to suspend the 1:1 convertibility of deposits into banknotes and how far to drive short-term rates into negative territory, when to ultimately fix the conversion date (this can be continually postponed with correspondingly new schedules published for the crawling peg), and how to over-rule a fixed rule for the expansion of monetary base (if indeed a fixed rule combined with monetary base control is normally in operation – see the next chapter). If negative interest rate

regimes indeed require the awarding of unusual policy discretion to central banks rather than reliance on automatic rules that is a weighty disadvantage.

Then there is the potentially perverse wealth effect associated with the introduction of negative interest rates. Whereas good deflation brings overall net positive real balance effects at the beginning (albeit diluted later by negative real interest rates as price recovery expectations form), the introduction of negative interest rates (as also the case for QE) produces no such bonus. In fact, they mean a cumulative real income loss for money holders (a substantial period of negative income in real terms with no initial jump in the real value of money to offset against these) which might stimulate a desperate search for yield and so temperature rises across many asset markets. Negative rates, however, should bring wealth gains immediately for equity and real estate owners rather than these being delayed until an initial fall of the price level can generate expectations of price level recovery and so negative real interest rates. These gains are likely to be more acute and deeper than under 'good deflation'.

As illustration an immediate fall of the price level by, for instance, 5% over one year coupled with negative real interest rates of 1.25% p.a. over four years (as under good deflation in the context of a severe business cycle recession and the emergence of price recovery expectations) would leave investors in monetary claims and the issuers of these in broadly an unchanged position at the end, assuming nominal interest rates were at around zero throughout. Investors (in monetary assets) would be in a bonus position, however, at the end of year one.

By contrast if, as under a negative interest rate regime, nominal interest rates averaged 1% p.a. over the five-year period as a whole (with no initial good deflation) and the price level was flat, holders of monetary claims would have lost around 5% in real terms by the end, whilst borrowers would have gained about the same amount. In this latter case, however, there would be corresponding gains for holders of equity in leveraged corporations (at the expense of the debt holders). And tax payers as a whole could look forward to reduced real burden of government debt servicing in the future. (Some taxpayers would lose, however, in their role of investor in government debt).

Hence the distinctions between wealth effects of good deflation and negative interest rates turn more on distributional questions (and related issues of social justice) than aggregation. In principle the fall of real interest rates to negative levels under good deflation (as price recovery expectations develop) and a related fall in equity cost of

capital should bring an initial bonus to equity and real estate holders, but this is likely to form less abruptly than under the introduction of a negative interest rate regime and dissipate gradually (whilst some of the equity gains associated with the negative interest rate regime persist).

Undoubtedly negative interest rates, even in acute economic distress, are a hard sell politically and much of the difficulty stems from their 'penalization' of the small saver whose portfolio is almost entirely in the form of bank deposits. Another difficulty is the popular concern that once this particular monetary device has been used it opens the door to the same or other forms of monetary radicalism further down the road, undermining confidence in long-run monetary stability. And there is a fully understandable distrust of giving further powerful weapons to the managers of fiat money.

In principle the problem of the small saver is not intractable. The negative interest rate regime goes along with a bonus for the government (as a large net debtor it can roll-over maturing debt at negative rates). This bonus can be channelled to target groups, and to the small savers in particular. (Large savers with a high proportion of their wealth in equities should find that windfall gains on these more than compensate for the cumulative negative income on floating rate monetary or near-monetary assets). For example, small savers could be invited to subscribe to special retail-targeted issues of government savings bonds paying slightly positive rates for short maturities. And note that in any case medium-term maturity interest rates would remain positive in that they discounted positive short-term rates again beyond, perhaps even more so than QE, say, a two or three-year horizon.

There is a concern that negative interest rates, might produce credit and asset bubbles. A danger here is that the central bank, armed with its new weapon of negativity, will continue to use it well beyond the time when it should be put back in the bunker. And so what should only be applied in an economic emergency towards lessening acute monetary disequilibrium becomes a driver of temperature rise across credit and asset markets. The best antidote to this danger is the accompanying of negative interest rates with a firm legal commitment to rules-based monetary control beyond the emergency – and in particular the system of monetary base control, to be outlined in the next chapter. It should be spelt out why the present emergency which justified a negative interest rate regime is unlikely to ever be repeated. In particular, given the implementation of a stable monetary framework, another credit bubble which lay behind the present emergency should not re-occur. Certainly,

mild temperature swings would likely persist and the equilibrium short-term interest rate in real terms may in the future fall below zero but a modest amount of two-way price flexibility (allowing for good deflation) should be able to cope with that.

Public spending is poor alternative to good deflation or negative rates

The reply of some economists to proposals for negative interest rates is, why go to all the trouble when the government could simply issue bonds and step up its spending, so 'injecting stimulus' much more 'efficiently' into the economy? But what is it about the nature of the severe business recession which justifies a stepping up of public spending or of a transfer from taxpayers of the future to those of today? It is not obvious that there are a whole range of shovel-ready projects at hand in the public sector which suddenly become of positive net present value when similarly already rejected projects (and shovel-ready) in the private sector remain of negative net present value.

True, risk-free interest rates typically fall relative to risky rates (equity cost of capital) during at least the severe phase of an economic downturn, but who could claim that projects in the public sector are of low risk? And potential benefits of public sector projects are likely to be depressed in the short run as much as those in the private sector by the negative effects of recession (meaning less demand for services produced by the investment). Moreover the political process may well bring an over-valuation of such 'micro-benefits' as re-distribution of income towards public sector unions and generation of votes in critical electoral constituencies. And as regards the transfer of taxes over time (less to pay now, more to pay in the future) that can always be done, at some significant cost for society (in that the burden of future taxes is chronically underestimated in welfare analysis not least because part accrues to participants not yet alive in an economic or even physical sense).

It is a sad reflection on the Federal Reserve that neither following the bursting of the IT bubble in 2000 nor the much more serious credit and real estate bubble in 2007–8 that its top policy-making committee gave absolute no consideration to the possibility of good deflation or the second-best option of introducing of an emergency negative interest rate regime. It is possible the Federal Reserve lacked the powers to proceed in that latter direction (suspension of 1:1 convertibility of banknotes into reserve deposits may have been in contradiction of its legal mandate) and in practice any such policy departure would have been

unthinkable without Congressional consent. Any overt consideration of such a policy would have fed through on to the floor of Congress.

Instead Chairman Greenspan in 2001 and Chairman Bernanke in 2008 endorsed Keynesian policies of fiscal deficit expansion, albeit the weight in 2001 was towards permanent tax cuts aimed at improving the supply side of the private sector economy unaccompanied at first by spending cuts (and indeed these never materialized) whilst in 2008 it was to spending increases and temporary tax cuts only for the 'middle classes'. In both cases there was a Faustian pact between the Keynesians and the political idealogues. In 2001 the Bush Administration and its allies saw 'economic stimulus' as the banner under which to lighten the tax burden on entrepreneurship and risk-taking more generally whilst setting a time bomb which would later force public spending reductions. The time bomb did not go off in the way they imagined. In 2009 conservative critics claimed that the Obama Administration saw stimulus as the way in which to permanently step up public spending (especially on entitlements) to be paid for eventually by 'share the wealth' taxation.

The unholy alliance between the fiscal stimulators and the Federal Reserve, both in 2001 and 2009, was possible because that institution had strayed a long way from any ideal position as custodian of monetary stability. And in Congress even those most hostile to large deficits did not look for ways in which the monetary regime could be improved to unleash the private market forces of recovery.

In practice it would have been harder for any opponent of fiscal stimulus to make the case that negative rates should be introduced in 2001 than 2007–8. Arguably during the immediate aftermath of the terrorist attacks on New York (September 2001) there may have been so much risk aversion so as to push the equilibrium path of short-term interest rates into negative territory. But the likely period of that diversion (into sub-zero territory) was so short-lived as not to justify such massive interference with the monetary order. After all the Greenspan Fed had got way behind the curve in its failure to cut short-term rates sharply already in autumn 2000 and it was not until the terrorist attacks that the key Fed funds rate came below 3% p.a. How different the cycle would have been (less serious a recession), even without any 'fiscal stimulus' spending, if risk-free rates had been allowed to fall towards zero in autumn 2000 following the NASDAQ crash.

A similar – but more extreme – comment applies to the Bernanke Federal Reserve getting behind the curve in 2007–8 as to the Greenspan Federal Reserve in 2001. As financial market panic set in amidst the credit market quakes of late summer 2007, why was the Federal Reserve

hyperactive in shoring up risk-free rates at around 4% p.a. rather than letting them fall immediately to zero?

This was the moment at which Professor Bernanke went to Congress to demand new powers to raise interest rates on banks' holdings of reserves (required and excess) from the normal zero level to near market rates so as to strengthen the Federal Reserve's ability to peg interest rates. And even more remarkably Congress awarded him those powers with virtually no questions asked, even though, as we shall discover in the next chapter, these would remove high-powered money (made up of reserves and currency in circulation) from the pivot of the monetary system so opening the door to an era of monetary authoritarianism (defined by command-control of short-term interest rates outside any 'constitutional framework' of monetary rule).

In summer 2008, with the US economy already in recession since late 2007 (albeit unknown to contemporary chroniclers of the economic indicators), Professor Bernanke and his colleagues around the FOMC table were trying to convince markets that rates could well rise from the then level of around 2%. The purpose was to combat the 'inflation threat' posed by the bubble in the oil markets where prices exploded through the first half of this year. The Bernanke Fed failed to see that the spike in commodity prices (oil and non-oil) of spring and summer 2008 was a late symptom of severe monetary excess in the past (in particular 2003–5) now superseded by the powerful recessionary forces stemming from a bursting of the credit bubble.

Counterfactual history of 2008–9 with emergency negative rates and no QE

In sum, the Federal Reserve itself was a main agent of the economic situation becoming so grave by late autumn 2008 (and we have not repeated here the role of the Federal Reserve in generating the credit and real estate bubbles in the first place, so creating the subsequent inevitable bursting process and all its associated economic pain). Could it have redeemed its historical reputation by putting forward the topic of an emergency negative interest rate regime for consideration (by its own policy board and by Congress)? And could such a scheme being put forward have stymied the drive in Congress under the new Administration towards fiscal stimulus?

The answers to these questions lie in the world of the counterfactual. But it is painfully clear from the history of the Federal Reserve's actions from the first big credit quakes of late summer 2007 onwards that the

leading policy-makers there had no comprehensive or immediate grasp of the joint concept that the equilibrium level of short-term real rates had fallen into negative territory (meaning that nominal rates should also be zero if there were no pronounced inflation or price recovery expectations) and that the equilibrium spread of yields on (or cost of) risk capital (including equity and debt) above risk-free (now in principle negative) rates had widened. There was also absolutely no consideration given to welcoming (let alone fostering) a period of good deflation coupled with a revamped monetary framework which would increase confidence in long-run price level stability (with prices rising back to normal level in the long run after the immediate bout of good deflation).

Instead, the Bernanke Fed continued at first with its massive programme of sterilized credit market interventions (essentially designed to keep credit spreads down on bank and mortgage-related papers) and subsequently with its programme of quantitative easing. The available evidence suggest that both programmes (the first including all those acronyms given to the huge subsidized lending to the banks against increasingly dubious collateral) were introduced in moments of bureaucratic panic around the FOMC table and especially in the chairman's office.

In summer 2007 there was the panic about the potential collapse of Citibank. (Evidence includes the log of those phone-calls unearthed by Professor Thomas under Freedom of Information action – see Torres, 2007). And so the Federal Reserve embarked on its massive 'liquidity injections' and 'credit spread suppression' when in fact the real issue already was possible insolvency of some big institutions, which, at best, could be rescued by new equity issuance on the basis of widened margins (above risk-free rates) on risky loans. But the Federal Reserve was now determined to suppress those margins by shoring up risk-free rates and making risky loans itself at below market rates. In spring 2009, the panic centred on the impasse which had developed between the new Treasury Secretary (Timothy Geithner) and Congress about his planned salvage plans for the large US banks.

The long-run negative consequences for economic and monetary stability of the QE time bombs could prove to be much greater than anything which would have followed a limited experiment with a negative interest rate regime and the latter might well have offered much greater stimulus (whilst holding at bay the forces of massive fiscal expansion with all its future burdens). It is a matter of counterfactual conjecture whether an episode of good deflation along the exit route from the Great Panic (of 2008) would have been better than the course actually

steered by the Obama Economics Team (including Federal Reserve Chair Bernanke) or than the hypothetical outcome from a limited period of negative interest rates. The direction of the argument in this chapter has been that good deflation would have been best.

That counterfactual conjecture will have to take account of all the eventual actual mal-investment under such influence as strong flows of global capital into emerging market equities, commodity equities, and commodities. High temperatures in these, emanating from QE-1 and QE-2 time bombing by the Federal Reserve against the background of already massive Chinese monetary disequilibrium, were already suspected by many market contrarians as soon as late 2010. Feverish speculation in commodities spilled over into higher prices for goods and services. These squeezed real incomes in the commodity-importing countries, including the US, and were thereby a threat to continuing good economic expansion. Further, when the commodity bubble burst there could be a period during which expectations of a rising price level gave way to expectations of a falling price level, meaning that even very low nominal interest rates would become substantially positive in real terms, fuelling economic contraction. If these high temperatures had not formed in the first place, how much more hopeful would have been the eventual renaissance of the US economy led by benign Schumpeterian forces of creative capitalism? Instead there was the prospect of these being retarded by a drain of risk capital to illusory profit opportunities based on transient high temperatures whether in the commodity and emerging equity space or in other asset markets such as high-yield corporate credits or internet stocks. And these high temperatures created dangerous possible scenarios of eventual asset market burn-outs and recession, most of all in the emerging market economies but also in the advanced, whilst contributing to considerable geo-political uncertainty.

3

Manifesto for a Second Monetarist Revolution

The long playing drama of US monetary instability through its various distinct acts since 1914 has had only few intermissions, all of brief duration. The actors and the plot change over time. Some acts are epic and global in scale. Others are monotonous and largely uneventful. There is no script but perpetual improvisation. And from early on (though not right at the beginning) a wide array of critics have been passing comment, some from the vantage point of live spectators, others as researchers of the historical record. Some of the critics have identified themselves strongly with particular schools of monetary economics. They take issue with the false doctrines or lack of doctrine on the part of Federal Reserve policy-makers responsible for the given (actual or historic) monetary turbulence.

The founding officials of the Federal Reserve (Benjamin Strong, Paul Warburg, and Adolph Miller, in particular) realized that they were improvising. They had arrived at their posts expecting that monetary control would remain on automatic pilot under the international gold standard. Instead, within a few months, the automatic pilot system broke down as the outbreak of war destroyed the gold-based international monetary order. In fact, as we saw in Chapter 1, these Federal Reserve officials carried on at first much as if the still functioning dials on the otherwise broken automatic pilot system had their old meaning, allowing the monetary base thereby to explode in line with massive wartime gold sales in the US by the Entente Powers. After the war, as the Federal Reserve improvised monetary policy with most of the automatic control mechanisms of the pre-war international gold standard no longer operating (or if operating at all it was in new untried ways), the monetary machine rapidly got out of control, becoming the proverbial monkey wrench in all the other machinery of the US and global economy.

In an ideal world the US Congress would have set up a panel to determine what should be the way ahead for the Federal Reserve and for US monetary control now that the situation was so different from that envisaged by the founders back in 1913 and with such poor results. Unfortunately that is a task that Congress has never taken on, deferring instead to the experts in the Federal Reserve albeit subjecting them to ill-defined broad mandates which make sense only within the context of, in fact, highly controversial Keynesian economics. Perhaps the complexity of designing ideal monetary control systems beyond the demise of the international gold standard has been too daunting. And in any case the highly unpredictable political pay-off (in itself notoriously hard to identify) for good work done would be potentially well beyond any electoral cycle.

In particular, the contention, (put forward especially by critics influenced by the 'Austrian school') that monetary instability can show itself up in asset (including commodity) and credit market temperature swings – together with the related spurts of mal-investment – not just in broadly defined goods and services price inflation or deflation, is controversial amongst economists and has not become common sense wider afield. Congressmen looking for culprits find easier and more effective targets in the financial institutions, which periodically go wild, than in the central bankers who lay the essential monetary seeds to ensuing economic turbulence.

Moreover the work of monetary system design occurs in a climate of academic opinion at the time. Certainly, a Congressional Committee in the 1920s could have called on the leading monetary economist at the time in the US, Irving Fisher, but he would have advocated price level stabilization with all its pitfalls. Alternatively the Committee could have commissioned a leading Austrian economist. But Hayek or von Mises would surely not, as a matter of principle, have helped re-design a central bank which they saw as anathema to monetary stability. In any case, they had no blue print to hand for establishing monetary stability in the US or globally in the context of a dollar standard world with a new institution, the Federal Reserve, having discretionary control over the growth of the monetary base. Rather they looked back to the Golden Garden of Eden and wished for a return.

How a Keynesian virus infects congressional control of the Fed

Beyond the early 1930s the virus of Keynesianism with its soft populist messages had infiltrated the US political arena and had also made a good

sweep of US economic academia. Consequently, insofar as Congress took a new look at its original creation (the Federal Reserve System), it was to bring it into line with the Keynesian teaching that there exists a trade-off between inflation and unemployment. And so the dual mandate took legislative form, according to which the Federal Reserve should follow policies to lead to full employment and price stability.

The ravages of the Great Inflation did stir popular and Congressional opinion in the direction of viewing monetary disorder created by the Federal Reserve as largely responsible. The 'monetarist revolution' led by Milton Friedman played an important part in drawing attention to the culpability of the Federal Reserve. In line with that awareness, but in contradiction of Friedman's repudiation of Keynesian-style trade-offs between employment and inflation, Congress passed legislation (the Humphrey-Hawkins Act 1978) which stipulated that the Federal Reserve should pursue a dual mandate of stable prices and economic growth (full employment), together with a requirement that the chair should testify regularly on progress in meeting these objectives.

At first, a formal presentation of money supply targets formed a key part of those testimonies (and reports) to Congress. After many years of lower inflation and apparently haywire behaviour of the monetary aggregates, Congressional interest in monetary targets waned. The routine of semi-annual testimony by the Federal Reserve Chair continued, but the FOMC enjoyed now huge discretionary power to set policies so long as these were seen as consistent with the 'dual mandate' (a fuzzy concept at best).

Perhaps the full enormity of the monetary instability behind the mega-credit and asset bubble and bust of the first decade in the 21st century, followed so soon by violent new fluctuations in global asset markets, will lead eventually to an overhaul of the US monetary system. The President or Congress could take the lead in setting the train in motion. As yet, however, there is no consensus, let alone majority view, in the US political system that the underlying cause of the turmoil has been monetary instability generated by the Federal Reserve.

Of course there are well-known Congressmen and ex-Congressmen who have pronounced that view, including Ron Paul, Jim Bunning, Paul Ryan and Jim DeMint but they have not attained any dominance in mainstream opinion, even though the Republican victory in the House elections of November 2010 did bring Ron Paul and John Ryan into new positions of prominence. And optimists on monetary reform suggest that Ron Paul as chair of the House Committee before which Ben Bernanke has to testify might create such political theatre as to visibly shift public opinion already receptive to his bestseller *End the Fed*.

Meanwhile, however, there continues to be a whole list of more visible and easily understood culprits for financial turmoil, whilst key Federal Reserve officials who were lead actors during the bubble and bust have no interest in exploring possible faults in their monetary framework. And there is no consensus of academic opinion or a renowned and charismatic teacher of laissez-faire economics that would indict the Federal Reserve as even a main culprit. All this can change.

First monetarist revolution and its flaws

Public, political and academic revulsion against monetary instability as that created by the Federal Reserve could grow with the passage of time amidst new reflection on the monetary essence of the most recent global credit bubble and bust. Mounting assessments of the economic cost could play a role. Also important will be the eventually perceived consequences of the Bernanke Fed's planting of monetary time bombs (quantitative expansion) during the recession and growth recession of 2008–10. A bad outcome – perhaps in the form of a global bubble and bust in commodities, emerging market equities, global high-risk debt, and financial equities geared on all these, together with related mal-investment ultimately at the cost of economic renaissance in the US (measured by efficient re-building of the capital stock to take advantage of real economic opportunity) from the waste ground of the last decade – would be a potential catalyst to a second monetarist revolution.

The first monetarist revolution describes the partial over-turn of the previous monetary order which occurred in several countries around the globe in the 1970s. The ideas behind the revolution were associated with such economists as Milton Friedman and Karl Brunner (see Kohli and Rich, 1986). These could be summed up under the simplistic banner that 'inflation is always and everywhere a monetary phenomenon' (see Friedman, 2006). The guiding principle was that the re-establishment of monetary order should be based as much as possible on automatic mechanisms of control ('rules') rather than on discretion and that the anchor to stability should be a stipulated path for the designated monetary aggregate, one which ideally was almost entirely under the control of the central bank.

Anna Schwartz (joint author with Milton Friedman of *A Monetary History of the US*, 1963) summed up the objective of the first monetarist revolution as follows (see Schwartz, 2005):

Monetarists 40 years ago had a double objective. They sought to persuade the economics profession that (i) monetary policy, not fiscal

policy, was the key to economic stability and (ii) the control of inflation required limiting money balances, not incomes policies and wage controls.

Note that 'economic stability' for Anna Schwartz (and her fellow revolutionaries) does not closely fit (though there are undoubtedly overlaps) the notion of monetary stability in its wide sense as formulated by J.S. Mill and taken up later by the 'Austrian school' economists to include lack of temperature rise in asset and credit markets and the absence of related mal-investment (see p.6). Rather economic stability for Friedman and Schwartz has meant avoidance of great cyclical turbulence (not through 'fine tuning' which both rejected but through the firm setting of long-term monetary rules) and of inflation. (The Austrian school would be somewhat more ready to embrace the idea than the first revolution monetarists that considerable fluctuations in economic activity could emerge in the process of economic progress through time even within a stable monetary order – though the great booms and busts associated with the money monkey wrench getting into the machinery of the economy would be eliminated).

Monetarist revolutions occurred first in Germany and Switzerland (see Rich, 1987; Bordo, 2007). And in those two countries the revolutionaries remained in control until the at least the mid-1980s (see Schmid, 1998. The monetarist revolution in the US was much briefer (1980–1) and the faith of the lead revolutionary (Paul Volcker) is in doubt (see Benjamin Friedman, 2005).

It was a deep flaw in this first monetarist revolution that the notion of monetary stability was excessively narrow – limited to the absence of serious inflation over the long run, with no extension to the realms of asset and credit market temperature. The revolutionaries did not identify or stress the essential role which price level fluctuations play, in the short or medium-term, in achieving economic equilibrium and how such fluctuations can be reconciled (not continuously) with monetary stability in its full sense including price level stability over the very long run. Indeed Friedman's quote above about inflation signally does not make room for the distinction between 'good inflation' (related, for instance, to an episode of resource shortage) and 'monetary inflation', though almost certainly he had in mind persistent inflation over the long run (which could not be 'good inflation'). And these first revolutionaries did not sufficiently warn that high reserve requirements and non-payment of interest on reserves are critical, though they were undoubtedly aware of their significance, in constructing a stable monetary order.

Counter-revolution of the central bankers

When US inflation fell back in the early 1980s (in the wake of the brief monetarist radicalism of 1980–2) it seemed reasonable to many in the corridors of US monetary power, and to the public at large, that there could be some relaxation in the strictures of monetarism. Surely it was a good idea to stabilize interest rates rather than leave these to the vagaries of market forces? And wasn't it better to aim directly for a low and stable inflation rate rather than allow the inflation rate to oscillate considerably in the short- and medium-term – even into negative territory sometimes – whilst pursuing a fixed target for monetary base or narrow money? And anyhow why go on penalizing the banks with high reserve requirements and no interest on reserves when there was no longer any point in blindly following a money supply target, especially as the monetary aggregates seemed to be behaving in abnormal ways?

The banking lobbies had a field day. There were also those central bankers who had never been persuaded by the faith of the leading monetarist luminaries within their institutions and welcomed a dismantling of monetary rules and a return of their discretionary powers to set rates and many other matters. And for the record, in October 1982, the FOMC abandoned targeting a version of high-powered money.

We could summarize what followed the monetarist revolution as the counter-revolution of the central bankers. The message they chose to distil from the Great Inflation and its 'defeat' was that independent central banks would be the best bulwark against such trauma ever repeating itself. That was totally at odds with the teaching of the monetarist revolutionaries who had put more emphasis on constitutional-style monetary rules rather than central bank independence. If there was a link between the two it was that several prominent central bankers based in largely independent central banks (the Deutsche Bundesbank and the Swiss National Bank) had taken up the advocacy of monetary rules (even though these would limit their discretionary power in some respects). They may not have been able to implement the rules if politicians had had greater power over the central banks.

As illustration, such a link between central bank independence and embracing of monetarism is plausible for Germany, even though in principle the government could always set limits via its ultimate responsibility for exchange rate policy. The legendary Professor Emminger campaigned successfully (within the Bundesbank and *vis-à-vis* the German government) for a hard Deutschmark set free from the Arthur Burns US dollar and founded on monetarist principle. But once Emminger

and his fellow-monetarists retired or were replaced by the next generation of political appointees at the helm, who abandoned the monetarist principles, central bank independence became a global recipe for growing instability. In the German context, of course, that must all be seen against the background of first political union (of East and West Germany) and then the journey towards European Monetary Union. Pools of monetarist conviction within the Bundesbank policy-making committees were over-ridden by Presidents in tune (not totally) with the Chancellor's political programme.

Central bank independence became the vital condition of progress towards European Monetary Union. French President Mitterrand saw the institution of a central bankers' committee to write the blueprint for monetary union (the Delors Report) as the way to by-pass the objections of the Finance Ministers. ('If you want to get an agricultural treaty you don't invite the agricultural ministers; and a monetary treaty depends on not involving the finance ministers!'). The central bankers could agree on giving themselves huge power in the new monetary union to be created (see Brown, 2004). And these powers were defended by the false claim that independence had been the key to ending the Great Inflation and would continue to be essential to preventing another Great Inflation. Moreover President Mitterrand sought to hide how much independence would indeed be handed to the central bankers in the new union – declaring on TV, in the course of the referendum campaign on the Maastricht Treaty, that final monetary decisions would rest with the EU Council of Ministers.

Towards a second monetarist revolution

If there is to be a second monetarist revolution to over-turn the power of central bankers and replace them with a constitutional set of rules designed to produce monetary stability then the driving force must come from the political system. In the case of the euro-zone, there is the huge barrier to revolution posed by the fact that ECB monetary policy-making (but not credit bail-out operations) is enshrined outside the political system. Revolution would be possible only by the heads of state agreeing to put forward a change in the Maastricht Treaty, which would then have to be ratified, or by revolutionary fervour coming from within the ECB itself – virtually impossible to contemplate.

Most plausibly the second monetarist revolution would erupt in the US. A president set on bringing an end to the episodes of huge monetary instability (including credit bubbles and busts) and in tune with

classical liberal principles could hand-pick a candidate for the head of the Federal Reserve who would pursue monetary reform to that end. Success would critically depend on support for this purpose in Congress (to get past the first hurdle of the nominee being appointed and then his or her proposals obtaining required legislative authority) and on there, indeed, being an individual suitable and available to the task. And the mission would depend for its success on an academic climate where ideas about monetary stability had moved on considerably from the starting point of the first monetarist revolution to embrace much more than 'low inflation and taming the business cycle'.

There is no need for the academic advocates of a rule-based reform aimed at monetary stability in its widest sense to have made a sweep of US academia similar to what the Keynesians achieved in the 1940s or 50s. But blueprints for reform should be ready on the shelf and there must be one or more leading academic establishments (and very helpfully charismatic professors) preaching the revolutionary creed.

The limited purpose in this chapter is to draft such a blueprint, showing how it differs in key respects from the blueprints of the first monetary revolution.

Austrian school revolutionaries must stir popular anger!

The starting point of the blueprint is the growing awareness that monetary policies determined by inflation-targeting regimes were responsible for breeding the vast monetary disequilibrium, which was the essential condition for the global credit bubble and bust of the last decade. This 'growing awareness', however, is far from being the dominant or even majority view (however that is determined) among monetary economists. The present and previous head of the Federal Reserve (Ben Bernanke and Alan Greenspan respectively) strenuously deny that their policies were responsible for the credit bubble and bust. They would blame all on the massive Asian saving surpluses, claiming that these drove interest rates so low in the US (and Europe) as to set off a credit and asset bubble. This assertion is returned to fully in the next chapter (and has already been alluded to in Chapter 1, see p.39).

At this point it suffices to call into question first, whether the size of underlying surpluses (most of all in China) was actually so overwhelming in terms of the global economy and second, whether they could in themselves be the source of monetary disequilibrium. In the extreme case of all these Chinese excess savings being routed into risk-free government bonds in the US and Europe, this might put some upward

pressure on the equilibrium level of risk premium and downward pressure on the equilibrium risk-free rate. And if this latter had fallen for short and medium maturities below zero in real terms then in a stable monetary order (with long-run price level stability) some good deflation might have occurred so as to bring present prices down below future expected prices, meaning that very low positive nominal interest rates would be significantly negative in real terms. None of this would have fuelled a credit or asset bubble. That stemmed from monetary excess as caused by central banks driving down medium-maturity interest rates (via present and trumpeted future official rate pegging operations) to far below equilibrium level.

A similar spirit of denial runs through the ECB with an additional sub-theme that policy-makers there had never adopted an inflation-targeting regime in the first place (a claim which is rejected in an earlier volume by this author – see Brown, 2010). Central bankers in Japan and Switzerland claim that there were no domestic credit bubbles in their countries and so escape blame, and furthermore, the Bank of Japan never fully embraced an inflation-targeting regime. They do not acknowledge that the carry trade bubbles in their currencies stemmed in part from monetary disequilibrium. They missed the symptoms of this due to excessive focus on price level movements. Those carry trade bubbles went along with vastly excessive real depreciation of the respective currencies (the yen and Swiss franc) in the middle years of the 2000s and matching mal-investment (excessive expansion of the respective traded good sectors followed by the discovery of huge economic waste once the real exchange rate jumped).

Outside the central banks and in the academic world the main redoubt for attack on the central banks has been the so-called Austrian school (with writings collected, for example, on the von Mises website). The underlying theme is that considerable fluctuations of the price level, sometimes downwards, must occur over short- or medium-term periods of time if overall monetary stability in its widest sense – including asset and credit markets remaining in a temperate zone – is to be achieved as best as possible. Modern writers close to this school refine the notions of ‘asset and credit market inflation’ or ‘mal-investment’ found in the original texts (whether von Mises or Hayek, for example). There the mal-investment which resulted from monetary disequilibrium (characterized by a monetary authority driving rates far below neutral for an extended period) was wholly in the form of ‘over-investment’ (excess production of capital goods relative to consumer goods). Production processes would become more capital intensive (or ‘time-intensive’)

and consumer goods production would be curtailed relative to what would occur under conditions of monetary equilibrium. All of these distortions have to be reversed in the ensuing economic downturn.

The more relevant, and quantitatively much more important, concept of mal-investment, of which today's 'Austrians' write, starts with a tale of temperature rise (irrational exuberance) in various credit and related asset markets stirred by monetary disequilibrium. This (temperature rise) stimulates an excess build-up of capital stock in certain sectors of the economy, which subsequently becomes obsolescent in economic terms when the bubble bursts (or temperature falls), with the result that vast stocks of physical and human capital waste away. The process of renaissance from these devastating experiences requires much new capital (savings), risk-appetite, entrepreneurship, technological progress (bringing new investment opportunity), and overall economic flexibility (including of prices and wages).

All monetarist revolutionaries agree on rules and reject discretionary control

In drawing up a blueprint for a second monetarist revolution, which takes account of key 'Austrian school' insights related to monetary stability, it is important not to lose sight of the rich heritage left behind by the blueprints of the first monetarist revolution even though these were defective in ignoring monetary stability in a wide sense (beyond goods inflation and economic stabilization). One such key insight was the desirability of rules versus discretion.

Reformist central bankers today who advocate sophisticated versions of inflation-targeting to take account of wider aspects of financial stability – what Robert Pringle (Brown and Pringle, 2010) has described as 'inflation-targeting plus' – ignore the Austrian school insights. By the time the well-intentioned policy-makers at the central bank developed a consensus that the temperature had indeed risen substantially across a broad span of credit and asset markets, there would have already developed huge monetary disequilibrium together with related mal-investment. By contrast, a rule-based system of monetary control would have allowed, and indeed stimulated, a set of forces to gather, which would rein back the temperature rise at a much earlier point.

Advocacy of monetary rules as against policy-maker discretion does not extend to the well-known Taylor rule. This prescribes how the central bank policy committee should optimally adjust, through time, the peg for the short-term interest rate so as to achieve a given inflation

target on the basis of apparently robust econometric evidence from the past. Any such procedural rule is deeply flawed.

The Taylor rule is based on an equation in which the dependent variables include the output gap (the amount by which economic output is estimated to be below or above potential), the neutral interest rate and actual inflation relative to target. But which central banker, even the sharpest and smartest, can estimate consistently better than the decentralized process of market pricing what is the neutral path of interest rates through time?

History is strewn with examples of wrong estimations by the best economists of the output gap – which in any case is a concept rooted in Keynesianism or neo-Keynesianism. And besides, why should the central bank committee be aiming for a stable inflation rate over the short- or medium-term when in fact the inflation rate or price level should be fluctuating (and only stable in the very long run) so as to be consistent with economic equilibrium through time?

Second monetarist revolution distils some lessons from gold and Chicago

A better starting point in the search for an ideal set of rules in the blueprint for the second monetarist revolution is to re-look at the rules which operated under the gold standard, whilst also taking advantage of Milton Friedman's intuition in advising on the blueprint for the first revolution. The test is whether the proposed set of rules would promote a greater degree of monetary equilibrium over time than the alternative of discretionary rate-pegging (or Taylor rule based rate-pegging) by a central bank policy committee pursuing some version of inflation targeting.

Monetary equilibrium in this context means **first**, ensuring that money does not become a monkey wrench in the machinery of the economy in the sense described by John Stuart Mill (and this extends to asset and credit market temperature rises together with related mal-investment) and **second**, delivering stable prices over the very long run. (A practical definition of the latter concept of long-run price level stability might be the 10-year moving average price level should move within a range of + or – 10% of the 'base price level'; by contrast a 30-year moving average should move within a range of say + or – 5%). It is essential to take a long-term perspective unlike the current generation of policy-makers, which are conditioned to achieve short-term results.

Defining monetary stability and its inherent trade-offs

The two objectives of monetary stability – money not becoming the monkey wrench in the machinery of the economy (in the sense of J.S. Mill) and price level stability over the very long run – may come into conflict with each other.. Then there has to be some trade-off – in the sense of some tolerance with respect to missing the long-run price level target so as to limit the degree to which the money machine gets out of control, and conversely. It is best that these trade-offs are self-regulating within a system of rules (and overall limited in scope) rather than determined by, albeit well-meaning, monetary officials exercising discretion.

As illustrations of where a trade-off might emerge, consider first sustained and contiguous bouts of productivity growth (at a faster pace than normal). With a stable money rule these could mean an extended period of price level falls (good deflation) which might in turn go along with a gathering climate of deflationary expectations (people come to expect that the new norm is a steady fall in prices rather than long-run stability). To dissipate those deflationary expectations the central bank might find that according to the rule which it follows (designed towards achieving also long-run price level stability) a prolonged patch of monetary instability in the J.S. Mill sense appears (characterized by some temperature rise in credit and asset markets).

Apologists of the Federal Reserve in 2003–5 or the Bank of Japan a little later might argue that both were implicitly aware of the need to make a trade-off along the lines just outlined in the pursuance of monetary stability. The Greenspan/Bernanke Federal Reserve (Greenspan the Chair, Bernanke the leading academician from his appointment to the Board in late 2002) became concerned that inflationary expectations were falling ‘too far’ and so was ready to look past signs of emerging credit and asset market temperature rise, whilst the Bank of Japan was trying to counter ‘deflationary psychology’ and so turning a blind eye to growing symptoms of temperature rise in the yen carry trade.

Both apologies are implausible, particularly so for the Federal Reserve. In spring 2003, on all measures, US inflation expectations were still at around 2% p.a. or more with respect to the long run and even actual core inflation in a weak cyclical situation was at 1–2% p.a. And for Japan in 2003–5 the price level was barely 1% below its average level for the previous 10 years. So surely it was out of place for the Bank of Japan to be so slow in withdrawing the excess reserves and allowing rates to

rise into substantially positive territory? (A similar criticism could be made of the Swiss National Bank's ignoring the symptoms of temperature rise in the Swiss franc carry trade and related real weakness of the Swiss franc in the currency markets out of concern that inflation was somewhat undershooting its long-run target. The mal-investment in the export sectors – both in Switzerland and Japan – were to emerge as a big problem later when their currencies jumped in value as the carry trade bubble burst).

Even in an economy with the best monetary rules, some episodes of disequilibrium are still inevitable. There is no automatic mechanism keeping actual interest rates perfectly in alignment with the natural or neutral level, which can never be known for sure. (The natural interest rate is a real concept, defined with respect say to a medium-term time-horizon; it is the, for instance, five-year real rate of return on a risk-free asset which would be consistent with general equilibrium. The neutral interest rate is the natural interest rate plus the expected rate of inflation over the same given time-interval.)

The gap, however, between market rates (for medium and long maturities) and neutral level is likely to be smaller on average over time where the former are free to reflect the (often heterogeneous) estimates of market participants – reflecting a decentralized process of information gathering and learning – than when heavily influenced by the hectoring and rate-pegging practices (with respect to rates in the money market) of a central bank policy committee. Under the gold standard, interest rates on average across countries belonging to the gold bloc were indeed determined by such a market process without any substantial rate-pegging or rate-jawboning by monetary officials.

Lesson from 1907 and tulip bulbs

The challenge in drawing up the blueprint (for a second monetarist revolution) is to get as close as we can to distilling this market-led process from the gold standard world and replicating it in the contemporary context of fiat monies. And lessons can be drawn from the episodes of credit and asset bubbles which did in fact occur under the gold standard world of 1871–1914 – most ostensibly the 1907 world financial crisis, which was concentrated in the US.

These episodes were associated with disregard for, or interference with, the rules of the gold standard, most usually by governments. Also, however, natural disturbances or other exogenous shocks or sudden endogenous discontinuities played a role.

For example, Murray Rothbard (2002a) criticizes the US Treasury for manipulating the supply of reserves in 1905–6 and so fuelling monetary disequilibrium. But other authors have also stressed the importance of the San Francisco earthquake of April 1906. This may have contributed to a rise in the natural level of interest rates, which was inadequately detected by markets (meaning that a capital spending boom went to excess given that long-term rates in particular stuck below equilibrium level before eventually adjusting). Plausibly both factors worked together in producing the bubble and bust of 1905–7, in that stable monetary conditions might have gone along with an earlier adjustment upwards of the long-term rate (than what occurred in practice). Further back in history (before 1870), some disturbances can be traced to sudden changes in the demand for gold money (for example downward shifts related to rapid growth in fractional reserve banking systems). Even the notorious tulip bulb bubble in Holland in 1634–7 has been linked to such a development – the emergence of the Bank of Amsterdam and its then revolutionary innovation of quasi-fractional reserve banking (see French, 2009).

Monetary base control under the gold standard

The set of monetary rules, which ideally delivered monetary stability under the gold standard, determined indirectly the growth of monetary base for the gold countries as a whole. Growth in the supply of monetary base (circulating gold coin, plus gold coin and national banknotes backed by gold in the vaults of the banks, plus deposits of the banks with the clearing house and convertible 1:1 into national banknotes or gold) was tightly related to the mining of new gold and the amount of seepage of gold from non-monetary uses into monetary uses.

Key rules included the obligation to redeem national banknotes in the national gold coin and to freely mint gold bullion into the national gold coin. One gold coin had a specified weight and purity: in effect there was a fixed nominal money price for gold. Exchange rates between monies in the gold bloc could only fluctuate within small limits as determined by the costs of shipping gold from one financial centre to another. In many countries there were no legal reserve requirements but banks held large cash reserves (coin and banknotes) against their deposit liabilities. In the US, the National Banking Act imposed mandatory fairly high reserve requirements.

In the fiat monetary systems found now, there are no set of gold-related rules to determine the overall growth in supply of monetary

base (sometimes described as high-powered money), which is defined to include circulating banknotes (and coin), cash in bank vaults, plus deposits which banks hold with the central bank. For sovereign monies (issued by one political jurisdiction), monetary base is a national concept. For a monetary union (for example, the European Monetary Union) it applies to all member countries in aggregate. And so an alternate set of rules has to be established to determine the growth of monetary base through time.

In devising this set of rules, the designers of a framework aiming to achieve monetary stability can learn from how the set of rules under the gold standard operated. For example, when the price level entered an extended period of being below its long-run average (where price level is defined for the gold bloc as a whole), a related fall in the cost of mining would help trigger an increase in gold production. And so the designers of a monetary framework for fiat money could stipulate an automatic rule which would provide for an acceleration of base money growth when the price level is depressed for an extended period. Critically the designers could borrow from Milton Friedman's advice to eschew short-term cyclical tuning and instead set a low $x\%$ p.a. expansion of the monetary base subject to various 'constitutional' over-rides set by rules as described more fully below.

How to revive monetary base control?

The essence of monetary base control (MBC), as designed to anchor fiat monetary systems with the purpose of delivering monetary stability, is the stipulation that monetary base should grow in the long-term at a rate consistent with the growth of the economy's productive potential plus an allowance for a low or zero inflation rate (see Brown and Pringle, 2010). It is not of the essence of MBC systems that there should be targets for wider money supply aggregates (to include various types of bank deposits and money market certificates) or a highly predictable multiplier between base money and broad money over the short or medium-term. The central bank has complete control over the supply of monetary base but not over these wider monetary aggregates.

In practice, the central bank operating under MBC would determine, by its interventions, the path of bank reserves but adjust this continually so as to be consistent with the target for overall monetary base growth taking account of un-forecast changes in the public's demand for monetary base in the form of cash and banknotes. Bank reserves

(under MBC systems) pay no interest, whether these are at or above the legally required minimum level. These legally required reserves are set at a modestly high ratio of stipulated outstanding deposits in the banking system (see further details below).

The central bank changes the quantity of reserves through a combination of open market operations and repo operations, normally in government bonds (but also sometimes in foreign exchange). The change in reserves consistent with an $x\%$ annual growth in monetary base would be determined most plausibly on a monthly average basis, giving some flexibility to the central bank to moderate day-to-day interest rates swings which would otherwise be driven by random fluctuations in demand for reserves. Interest rates, both in the money markets and more broadly, are left wholly to market determination. Fluctuations in demand for reserves may lead to possibly big changes in overnight and other very short-maturity interest rates so as to balance supply (fixed in line with the target) and demand.

As reserves pay no interest (under MBC) a rise in money rates generally brings a decrease in demand for these as banks seek to economize on excess reserves (even though this might end up in increased penalties for occasionally falling below minimum legal reserves and call for increased skilled monitoring of their cash positions on a continuous basis) and as the public seeks to reduce their holdings of cash relative to deposits (so as to gain the benefit of higher interest) even though this might mean some increased inconvenience. (As cash holdings decrease the central bank can increase its operating target for bank reserve growth consistent with a given monetary base growth target). At the same time, a widening in the spread of yields on deposits subject to reserve requirements below yields on similar maturity instruments (for example, commercial paper or short-maturity government bonds) not subject to these (as interest rates generally increase) encourages some disintermediation with investors switching away from bank deposits (to, for example, commercial paper and government bonds) whilst borrowers switch from bank loans to commercial paper issuance – and this switching corresponds to a decrease in demand for reserves.

The elasticity in demand for reserves, with respect to changes in the absolute level of short-term interest rates as generated by the type of switching described, helps to keep the extent of volatility in money market rates within bounds under MBC systems. And this elasticity of demand (proportionate shift provoked by a given absolute change in interest rate level) is greater at a modestly high level of reserve requirements than at a low level of reserve requirements (as the change in rate

spread between instruments subject to reserve requirements and those not subject is larger).

Another key reason for stipulating modestly high reserve requirements is to constrain changes in demand for reserves to be closely related to movement of aggregate incomes and the price level. If reserve requirements are set very low the observed shift in observed demand for reserves might be dominated for months at a time by random fluctuations (white noise) and by non-macro variables rather than by underlying changes in equilibrium demand as determined by macro-variables (see Feinman, 1993). Then MBC, at least as exercised over short or medium periods of time, could be less successful in steering the given economy along the path of monetary stability.

Conversely, if reserve requirements are set at very high levels then the banking industry, which depends on reserve-liable deposits, would shrink relative to the amount of intermediation going through non-bank markets. Consequently, demand for monetary base could become less closely related to just two or three key macro-economic variables than in the case of modestly high reserve requirements, undermining MBC as the means of achieving overall monetary stability. Moreover, a very high level of non-interest bearing reserve requirements could mean considerable economic inefficiency in that it necessitates a high tax on bank intermediation – leading to less efficient forms of intermediation taking place.

Modestly high reserve requirements, along with a considerable elasticity of demand for reserves in response to variations in the absolute level of money rates, have also an important advantage in the form of moderating business cycle fluctuations. Very small elasticity (as for low reserve requirements) would mean that in recessions a slowdown or decline in demand for reserves would signify a prompt fall of money rates to zero at which level they could remain stuck for a considerable period of time, even well into the subsequent economic recovery (until demand for reserves had picked up sufficiently to exceed only slowly growing supply at a continuing zero interest rate). Extended periods of zero rates continuing into recovery have the disadvantage of possibly inducing various forms of irrational exuberance (temperature rise) in some asset markets in a climate of what market commentators describe as ‘desperation for yield’. Putting some hurdle in the way of money rates falling to zero does mean that it is even more important for the given economy to exhibit price flexibility, with ‘good deflation’ emerging during cyclical downturns so as to generate the expectation of price level recovery in the future, suggesting that low nominal rates could be negative in real terms.

In drawing up the details of MBC, the designers of the blueprint have to consider over what range of instruments reserve requirements should apply and whether at variable amounts (different ratios for different assets). Historically under the Federal Reserve System there has usually been (except at the very beginning) a much higher level of reserve requirements on so-called 'sight deposits' than on time deposits (see Feinman, 1993). That differentiation has added to the elasticity of demand for reserves with respect to interest rate changes (in that rises induce shifts from sight deposits into time deposits and conversely) but at the cost of reducing the strength of the link between demand for reserves and the key macro-economic variables. In principle it would be best – in terms of strengthening that link – to apply the moderately high level of reserve requirements to all bank deposits (including certificates of deposit) and of any size (excluding deposit-taking between banks which are members of the Federal Reserve) but excluding all non-deposit liabilities (for example capital notes).

There is also a good case for extending such reserve requirements to non-banks in the US issuing deposit-like liabilities. 'Deposit-like' features include ready use for transaction purposes and implicit guarantees sustained by semi-official pledges on the part of the authorities as regards repayment in full. Hence money market funds, as presently constituted, would be subject to reserve requirements. However if these changed form into being essentially investment vehicles (ETFs, for example) rather than money-like, backed by portfolios of mostly short-maturity debt assets and whose valuation fluctuates in line with market prices (and where holdings are liquidated by sale in the market rather than repayment direct by the fund administrator), then they would be exempt from reserve requirements. And of course banks themselves would be able to set up such ETFs to sell to the public.

Any full review of reserve requirements would also have to consider such issues as to whether these should be applied to non-resident holdings of deposits in US banks and whether international cooperation should be sought to impose these on US resident holdings of deposits offshore. In practice, the answer to both questions might well be 'no'. Imposing reserve requirements on foreign deposits would detract from the competitiveness of New York in international money markets and in any case foreign deposits in total may have less of a close relationship to US domestic macro-economic variables. Imposing reserve requirements on US resident deposits with banks outside the US might only be feasible with respect to branches and subsidiaries of US banks offshore. In principle the inclusion of those would mean there was a closer fit between

growth in demand for monetary base and growth in nominal incomes, and so reduce rogue responses of money rates to shifts in random variables unrelated to monetary stability. But there would be the 'noise' of US deposits switching between US and non-US banks offshore.

There is a further argument in favour of extending reserve requirements fully across the deposit base of banks and money market funds (sharing deposit-like qualities). These wider aggregates tend to move ahead of income during periods of temperature rise in credit and asset markets. Consequently, as demand for monetary base rose in step there would be some pre-programmed tendency for money rates to rise even though there may be no symptom of inflation for goods and services.

Rebutting the criticisms of MBC

Several criticisms have been raised of monetary base control (MBC) as practised by one country and not a part of the automatic functioning of an international gold standard.

MBC was tried before and failed

For example, there is a widespread view that MBC was tried around the world in the late 1970s or early 80s and failed. According to some versions of economic folklore there was a grand debate between academic warriors in which the advocates of MBC were defeated. In fact, nothing of the sort took place. In the US, a type of MBC was practised for just three years (1979–82). It was not introduced as a long-run change but as a temporary expedient that made it politically easier for the Volcker Federal Reserve to sell very high interest rates in the money markets – rates that it viewed as essential to overcoming the Great Inflation.

Volker's later abandonment of MBC was not attributable to a sober review of experience and principle, which should have included careful analysis of its record in both Germany and Switzerland. Rather, the hasty return to discretionary control of short-term rates reveals most about Volcker's lack of conviction in its merits (other than as a cover for draconian high rates) at any point during MBC's US life. And indeed what followed the end of MBC (discretionary pegging of interest rates by the FOMC) was a dramatic rise in temperature across many credit and real estate markets through the mid- and late-1980s which percolated through the global economy (see p.33).

In Germany, a hybrid type of MBC was practised by the Bundesbank for around 15 years from 1973 onwards and met with considerable success in terms of monetary stability (low inflation, absence of big

temperature swings in asset markets) (see Schmid, 1998). Its abandonment was in part related to the transition to German Monetary Union and then to European Monetary Union. The legendary Bundesbankers who had defied the conventional monetary wisdom of their time and made the Deutschmark hard were replaced by a highly politicized generation of central bankers. This new generation was responsive to the growing chorus of complaints from the banking lobbies about the costs of reserve requirements.

In Switzerland there was a similar trial of MBC (in a rather purer form than in Germany), which again met with some success, but qualified by the difficulties this approach to monetary policy encounters in small open economies (see below). Also in the mid-1980s, amidst generational change, the banking lobbies were successful in getting big reductions in reserve requirements. This 'liberalization' together with the introduction of a new system of interbank clearing (which meant banks sought to economize to a much greater extent than previously on excess reserves) meant that MBC no longer functioned to promote stability. A credit bubble and real estate bubble developed in the late 1980s and MBC was mistakenly discredited. The fault was not with MBC, as ideally applied, but the corroded principles which now governed its application.

In the UK there was much talk about MBC for a brief period at the start of the Thatcher Administration, but talk never materialized into action (see Pepper and Oliver, 2001). Prime Minister Margaret Thatcher eventually repudiated the advice of Milton Friedman and Karl Brunner to introduce a version of MBC. The opposition from the Treasury establishment and City pressure groups proved too strong. The UK Treasury rejected MBC on the ground that it would take many years for estimates to be made of the various money multipliers under the new system and that the dangers in the meantime of adopting MBC (without those estimates to hand) were not worthwhile.

There is always, however, a leap of faith in embracing a new system – by definition the evidence cannot be available in advance. The multipliers are dependent on the system. And it was a misunderstanding to say that MBC depended for its success on there being a stable relationship between the monetary base and broad money over the short- or medium-term (see below). Surely MBC could not have done as badly as the discretionary monetary policies which followed (the decision to reject MBC) producing the Lawson boom and bubble of 1986–8? Opposition from the City largely stemmed from special interests which thrived under the cartel arrangements (including discount houses) that

were so widespread under the existing practice of monetary control and which would have had to be abandoned under MBC.

Short-term interest rates fluctuate violently

A second criticism of MBC has been the potential for large fluctuations of short-term interest rates. This was observed particularly in the Swiss experience but not so much in the German (where the Bundesbank did not rigorously pursue quantity targets over short or medium periods of time).

The defenders of MBC reply that, under the gold standard, short-term money rates typically fluctuated widely and yet this volatility did not feed forward into longer maturity rates. The capital market, in determining medium- and long-term rates, largely disregarded the volatile short-maturity rates as having no significant information regarding the neutral or natural rate of interest, listening instead to the underlying rhythm and vibrancy of the economy.

Indeed, the extreme volatility was helpful in insulating the latter process from short-run monetary influences. The total opposite situation occurs under rate-pegging inflation-targeting central banks, where the capital markets listen attentively to the rate-pegging and rate-jawboning intentions of the monetary bureaucrats and where a huge amount of lending occurs on a floating rate basis – the rate used as benchmark is closely related to the rate being pegged by the monetary authorities. In a context where short-term money rates were highly volatile (as under MBC) much of this borrowing and lending activity would switch to the long-term fixed rate markets helping in the robust discovery of the neutral rate.

Of course, this does not mean that in all circumstances capital markets will ignore the pattern of rates which emerge over time in the money markets. For example, if demand for monetary base has shifted substantially upwards whilst the growth in its supply continues at an unchanged slow pace, there could be a prolonged period during which money rates are fairly high. Speculators would notice this fact and might bet on its continuation, so causing those high money rates to spill over into medium-maturity bond yields. But this spill-over would be quite weak given the lack of any precise knowledge about how long the monetary tightness would persist and whether, indeed, at any point the monetary authority, following the constitutional rules (see below), might decide on an over-ride and inject additional monetary base.

It is not practical for one country to practice MBC on its own

A third criticism of MBC is that it is difficult for one country to practise this on its own. If, for example, the ECB and Federal Reserve are following inflation targets and managing adjustable pegs for short-term interest rates, what chance is there that an isolated MBC system in, for example, the UK, Switzerland or Israel would end up generating less monetary disequilibrium over time than a monetary policy committee using its best discretion to trade off foreign and domestic sources of monetary disequilibrium?

As an illustration, suppose the ECB and Federal Reserve are creating huge inflationary disequilibrium (whether the symptoms appear in asset and credit markets, goods markets or both) and the BoE decided nonetheless to pursue its low rate of monetary base expansion (buttressed by high reserve requirements and no interest on reserves). The result could be that the domestic currency (pound) would jump to a level far and away above its long-run equilibrium value (in real terms). And although not itself a creator of monetary disequilibrium, the UK monetary order would become the trigger to a dislocating shift in the UK economy away from exports (shrinkage of those industries) which would subsequently (in the long run) have to be reversed. In sum, the UK economy could be drawn into widespread mal-investment though not itself the source of monetary disequilibrium.

The extent of such distortions in a small open economy where the authorities are determined to follow a stable monetary path despite huge turbulence generated in the world outside could be moderated by episodes of good deflation (prices and perhaps wages falling below the long-run stable path when the disequilibrium abroad is at its most intense, coupled with expectations of a return to normal further ahead). It is plausible that in the traded goods and services sector of the given small economy wages and prices could fall considerably in domestic currency terms as both labour and entrepreneurs calculated the optimal path to pursue through a short-term monetary storm (from outside) and long-term survival of their jobs and firms. Benign central bankers in such circumstances trying to navigate the ideal path between domestic and external equilibrium may well end up doing a lot more harm than good – especially if they generate a domestic asset bubble and bust most likely including credit and real estate markets.

As of early 2011, Israel as a small open economy where the chief of the central bank, Professor Stanley Fischer, had been the teacher of Ben Bernanke (and a strong supporter on US television shows of his QE-1

and QE-2 time bomb campaigns), demonstrates the potential pitfalls of good intentions. Fischer, in the face of considerable criticism from the OECD (of which Israel became a member in September 2010), pursued a policy of aggressive foreign exchange intervention and monetary expansion so as to shelter Israel, and especially its key export sector, from the US monetary storm (of course Fischer would not have put it in those terms). The sad reality may turn out to be that Fischer's good intentions generated such a bubble in domestic residential real estate (of which many pundits already saw the signs in 2010) that the long-run damage of good intentions turns out to be much greater than sticking to monetary stability and allowing domestic price flexibility (especially prices and wages in the export sector) to do its work (in a downward direction) within the context of a freely floating shekel.

Some overspill, however, is inevitable. If many asset markets and credit markets in the US and, perhaps, euro-area were to heat up under the influence of monetary disequilibrium, this high temperature would surely spread to the UK, Switzerland, and Israel (and of course many other small or medium-sized open economies) even if there was no source of monetary disorder there. In particular, if many investors around the globe have donned (under US and euro-monetary impulse) rose- coloured spectacles in assessing risk and return in equity and credit and real estate markets, they would also see UK risks under the same influence (regardless of whether the currency risks are hedged). Hence MBC, in the context of the UK only, would not mean UK asset and credit markets were unaffected (in temperature) by monetary disequilibrium elsewhere. But under MBC the amount of any such contagious over-heating might be limited by a triggered rise of interest rates (both in the capital markets and money market) in the small country. This would go along with a big transitory appreciation of the national currency which would have a dampening influence on irrational exuberance in the traded goods and services sector of the economy.

Despite these dangers of contagion, it may still be that MBC allows less monetary disequilibrium to form than well-intentioned attempts by the central bank of the small or medium-sized economy (UK in the above example) to skilfully navigate in the tempestuous conditions created by large powerful foreign central banks. Again, the decision one way or another involves a leap of faith, rather than the detailed application of econometric testing. As a practical matter, no small or medium-size central bank defied the monetary disequilibrium generated through the first decade of the 21st century by persevering with MBC.

Switzerland, which in the 1970s and early/mid-1980s had largely followed MBC, embarked on its own version of inflation-targeting by the beginning of the 21st century. Although there was no domestic credit bubble, Switzerland became vulnerable to all the mal-investment and financial disequilibrium related to the bubble of the carry trade in the Swiss franc (see p.84). And the UK followed a version of disequilibrium monetary policy even more extreme than that pursued by the Federal Reserve or ECB.

In deep recessions, MBC cannot prevent massive monetary disequilibrium

A fourth criticism of MBC has been the observation that in deep recessions, demand for reserves might shift far (upwards) from its normal relationship to wider economic aggregates, meaning that targeting an unchanged path for overall monetary base would not be in line with monetary equilibrium. This criticism has been applied, in particular, to situations such as the Great Depression of the early 1930s in the US or the Great Recession at the end of the 2000s where the equilibrium risk-free rate of interest most probably fell to significantly negative levels in real terms. Then the impossibility of nominal rates falling below zero (without emergency steps to break the one-to-one convertibility of deposits into banknotes – see p.63) meant some period of monetary disequilibrium (unless good deflation occurred).

If nominal risk-free rates had fallen to say -5% p.a. at such times of great recession, with rates on risky corporate loans at 5% p.a., then bank lending growth and nominal money supply growth would have grown. But in a conventional monetary system the lower limit to nominal rates is zero (if rates fell below that households and businesses would hoard banknotes rather than hold bank deposits). With nominal risk-free rates stuck at zero and no expectation of price rises, there is not the scope for risk-premiums to widen as in the above illustration, for few borrowers could afford to pay 10% (which would provide the bank with a 10 percentage point risk premium). The compression of risk spreads below equilibrium level in consequence of the zero lower limit to the nominal risk-free rate would mean that money supply and banks loans could fall in nominal terms despite steady growth of monetary base.

Good deflation is a (non-instant) way out of such episodes of monetary disequilibrium as already highlighted in Chapter 2. Prices (and most likely some wages) fall in the short term, whilst the outlined steady

path of monetary base expansion reinforces expectations that the price level will re-bound in the future. Hence very low nominal interest rates become equivalent to negative real rates. The bank should be able to find ready takers for loans at high nominal rates (for these would be less in real terms). At this stage the wider monetary aggregates and incomes start to return to their normal relationship to monetary base. The more flexible are wages and prices (in a downward direction) and the more stable long-run expectations of price level stability, the shorter is the dislocation.

In their *Monetary History of the United States*, Friedman and Schwartz (1963) suggested (implicitly) that a powerful discretionary expansion of monetary base early on in such severe recessions could short-circuit the need for good deflation (which they do not mention explicitly) and drive the wider monetary aggregates and incomes on to a faster recovery path. The transmission mechanism, however, between a boost to monetary base and the faster recovery is left unspecified or in technical jargon remains in the 'black box'. In the decades since publication of their work, various authors have stressed a transmission mechanism which involves spreading anxiety about an eventual spurt of inflation well beyond the present and the accompaniment of this by currency devaluation (see Bernanke, 2002).

Yet that anxiety would surely be limited if the central bank were taken seriously in its commitment to remove excess reserves promptly as economic recovery emerged. And so the success of this anxiety-provoking strategy would depend on maintaining 'strategic ambiguity' about whether the monetary base will, or will not, be brought back to its long-run trend line (as mapped out before the recession) or left far above. And even with this strategic ambiguity it is not clear why any economic agent would be in a hurry to bring forward spending.

In practice, any implicit argument by Friedman and Schwartz to depart from a fixed quantity expansion rule for monetary base during severe recession in favour of a discretionary big boost belongs to the world of the counterfactual. It has not had any success in practice. True, eventually in the years 1933–6 there was a powerful expansion of the monetary base running far ahead of money supply and which coincided with an emerging strong economic upturn. But of course there had been a big deflation through the years 1930–2 (albeit heavily resisted by wage-support measures sponsored by the Hoover Administration) and this had set the stage for strong expectations for price level re-bound (which indeed occurred). The rapid monetary base expansion continuing together with interest rates being held down at zero very likely

contributed to the temperature rise in equity and commodity markets increasingly evident in 1936 (see p.28).

A final point in rebutting the criticism of MBC under severe recessionary conditions (in the sense of continuing with an unchanged quantity rule, subject to possible over-ride by constitutional rules as outlined below) is that if this rule had indeed been adhered to in the first place, there most likely would not have been the severe recession. The severity of the recession – or rather double recession – which happened in the US economy from 1929–33 was, in considerable degree, related to the great monetary excesses which had occurred earlier in the decade of the 1920s (which fuelled the temperature rise in asset and credit markets, subsequently culminating in a process of severe bubble-bursting). And similarly the severity of the Great Recession of 2008–9 was surely in large part the corollary of the monetary disequilibrium created in the years before, which would never have reached such large dimensions if there had been MBC.

The need for discretionary changes in the rules

A fifth criticism of MBC has been the need for discretionary changes sometimes in the fixed quantity expansion rule for monetary base. Under the gold standard, the quantity of monetary base was largely self-regulating, with new impetus to gold production when the general price level (and thereby mining costs) fell by a large cumulative amount and yet the gold price remained fixed. By contrast, under a MBC divorced from gold, policy-makers must sometimes over-ride a given rule of $x\%$ a year expansion or else this could rise to serious monetary disequilibrium.

An obvious example of when an over-ride would be needed, as was indeed the case under the gold standard, is where demand for monetary base surges in the context of financial panic. As demand for cash and reserves suddenly bulges, the monetary authority must stand ready to increase the supply of these or else a severe shortage of base money would drive the economy even further into the ground. Friedman and Schwartz demonstrate how elasticity in the supply of monetary base was boosted before the creation of the Federal Reserve by various emergency clearing house loan arrangements and by temporary suspension of convertibility of deposits into banknotes (so that these went to a premium above deposits).

In today's fiat monetary systems, the central bank would decide on an emergency boost to base money under such circumstances. This boost would be triggered by such ominous signs as risk-free interest rates (as

on T-bills) rising well above zero in the context of a general scramble for monetary base. It definitely is not part of the over-ride to attempt to hold down the interest rate on risky loans, for example, to financial institutions under suspicion of insolvency. Credit spreads should be allowed to widen out under market forces.

The constitutional rules for over-ride could more generally provide some trigger in the form of 'if the five-year moving average price level falls by more than $y\%$ below the, say, normal 30-year average price level, then supplementary monetary base growth (the usual above $x\%$) should be targeted over the next five-year period, with the excess Z a given function of the extent of undershoot'. This boost would be withdrawn gradually if and when the moving average price level began to move in the appropriate direction.

The point of this wording would be to prevent any type of fine-tuning but to allow response to probabilistic evidence (raising a significant possibility of some permanent fall in the price level not likely to be reversed by subsequent cyclical or productivity developments, for example) that a change had occurred which would make following an unchanged rule inconsistent with price level stability in the long run. This trigger bears some resemblance to the automatic mechanisms which functioned under the gold standard when a fall in the price level to below long-run norm would give some stimulus to gold mining (as costs fell relative to the fixed gold price) and to some decrease in demand for gold jewellery (meaning that more gold would enter the monetary base).

Should there be constitutional over-rides when a long-run shift becomes suspected in the relation between the demand for monetary base on the one hand and nominal income and wealth, for instance, on the other? The case for suspicion could include observations about structural change (for example, increased use of credit cards related to technological innovation leading to slower growth in demand for banknotes than anticipated, or rapid disintermediation from banking system driven by financial innovation leading to slower growth in demand for reserves). Evidence for the suspicion proving correct could be a strange persistence of money rates (on average over approximately three months) being well below medium- and long-term rates as determined in the capital market and by more than would normally be consistent with this particular phase of the business cycle.

At issue is whether there should be a once and for all subtraction from the monetary base (phased over a period of time so that its growth would still be slightly positive, but less than $x\%$ p.a.) and

whether the long-run target should be revised from $x\%$ p.a. even after that adjustment. The problem here is that the door is opened to discretionary monetary management and once open, who would guarantee that large-scale abuse would not follow? Perhaps it would be better just to wait for the over-ride from the price rule to kick in (as would have happened under the gold standard). Or alternatively, the challenge would be to devise constitutional safeguards against abuse and strict controls, which would specify how discretion would be used (only within the limits of best achieving monetary stability over time subject to strict vetting – no reversion to dual mandates and cyclical fine-tuning) and where decision making is fully transparent and no maestros created (top monetary official replaced every two years, perhaps).

A tax on bank intermediation

A sixth criticism of MBC has been that it would be a tax on bank intermediation which would induce distortions and inefficiency in the financial industry. This criticism is levied in particular against proposals for a high level of reserve requirements and the non-payment of interest on reserves – both essential components of a well-functioning MBC. The response is that the efficiency loss from the partial sacrifice of a level-playing field between bank and non-bank financial intermediation is a small price to pay for the benefits of a largely automatic set of mechanisms (MBC) which should better achieve monetary stability than any alternative system of control. In any event, was it ever a level-playing field to start with? The banking system, with its deposit guarantees and heavy regulatory burdens is already a far cry from being in idealist free market competition with non-bank intermediaries (who themselves may in some case be subject to restrictive legislation).

Price level instability

A seventh criticism of MBC is that it could mean extended periods of rising or falling price level and at an uneven pace (significant fluctuations year to year in the rate of price fall or rise) and these could be unsettling to households and businesses. This should not be seen, however, as an undesirable result. As stressed already in this volume, price level fluctuations through time (sometimes positive, sometimes negative, and uneven) are essential to the benign functioning of a capitalist system enjoying monetary stability in its broadest sense. Certainly, the

population in various countries may not be used to such fluctuations, having lived for so long under distorted monetary regimes where the top officials preach the mantra of stable low inflation. It is a challenge for the leaders of the second monetarist revolution to communicate this point. Stable inflation should be regarded with the same mistrust as that which an investor would feel towards an investment fund which produced stable high returns year after year.

4

Currency War Machine

If the second monetarist revolution were to occur in the US, then the world would find itself at the dawn of a new age of dollar hegemony. No longer would international investors have to fear that their dollar assets could suddenly erode in value due to the Federal Reserve taking big gambles with monetary stability to accelerate recovery from recession. These gambles have often been an essential element in a currency war strategy forged in a sometimes decentralized fashion within the US government (including the Federal Reserve as a semi-independent agency). With such war danger no longer present, much of the diversification of recent decades, as investors globally have sought safety by introducing non-dollar currencies into their portfolios, would go into reverse.

The dollar would undoubtedly jump in value. That is what occurred when the Volcker Fed in the early 1980s suspended the policy framework of the Burns Fed and for a short time embraced monetarist principles. The Volcker Fed did not have the belief, courage or political backing to pursue those principles into the fairly modest growth cycle downturn (growth still positive but below trend) which became evident in spring 1985 and which continued through most of the following year. If it had done so, there would have been no mega-dollar devaluation (as occurred from 1985–7) and the US might well have achieved virtual long-run price level stability. In addition, there would have been no serious rise of speculative temperature in US stock, credit and real estate markets (most of all commercial but also some regional residential) as occurred in the second half of the 1980s (culminating in the Wall Street Crash of October 1987 and the later episodes of crisis in the savings and loans, bursting of the leveraged buy-out mania and of the related junk bond bubble, and the commercial real estate bust). And most probably there would have been no Japanese bubble economy.

The description of the counterfactual world (for the case of Paul Volcker not having abandoned monetarism) could continue much further. But that is not the purpose here and in any case many readers would object, understandably, that counterfactual histories are of limited interest due to their inherent non-testability. In contrast to the often barren nature of the counterfactual history, scenario-building to improve a probabilistic vision of the future is potentially fruitful. In that spirit, we could apply it to the potential aftermath of a big change in the monetary framework (such as success for a second monetarist revolution).

It is plausible that the leaders of a monetarist revolution in the US, implementing the blueprint of the previous chapter, would almost certainly soon confront counter-revolutionary forces when the first recession arrived (under the new order). These would emanate from that familiar nest of support for a soft dollar – the neo-mercantilists. And, moreover, the US would still be living in a world where foreign governments might follow monetary and exchange rate policies hostile to a liberal global economic order. Hence the monetarist revolutionaries would face the challenge of joining the new monetary regime to a well-designed defence system against a currency war launched by a foreign power against the US (and other countries).

The plan of this chapter is to first review how in fact the old, and present, monetary regime in the US gradually came to aid and abet currency warfare (as promoted by the US Administration) at the cost of monetary stability. Second, the damaging effect of such currency warfare both in the US and in the outside world is examined. Third, the peaceful influences of a monetarist revolution in the US are outlined. Finally, the need is stressed for an efficient system of US defence against foreign governments manipulating their currencies at the expense of other nations' well-being.

Currency wars in the 1920s and 30s

What do we mean by currency war?

The origin of this concept lies in the interwar period when governments resorted to large devaluations (30% plus) of their currencies to accelerate the pace of economic recovery from slump or recession. Yet such strategies were essentially dependent on the country which devalued gaining a kick-start at the cost of pushing other countries (which had not promptly devalued) further back in the economic cycle. However, before long, some of these would respond by devaluing their own currencies.

Just as in military wars, each government launching a currency war justified its action by an accusation that the existing situation was unfair due to past manipulation on the part of other governments. The cycles of devaluation were worse than a zero sum game, and the experience was important in driving an international consensus in favour of setting up the Bretton Woods System with its strict safeguards against such behaviour.

The US had been a main belligerent in the currency wars of the 1930s but not the initial aggressor (except insofar as Benjamin Strong, the leading official within the Federal Reserve, deliberately encouraged Britain to return to gold in 1925 at an unchanged pre-war parity so as to derive certain short-term advantages for the US and especially for New York as global financial centre from an ailing pound – see Ahamed, 2009). Indeed, some historians have claimed that the Weimar Republic started the process with its deliberate ambivalence towards the collapse of the mark in 1920–1. At that stage the mark was falling sharply in real terms against the dollar (the fall in the mark was much more than what would have been sufficient to keep the dollar price of German goods unchanged despite rampant inflation) as markets discounted the lack of political will to raise taxation or pursue monetary stability in a climate where this was welcome to the big German export companies. Then in the mid-1920s there had been the decision of the French government to stabilize the franc at a level which gave its industry a distinct competitive advantage.

In September 1931, there was the bombshell British decision to break the link of the pound to the dollar (and gold). The implicit justification of officials (and politicians) in London included reference to the flawed currency diplomacy of the early 1920s when Britain had been encouraged by the US to re-peg sterling at its pre-war parity even though this was then surely far above equilibrium value (taking account of the UK's loss of competitiveness and overseas investments). Imperial Japan took similar and even more dramatic action in the same direction, leaving the gold standard in December 1931 and then following a policy of deliberate currency devaluation. Japanese governments had previously allowed the yen to weaken sharply in the years following the great earthquake in Tokyo (1923), only re-introducing gold convertibility in January 1930 (see Brown, 2002). Subsequently, in 1933–4 there was the mega devaluation of the US dollar organized in stages by the incoming Roosevelt Administration (at first a free float, with the link to gold broken, then a restored but severely truncated gold link coupled with action to steer the dollar price of gold higher day-by-day or week-by

week). This was followed in 1936 by the collapse of the gold bloc (of which the largest member was France) and the big devaluation of the French franc.

The founders of the Bretton Woods international monetary order had many divergent views on many issues but they could agree that the best way of preventing a return to a currency war was to write an international treaty enshrining fixed exchange rates and where any devaluation would have to be approved collectively by the signatories. This fixed exchange rate system would not be based on automatic mechanisms within the context of total freedom of capital flows, as under the international gold standard, but on a general pegging of currencies to the US dollar, with the Federal Reserve essentially in charge of the monetary anchor for the whole world. The unwritten understanding, partially backed up by the commitment of the US to sell gold to non-US residents at a fixed price of \$35 per ounce, was that the Federal Reserve would pursue price level stability over the long run.

Richard Nixon's avoidable currency war

We have already seen in Chapter 1 that the Federal Reserve, through the 1960s, gradually lost sight of the implicit commitment of the US under the Bretton Woods Treaty to long-run price level stability. Indeed it is plausible that Chairman Martin was never fully aware that the international fixed exchange rate system constructed at Bretton Woods depended crucially on such a commitment. He had no vision of overall monetary stability, whether at a US or global level, but relied instead on an intuitive sense of 'taking the punch bowl away just when the party was beginning to get rowdy' (see Chapter 1, p.29) – jumping into action after substantial monetary disequilibrium had already been allowed to form. Perhaps Martin's intuitive sense weakened with time but, in any event, in the 1960s he found that a growing number of his colleagues around the FOMC table, appointed by the Kennedy and Johnson Administrations, were Keynesian economists who advocated running the economy at a somewhat higher level of inflation so as to bring down the unemployment rate, which they believed could occur on a permanent basis.

In terms of historical guilt along the path to currency war (which the Nixon Administration unleashed in August 1971) Martin cannot be viewed as a central conspirator. His historical failure was to underappreciate the risk that the FOMC's chosen monetary path under his leadership could empower forces in Washington, which eventually

might wage a currency war, with hugely damaging consequences for all. The balance of evidence suggests that he did not contemplate this possibility then recklessly ignore it. Rather, insofar as he thought about global monetary stability and its relation to US monetary stability, it was in terms of the punch-bowl – deal with the tensions as they arise rather than pursuing a grand vision (which would have included monetary rules whose automatic operation would limit the extent of monetary disequilibrium without the need for Federal Reserve officials to first make a confident diagnosis). Consequently, as episodes of gold loss, triggered by concerns about US inflation and what this meant for continuation of the Bretton Woods system, occurred in the early/mid-1960s, Chairman Martin approved of some passing symbolic rate rises.

When Arthur Burns took over as Federal Reserve chairman at the start of 1970 the US had entered its first full recession (as against growth recession) since 1960/1. His rapid easing of monetary policy, despite still high inflation (at around 5% p.a. at this time), was almost bound to create currency tensions with Germany and Japan. Germany was not in recession and the Bundesbank warned about the danger of importing further inflation from the US. Already, just the year before, in 1969, there had been an upward float followed by a revaluation of the Deutschmark in late reaction to the monetary inflation imported into Germany during the mid-late 1960s.

For Japan, high US inflation in the mid-late 1960s had set off a chain of consequences which were now culminating in a huge persistent trade surplus. In the early 1960s when US inflation had been very low, a steady real appreciation of the yen (matching the growing export prowess of Japan) had occurred via the Bank of Japan effectively tolerating a domestic inflation rate some 2–3 percentage points higher than in the US. But when US inflation accelerated, the Bank of Japan had not allowed inflation to rise in step (given the unpopularity of inflation at around 7–10% which would now have been necessary to bring about continued substantial real appreciation of the yen). And so the climb of the yen in real terms had slowed to a crawl against the US dollar and Japan's export surplus was growing. There was an evident danger that the emergence of a huge trade surplus in Japan at a time of US recession could be the trigger to economic and currency warfare. Congressional opinion was becoming dangerously hostile to the rapid penetration of Japanese imports.

There were ways to avoid currency or trade warfare and arrive at an agreed plan of progress between the US and Japan in which both countries would run monetary policies consistent with a return of each

towards a path consistent with global economic equilibrium. Tokyo could reasonably ask for some time and patience in rectifying a situation of disequilibrium, which had not been of its own original creation (but of the US, via inflationary monetary policy).

A plan for restoring balance, where the key countries would be in both internal and external equilibrium (not meaning trade balance) within the context of the dollar standard, would have included Japan agreeing that all inflows of funds through its balance of payments would be monetized (meaning that Japanese inflation would re-accelerate relative to the US and Japan would gradually lose its bonus competitive advantage which had formed during the years of monetary disorder). Japan might also have taken actions which should lower the equilibrium level of its real exchange rate – in particular, removing all controls on outflow of capital and allowing interest rates to rise (including de-control of artificially fixed low rates), thereby bringing downward pressure on the extraordinarily high domestic investment spending rate. The emergence of a large overall savings surplus in Japan could mean that a substantial trade surplus flowing out into foreign investments would be consistent with domestic and global equilibrium.

On the other side of the Pacific, the US, finding itself with a steady flow of private capital inflow from Japan, would have been in equilibrium overall with some steady deficit on its current account (of balance of payments). And the lower cost of capital to the US promoted by Japanese savings would have been positive for US investment spending in the long run.

Currency war guilt of Arthur Burns Fed

By the time President Nixon appointed John Connally (ex-Governor of Texas and a Democrat) as Treasury Secretary in early 1971 (making his notorious early comment to European diplomats that ‘the dollar is our currency but your problem’) it must have been clear to Arthur Burns that the international dollar standard based on Bretton Woods was in mortal danger and that the Administration would flex its muscles in pressing for a devaluation of the dollar against the yen. Trade protectionist pressures were growing by the day in Congress. John Connally complained vociferously that Japan had a ‘controlled economy’ and ‘did not play by the rules’ (see James, 2003).

Yet Chairman Burns took no monetary action to save the global dollar standard from evident danger but continued to administer the powerful dose of stimulus as agreed at the start with President Nixon. This

did not mean that Arthur Burns viewed dollar devaluation as a particularly attractive tool of overall economic management. And indeed he had written a book in the 1950s about the 'evils of inflation', then only at around 1% p.a. (see Burns, 1957). At that crucial Camp David Summit in early August 1971, which was effectively a council of currency war, Burns was a lone dissenter against breaking the dollar's link to gold. Paul Volcker, then under-Secretary (and top US international finance official) to John Connolly, had no such qualms.

In sum, Burns may not have willed the currency war, but it did not scare him. And why would it have scared him? The predominant view amongst academics and commentators was that the Bretton Woods order needed deep reforms (Milton Friedman advocated a system of freely floating exchange rates).

In principle the final collapse of the dollar standard in early 1973 (when the system of pegged exchange rates against a devalued dollar put into place by the Smithsonian agreement of December 1971 fell apart) freed US monetary policy from all external constraints (in the form of commitments between Washington and foreign governments) on unleashing dollar depreciation when expedient towards promoting fast economic recovery. In fact, though, the historical record does not reveal episodes where the Arthur Burns Federal Reserve deliberately triggered dollar declines. Markets on their own, however, tended to produce such bouts of dollar depreciation in weak phases of the business cycle (anticipating Washington would again open currency hostilities). The Burns Fed in no way tried to resist such tendencies (to dollar decline) or see the implicit dangers for monetary stability.

As an illustration, when the US trade deficit widened sharply in late 1976 and early 1977, barely two years on from the cyclical trough and amidst some current impatience in Washington with the pace of recovery, the US dollar fell sharply. The Carter Administration was warning that large and growing trade surpluses in Germany and Japan were unacceptable and the IMF agreed. Markets understandably speculated whether a new currency war led by the US was imminent. The Burns Fed was not ready to weigh in and make clear that it was adamantly committed to lowering inflation, reinforcing this commitment with a reduction in money supply targets. Instead it was notably hesitant in its monetary action, tolerant of a rise in inflation. In effect, the Arthur Burns Federal Reserve, by its inaction, became complicit in the story line that a still fragile US economic recovery was being held back by a widening trade deficit which could be counteracted by dollar depreciation.

One contemporary FOMC member, Henry Wallich, in dissenting from the lead of Arthur Burns and voting for tighter monetary policy, did make the counter-case that a widening trade deficit was largely benign (in line with faster economic recovery in the US) and that a weak dollar would be symptomatic of monetary conditions being too easy (Metzler, 2009; Meade, 2006). Concerns about inflation in the US were driving global funds into the safe havens of the Deutschmark and the Swiss franc. But Wallich's views did not dominate (the committee). And coincidentally Arthur Burns, by his benign neglect of dollar decline, made himself more popular with Congress and with the Administration.

Nonetheless, Arthur Burns was a renowned US business-cycle economist, not an international monetary theorist. He could not visualize a world in which continuing US trade deficit combined with surpluses elsewhere (especially Japan) could be wholly consistent with international equilibrium and monetary stability – as might be the case were secular investment opportunity in the US relatively high and domestic savings propensities relatively low. Under the Bretton Woods System there had been little, if any, experience of such an outcome in large part due to widespread controls on capital flows.

Volcker Fed wages war on its own hard dollar

The arrival of Paul Volcker at the head of the Federal Reserve in Autumn 1978 could have caused some anxiety with respect to the dangers of currency war in the future. After all, here at the pinnacle of US monetary power was the official who had been loyal under-secretary (and chief of international affairs) to John Connally, in which capacity he had hectored Japan and other countries into accepting large and immediate revaluations of their currencies (in summer 1971). This was justified by the accusation that they were responsible for the alleged serious under-valuations of their currencies (indicating that US exports were suffering from unfair competition). At no point, did Volcker try to plead (within the Nixon Administration) for a less belligerent approach or suggest that US monetary policy had been responsible for the difficulties at that time. Nor did he suggest any way forward, such as, immediate Japanese foreign exchange control abolition (see p.106). And he had not revealed any understanding of the concept (discussed above) that in international equilibrium the US could indeed be running a substantial trade deficit matched by long-run inflows of capital from countries in savings surplus. Instead his focus in international negotiations was on 'trade imbalance'.

The prospect of currency war at the start of Paul Volcker's monetary reign, however, was remote in the short term, given his over-riding declared mission of bringing inflation down and his initial embrace of monetarism (see p.76). Grounds for concern about whether Volcker's past as a member of the currency war council (of 1971) could haunt the present began to grow in early 1985 as the US economy started to slow, after rapid recovery in 1983–4 (from the severe recession of 1981–2), and howls of pain could be heard from the 'rust belt' areas of the US economy. Much of the manufacturing sector was no longer competitive internationally now that the dollar had jumped in value to fully reflect the new monetary stability. Indeed, currency market critics cite late 1984 and early 1985 as a brief period of some irrational exuberance driving the dollar to well above the level it would have reached in conditions of sobriety. But the likelihood is that any such mini-bubble of the dollar would have burst from within, not requiring a monetary assault.

As the US trade deficit ballooned (to around 4% of GDP at its peak) there was growing conviction amongst economists in or near the corridors of power in Washington that Japan in particular but also Germany had taken advantage of the years of disinflation (and super-strong dollar) to make big inroads into US markets and jobs. With inflation now down and the economy slowing, the time was approaching for a counter-attack. The political background was ominous, in that opinion polls were suggesting that the Republicans could lose control of the Senate in the November 1986 elections, leaving the Reagan Administration as a 'lame duck'. (And in fact that was to be the outcome).

Paul Volcker echoed in his public comments concern about the US trade deficit and the 'need' for this to come down over the long run. This need was based on shock geometric progressions showing how the payment of interest on foreign debt would grow exponentially – in the style of the famous (or infamous) warnings from the new International Economic Institute in Washington under Fred Bergsten, the ex-under secretary of Treasury under the Carter Administration. The leopard, who had been Connally's tough-minded under-secretary in the Nixon Administration, had not changed his spots for those who cared to look.

And the leopard had a blind spot regarding the possibility that, even in a world of freely floating exchange rates, large trade imbalances could be a feature of overall equilibrium consistent with monetary stability. (That possibility was not in doubt with respect to the gold standard world, where for four decades up to 1914 Britain and France ran massive current account surpluses reflecting savings surpluses

with counterpart deficits being run in faster growing parts of the world, especially the US, which were structural importers of capital). Japan had not been manipulating its exchange rate. The yen rate was freely determined in the market and all exchange controls of the free flow of capital out of Japan had been lifted by the start of the decade (the 1980s). The Bank of Japan was following a stable monetary course (based on a medium-term target for a fairly wide money supply aggregate).

The emergence of a large Japanese trade surplus was wholly in line with an underlying savings surplus (the ratio of investment spending to GDP had fallen in the aftermath of the rapid-growth years, whilst private savings had remained high or risen as a more affluent ageing population made provision for the future). And now that capital controls had been lifted, it was 100% normal that the surplus savings would flow in part into foreign (largely US) assets, which up until now had been far-below-neutral level in the typical Japanese portfolio.

The US was visibly gaining from such inflows from Japan, both in terms of business, for its growing international financial sector, and also in terms of keeping down the cost of capital which would continue fuelling private sector investment as unleashed by the 'supply side' revolution at the core of Reaganomics. Yet, in 1985, Paul Volcker was joining the chorus about unsustainable trade imbalances.

At the start of his second administration (January 1985), President Reagan had turned to Jim Baker (another Texan lawyer, as Connally before him in the Nixon Administration) with the obvious intent of taking a new tough line on trade, especially with Japan. And at the G-7 Plaza meeting of September 22, 1985, Paul Volcker signed on to the following joint statements (signed also by all other G-7 finance ministers and central bankers):

The US current account deficit, together with other factors, is now contributing to protectionist pressures which, if not resisted, could lead to mutually destructive retaliation with serious damage to the world economy; world trade would shrink, real growth rates could even turn negative, unemployment would rise still higher, and debt-burdened developing countries would be unable to secure the export earnings they vitally need.... The Ministers and Central Bank Governors agreed that exchange rates should play a role in adjusting external imbalances. In order to do this, exchange rates should better reflect fundamental economic conditions than has been the case. They believe that agreed policy actions must be implemented and

reinforced to improve the fundamentals further, and that in view of the present and prospective changes in fundamentals, some further orderly appreciation of the main non-dollar currencies against the dollar is desirable. They stand ready to cooperate more closely to encourage this when to do would be helpful.

And as regards US policy, the US delegation committed itself amongst other things to *'conducting monetary policy so as to provide a financial environment conducive to sustainable growth and continued progress toward price stability'*.

In effect, Paul Volcker, as Chairman of the Federal Reserve, had put his pen to a document which confirmed the implicit threat that the US would have embarked on protectionist measures if indeed its G-7 partners (most importantly Japan) had not agreed on a set of steps, which would mean a lower international value for the dollar. But given that, up until this point, exchange rates had been determined in freely floating exchange rate markets, and assuming that any short-run foreign exchange market intervention would be limited in scope, the depreciation of the dollar meant that the Federal Reserve would have to follow an easier-than-otherwise monetary policy. In fact the G-7 accord provided for an immediate tightening of Japanese monetary policy, but that was patently out of line with the current condition of the Japanese economy and was soon reversed, especially once the Bank of Japan became pre-occupied with the possible recessionary influence of the plummeting dollar on the Japanese economy.

The historic monetary significance of these events was not apparent to contemporaries. It was a return to currency warfare in which one country, the US, would seek to obtain a devaluation of its currency with the aim of pulling its economy more rapidly out of a growth lull (sometimes described as a growth recession) which that country's government declared was in considerable part due to other countries (Japan in particular) having deliberately cheapened their currencies in the preceding years. Arguably this bore some resemblance to the Nixon shock of August 1971.

The council of currency war at Camp David found a *'causus bellum'* (cause of war) in the failure of Japan in particular to apply for a currency revaluation in terms of the Bretton Woods Treaty. That was a flimsy cause, in that the original cause of the problem had been US inflationary monetary policy. This time the *causus bellum* was even more tenuous – that free markets for currencies within a stable monetary order had produced a massive disequilibrium outcome which the

well-meaning officials in the Reagan Administration and Paul Volcker now demanded should be rectified, and at once.

This new episode of currency warfare was to include the active participation of the Federal Reserve, which would run monetary policy in such a way as to bear down on the dollar (in particular, making it substantially cheaper against the yen). In 1971–2, Arthur Burns had run monetary policy in order to bring a sharp re-bounce of the economy in time for the November 1972 elections, not to bring about a given outcome in the currency markets (though if he had thought about it he would surely have seen that the monetary course chosen would undo the Smithsonian Accord). The immediate intention of the currency war council at Camp David had been to seek a change in parities so that a new system of fixed exchange rates for the dollar could be implemented – which is what occurred at the Smithsonian (December 1971). Those fixed rates became untenable when the Arthur Burns Fed continued to steer the US into the Great Inflation, but that end-result had not been intended by the Council of War.

At the Louvre Accord of Spring 1987, Chairman Volcker and Treasury Secretary Baker responded to pleas for an end to the US currency assault, ‘agreeing’ with their G-7 opposite numbers (critically with Japan and Germany) that the US dollar had fallen sufficiently (around 50% against the yen since the Plaza accord) – and signed a cooperative deal in which monetary and other policies would be coordinated to prevent further decline of the greenback. Volcker was by then concerned by the inflationary momentum re-building in the US economy (but not at all making any link between the contemporaneous temperature rise in credit, asset and real estate markets on the one hand and monetary instability on the other).

Treasury Secretary Baker had different views about the need for monetary tightening, not least as the Congressional and Presidential Elections of 1988 were approaching. President Reagan did not re-appoint Volcker to a further term as Federal Reserve Chair, nominating in his place Alan Greenspan, who had little expertise in international economic matters. Almost immediately the new chairman, assuming office in August 1987, indicated in a rare newspaper interview with *Fortune Magazine*, that he had no intention of being bound in his conduct of monetary policy by the Louvre Accord and hinted that a dollar fall would be welcome (see Brown, 2002).

The ultimate blame for a breakdown of the Louvre Accord was subsequently put by Treasury Secretary Baker at the feet of the Bundesbank, which resisted his pleas to desist from a tightening of monetary policy

planned for autumn 1987. And in any event, the soon-to-follow October 1987 equity market crash suggested that a US monetary policy tightening in early autumn (1987) would have been badly timed. Excess monetary ease of the years 1985–7 had already created hot temperatures, most of all at this point, in the equity market. Hot temperatures can fall suddenly due to internal dynamics of the marketplace. In a more popular metaphor, bubbles can burst from within as the least irrationally exuberant investors often with the earliest entry points decide, for whatever reason, to cash-in their profits. This temperature fall exerts a recessionary influence, which on top of a late monetary tightening by the authorities (suddenly alarmed at the hot temperatures) could become the catalyst to a slump.

The most solid monetary criticism of the early Greenspan Fed was its failure to allow monetary conditions to tighten promptly from spring 1988 once the fears of recession in the wake of the Crash had dissipated. This failure had nothing to do with currency policy (such as an intention to weaken the dollar further) but everything to do with fine-tuning (a failure to spot the extent of re-acceleration in the economy).

Greenspan's non-defence of the dollar

The charge that the Greenspan Fed sometimes waged currency war (together with the Administration) is mainly related to two episodes. The first spanned the years 1991–5 when two successive Administrations (Bush senior, then Clinton) were pursuing their 'economic dialogue' with Tokyo (aimed primarily at reducing the Japanese trade surplus to the advantage of US exporters, whether by economic liberalization in Japan, Japanese fiscal stimulus, or yen appreciation and dollar decline). Currency dynamics worked in such a way that any 'recalcitrance' by Tokyo and a hint of breakdown in talks would lead to a yen spike which, in turn, would force Japan back to the negotiating table (or to take other actions such as fiscal stimulus). Implicit in those dynamics was speculation that an impasse in negotiations would drive the US side to raise the level of currency war threat – either all the way to actual war as in 1971 or just short of war as in 1985–6. Did Alan Greenspan encourage such fears and if so, was this on purpose? That is a difficult question to answer with any certainty.

Greenspan was no fan of a strong dollar for the sake of a strong dollar. Currency hardness was not a 'good thing' in itself for Chairman Greenspan. Did the FOMC in cutting rates to abnormally low levels in 1993, during a short-lived growth cycle downturn, come under the

influence of the currency war campaign being led by the new Clinton Administration principally against Japan? The point cannot be proved and Greenspan would have replied that the link, in fact, ran from fiscal tightening (with the new administration embracing fiscal tightening) to monetary ease. There could be a more robust link between the Greenspan Fed's sharp easing of policy during a fairly shallow US growth cycle downturn in the first half of 1995 and the simultaneous crescendo of Washington's brinkmanship in the currency and trade war campaign against Japan. And that sharp easing of monetary stance, to force-feed an acceleration of recovery, might well have contributed to some early temperature rise in equity markets (remember by late 1996 Greenspan perceived 'irrational exuberance in equity market').

Outside the US the Greenspan Fed's policies during 1992-5 of forcing the pace of recovery from the weak economic aftermath of the late 1980s credit boom-and-bust brought great monetary disorder. The brief intermission of sudden monetary tightening during 1994 in the face of an inflation spurt does not mitigate that charge. An abnormally low level of US rates fuelled temperature rises in credit and real estate and equity markets across the Asian dollar bloc. A key source of that fuel was the large gap of market rates below any plausible estimate for neutral rates. Another source was the sky-high level of the yen against the Asian dollar bloc currencies (and the dollar), itself induced by US monetary policy and also by the almost continuous presence of currency war threat against Japan from Washington (until the truce of summer 1995). The high yen was a direct stimulus to industrial sectors across East and South East Asia in competition with Japanese manufacturers.

The second episode where the Greenspan Fed may be charged with having co-waged currency war or co-threatened currency war (acting alongside actions, with the same purpose, by the Administration) was 2003-4. In this case, the evidence is much stronger (than in the first episode) that the Greenspan Fed was an active co-warrior with the Administration in pushing the dollar down. According to the perception in Washington, of spring and summer 2003, the pace of economic recovery was regarded as inadequate and reminiscent of Japan's 'lost decade' following the Great Bubble of 1986-90 (even though the differences were in fact huge, not least in terms of actual size and breadth of market bubble). The chatter was about the bursting of the IT bubble (in 2000) and the enormous over-investment in some parts of the IT sector. The jobless and joyless recovery made the headlines.

Crucially a new governor had been appointed to the Board, Professor Ben Bernanke from Princeton University who, in his academic work,

had written about the benign role of dollar devaluation in stimulating a strong recovery from severe recession (see Bernanke, 2002). Bernanke had argued that the rest of the world had gained more from the income generating effects of the 1934 devaluation (via stimulating US incomes and so eventually demand for foreign goods) than it had lost through an erosion of competitiveness. The devaluation had freed (so Bernanke argue) the US from the constraints of the truncated gold standard (such as remained in limited and largely perverse form) in order to now pursue a much more aggressive monetary expansion from which all countries would gain.

This doctrine of globally beneficial dollar devaluation in recession had got further embellishment in Bernanke's reading of the Japanese experience of the 1990s. Bernanke sympathized with the view that where monetary policy became constrained (in bringing about recovery) by a zero-rate bound (inability of rates to fall below zero even though the equilibrium level of rates may indeed be negative), then devaluation was the way out of this (partly through generating inflation expectations) and internationally acceptable (not beggar-your-neighbour) in that all would gain from the return route to equilibrium. Bernanke, as recently appointed governor to the Federal Reserve, had reinforced this view in his notorious speech to the National Economists Club in Washington (November 2002) under the title of 'Deflation: making sure it doesn't happen here'.

Bernanke's comments about printing money and distributing it from helicopters got the headlines at the time (and since). But in addition the new governor noted aloud:

Though a policy of intervening to affect the exchange value of the dollar is nowhere on the horizon today, it's worth noting that there have been times when exchange rate policy has been an effective weapon against deflation. A striking example from US history is Franklin Roosevelt's 40% devaluation of the dollar against gold in 1933–4, enforced by a program of gold purchases and domestic money creation. The devaluation and the rapid increase in money supply it permitted ended the US deflation remarkably quickly. Indeed consumer price inflation in the US, year-on-year, went from –10.3% in 1932 to –5.1% in 1933 to 3.4% in 1934. The economy grew strongly and by the way 1934 was one of the best years of the century for the stock market. If nothing else, the episode illustrates that monetary actions can have powerful effects on the economy, even when the nominal interest rate is at or near zero, as was the case at the time of Roosevelt's devaluation.

This statement of justification for dollar devaluation as a monetary tool to reduce the danger of deflation is both startling (coming from a then senior Federal Reserve official) and deeply controversial. Why did Bernanke fail to consider, at all, the issue of good deflation and how this can become a powerful mechanism of re-bounce from severe recession so long as there is a stable monetary framework in which strong expectations would exist of a subsequent price level recovery (see p.63)? (Such good deflation had not emerged in 1933–4 as the US and global monetary order was in deep disarray; in the Japanese example, the Bank of Japan might have done more to promote the possibility of good deflation by reform of its monetary framework – such as to reinforce price level recovery expectations – but there was also a remarkable inflexibility of prices in a downward direction during the severe phase of the post-bubble recession, perhaps related to institutional factors but also to simultaneous fiscal stimulus).

In the post-NASDAQ bubble recession of 2001–2 in the US, surely good deflation could have developed given evident flexibility of wages and prices (outside the unionized sector, largely concentrated in the public sector), especially if in one of his ‘political moments’ Fed Chairman Greenspan had not endorsed the lurch towards running mega-fiscal deficits by the incoming Bush Administration? And in any case why was Bernanke even describing the Japanese example as one of deflation when the price level had been overall stable? Also in the same speech (November 2002) Bernanke had put much weight on the ‘balance sheet problems’ which deflation brings and how these might be swiftly dealt with by a devaluation-led monetary expansion. But in his analysis of these, he made no concession towards theorists who argued that these problems could be overcome by market mechanisms – widening of profit margins in the financial sector made possible as the real risk-free rate of interest falls to negative levels and by debt-equity swaps as described in Chapter 2. These are discussed further in the next chapter. But it is sufficient to note at this point that Bernanke’s advocacy of dollar devaluation was bound to endear him to the many protectionists in Congress.

Professor Bernanke, immersed intellectually in the experience of Japanese ‘deflation and lost decade’ (alongside his much deeper interest in the Great Depression), argued that US monetary policy should be pre-emptive – breathing back in inflation (which had fallen only to 1% p.a.). And there was the implicit point, not put on record, that if this brought dollar depreciation that would be helpful. Historians can debate in the future, as more evidence becomes available, about how

far Bernanke influenced Greenspan. But the series of actions which the FOMC took – and their consequence for the dollar – were consistent with either such influence or some coincidental new thinking by Greenspan. Evidence from the Federal Reserve transcripts (published with a delay of six years after the relevant policy-meeting) show Bernanke as a powerful opinion-leader within the FOMC deliberation on the subject of reflation (and avoiding deflation dangers), but with his enthusiasm for action (such as immediate quantitative easing) checked somewhat by Greenspan.

Greenspan was himself a direct participant in the G-7 finance ministers' and central bank governors meeting' at Dubai in autumn 2003, which challenged the East Asian countries to dismantle the Asian dollar bloc. That was effectively a direct call for currencies there to appreciate. There was some post-summit ambiguity about whether or not Japan was included in the target list (with the biggest target being China). Washington, including the Federal Reserve, made no clear exemption of Japan in their rhetoric about global imbalances and the need for Asian surpluses to fall (in part via currency appreciation). It was wholly consistent with this rhetoric that the Federal Reserve would give a helping hand via bending monetary policy in a super-easy direction. Greenspan's latest term as Federal Reserve chair was ending in 2004 and he was hoping for re-appointment (in fact obtained in May 2004 for a further truncated term of a little over one-and-a-half years) so what better way than to demonstrate willing cooperation with the Administration's currency policy (aided by 'breathing in inflation')?

Bernanke legitimizes currency warfare

The appointment of Professor Bernanke to succeed Greenspan as Fed Chair (on his retirement in January 2006) was wholly in line with his dollar devaluation rhetoric (devaluation as a means of fighting recessions) and bold talk about anti-recessionary monetary stimulus having won a sympathetic audience in the Bush Administration and Congress. And so an Administration espousing conservative ideological principles, as regards supply-side economics, appointed a 'politically neutral' professor of monetary economics already notorious, amongst those who worried about issues of monetary stability, for his speech (2002) about how helicopters should be used to spray dollar bills if needed to get economies out of intractable recessions. Did no one advising on the appointment realize or care that supply-side economics depends for its success on monetary stability in its broadest sense?

The answer is evidently 'no' if we look at the powerful voices near to, and within, the Bush Administration that advised on the appointment and, ultimately, on the intuition of the President in accepting that advice (all of this discussed more fully in the next chapter, see p.156). It is not open information how far the decision-takers in the Bush Administration found appealing the professor's willingness to bend all orthodoxies in combating a possible future slowdown (maybe ahead of the key 2008 elections) and in the possible pursuit of a popular currency war with China. And there could be little doubt that his speeches about excess trade and savings surpluses in East Asia (and more specific comments on the need for Chinese currency policy changes in the direction of big appreciation of the yuan) served Bernanke in Congressional nomination hearings, first for the post of Chairman of the Council of Economic Advisers (appointed in spring 2005) and subsequently as Chairman of the Federal Reserve (appointed in late 2005).

Governor Bernanke had become the author of the 'global saving glut hypothesis' citing the huge savings and current account surpluses in East Asia (especially China) as problematic for the US as it forced that country into huge matching savings and current account deficits in ways that were likely to jeopardize future economic prosperity. (He prominently outlined the hypothesis in a speech in St. Louis, Missouri, on 10 March 2005, ahead of the hearings in the Senate on his nomination to head the Council of Economic Advisers). And so the story told by Bernanke, which appealed to the protectionists or neo-mercantilists in Congress and the Administration, was not based (mainly) on the old views about non-sustainability of massive US borrowing abroad and the lasting damage to US manufacturing industries of 'above equilibrium size' deficits continuing – arguments which had been cited by Paul Volcker, in his time as Federal Reserve president, for example – but on misallocation of investment both in the US and abroad.

The essence of the savings glut hypothesis was that the emerging market economies in East Asian (including critically China) were in a fundamental sense saving 'too much'. This excess was due in part to governments in the region seeking to build up 'war chests' of foreign exchange reserves so that they would never again become vulnerable to financial shock as during the 1997 Asian crisis. Other factors cited were under-development of financial markets in the region and households compensating for poor returns by saving even more. Bernanke argued that developing countries, with an abundance of labour and scarcity of capital, should be capital exporters not importers. And he pointed to the problems which the advanced economies, most of all the US, were

encountering in importing the capital from East Asia. Whereas in the period 1998–2000 the capital had usefully added to the available savings in the US to finance the boom in IT spending and had largely come into the US in the form of equity capital, since then the transmission mechanism had changed.

Now, low real interest rates in the US (and the lowness may have been in some part related to the bulge of Asians savings and their new concentration on low- or zero-risk US paper mainly in the form of government bonds and agencies) rather than high stock prices became a principal factor driving down US savings (so as to match the Asian savings surplus). One aspect of the driving down process was the expansion of housing wealth and the related explosion of consumer borrowing (and spending) collateralized to a considerable degree on real estate. Bernanke expressed concern about the transmission mechanism, which he described, mainly because of rising external debt servicing burdens to which there was no rising income stream (a reversion to the old concerns voiced under the Volcker Fed and leading up to the Plaza accord).

Note at this stage in 2005 Bernanke makes no mention of how the East Asian surplus might actually be contributing to a bubble in housing markets, even though this was to later become a main element in his and Greenspan's defence against critics who were to argue that Federal Reserve-created monetary instability was the cause of the bubble and bust. The seeds of that later defence however are present in the 2005 speech.

Evidence of Bernanke's political astuteness in progressing from the general hypothesis about excess savings in East Asia to playing the 'China card' to gain political support came within days of his appointment as Federal Reserve Chair (end January 2006). A Bloomberg report on February 17, 2006 ran:

Lawmakers frustrated over China's trade policies got something from Federal Reserve Chairman Ben S. Bernanke they seldom received from predecessor Alan Greenspan; sympathy. Bernanke told the Senate Banking Committee yesterday that he appreciates the 'frustration' of legislators trying to push China into allowing greater fluctuations in its currency. In response to a question from Democrat Charles Schumer, who is seeking tariffs against Chinese goods entering the US, he said China may be delaying change partly to benefit its exporters. It is important to make sure that trade that takes place is done on a fair and open basis. That's the sort of language lawmakers seldom heard from Greenspan, who had a consistent

message during his tenure: unfettered capitalism and trade are good for the US, helping make the economy resilient to shocks, and policy makers need patience whilst China adopts a market-based currency.

The Bloomberg reporter had a point when it came to Bernanke's explicit comments on Chinese trade practices. And also Bernanke, in his analysis and speeches, failed to make the critical point, at least implicit in Greenspan's many commentaries on the issue (up until this point, the tone changed later when Greenspan came to defend his record), that the main problems with the Chinese balance of payments were the exchange controls and currency intervention practices, which prevented market forces from determining the outcomes (the size of the trade and savings surpluses and the real exchange value of the yuan), not the particular size of the trade surplus *per se*.

The distinction in viewpoint (between Bernanke and Greenspan at this time) can be traced to Bernanke's overall 'new Keynesian' orientation. For a neo-classical economist there is no such thing, in the context of global free market and unrestricted currencies and against the background of global monetary stability, as a global imbalances problem such as outlined by Bernanke (where the US economy suffers from having to absorb huge savings surpluses in other parts of the world). In a general system of equilibrium, excess savings relative to investment opportunity in some parts of the world flow into other parts where savings are in scarce supply relative to investment opportunity. The invisible hand of market forces distributes savings efficiently across the globe.

The invisible hands can operate to distribute savings efficiently around the globe both in the context of a global fixed exchange rate system (say the dollar standard or gold standard) and of a freely floating exchange rate system (no intervention, no exchange controls). In the dollar standard, the central banks must play according to the rules of the game – first, the US pursuing monetary stability, second, all other countries running dependent monetary policies, and third, no sterilization of balance of payments surpluses or deficits. (In the 'genuine' – as distinct from the sham version in the interwar period – international gold standard, there is no sterilization by definition).

In principle, the goal of efficient allocation of capital internationally may be better achieved under the fixed exchange rate system in that under the floating system exchange risk premiums could act as barriers to capital flow. But such barriers may be inevitable if there is no key country in which high confidence prevails abroad about its commitment

to monetary stability and, thereby, most countries decide in favour of monetary independence and a freely floating exchange rate.

Under conditions of pervasive monetary stability in the floating exchange rate world, real interest rates could indeed fall to negative levels in countries where savings are very large relative to investment opportunity and where exchange risk looms large. The negative real rates would emerge from the combination of prices having fallen well below long-run normal level and long-run expectations of a return of these to normal level (for instance, over a decade or more).

Arguably there could be a Chinese, or more generally an East Asian, savings surplus problem (or rather a global imbalance problem related to these) if the equilibrium outcome included negative real rates there but flaws in the monetary frameworks prevented these from emerging. In particular, good deflation with its key attribute of strong price recovery further ahead might be blocked. In that impasse the problem may be solved by shedding independent monetary policy together with floating exchange rates and instead joining a larger monetary area (for example, becoming a member of the US dollar zone). In such a regional system, without the existence of exchange risk premium, the equilibrium real interest rate (in the country with large savings surplus) would be less negative (but may still be lower than elsewhere, consistent with inflation in the country concerned running at a somewhat elevated pace whilst nominal interest rates everywhere in the regional system stay the same).

Keynesian warriors fight global imbalances

In sum, if the Asian savings surpluses had formed under an international regime of stable money and free capital movements there could be no global imbalance problem and related detriment to the US as described by Ben Bernanke. Monetary instability, such as the Federal Reserve induced in spring 2003 (and on into the next few years) with the intention of 'breathing back inflation' and 'reducing the danger of deflation' coupled with currency belligerence (such as the assault on the Asian dollar bloc at Dubai), could create a 'global imbalance' problem insofar as it inflamed exchange risk perceptions (fear of a wild ride down for the US dollar). This consequently meant that the equilibrium level of real rates in East Asia would become very negative (and there could be considerable frictions and inertias in the East Asian economies which would block such negative real rates emerging via an initial good deflation coupled with expectations of a price level re-bound).

Moreover, if the Federal Reserve were in fact inducing huge monetary instability (in the form here of rising temperature in credit and asset markets) with reverberations around global capital markets this may indeed be bringing about such widespread mal-investment as to be inconsistent with the efficient allocation of resources described by neo-classical economists.

Ben Bernanke did not, and does not, have the neo-classical paradigm in mind. Rather, his view of potential global imbalances is close to the Keynesian tradition of concern about the so-called 'transfer problem'. This was first raised by Keynes in his polemic '*The Economic Consequences of the Peace*' against the Versailles Treaty. Keynes sought to demonstrate how it was economically impossible for Germany to pay reparations as dictated by the Versailles Treaty.

In a pungent criticism of Keynes, University of Chicago Nobel Prize winner Roger Myerson (2004 and 2010), using a game theoretic framework, accuses him of having authored the reparations disaster in that as a Treasury adviser in 1916 he had persuaded his colleagues that, in the post-war settlement, reparations should be spread over decades. Keynes had been concerned to avoid the 'absorption problems' which the German Empire had apparently 'suffered' due to the rapid receipt of huge reparations from France after the 1870–1 Franco-Prussian War. But Keynes had been entirely unaware of the imperative of providing incentives to pay. In 1872–3 France accelerated payment so as to get German troops off French soil. No such incentive could be provided for generation-long payments and indeed the reparations system devised provided incentives to the Weimar Republic to pursue disastrous economic mismanagement – in that reparations could be delayed or reduced by such outcomes – first in the direction of hyper-inflation and then of great depression.

Presumably Keynes' retort to this blistering attack by Myerson on his ignorance at an intuitive level of game theory and its critical bearing on reparations payments would have been to say that even with powerful incentives Germany just could not have paid the reparations. The transfer problem was insoluble. According to Keynes' polemic, the trade and savings surpluses, which Germany would have to generate as the counterpart to reparations, were bound to impose intolerable hardship on its population (Keynes states that the Germans would have to stop drinking beer). The acceleration of German export industries would destroy much of the competitor industries in Britain (and its empire, at that time). A debate ensued in the economics literature about the so-called transfer problem – whether a huge savings and trade surplus emerging

in one large economy (such as Germany) could be absorbed by the rest of the world in a benign fashion.

Opposing Keynes's pessimism were Bertil Ohlin and Jacques Rueff (see Chiwis, 2010) who stressed how robust were the invisible hands of market forces, which could bring balance in the international economy, and how these had functioned well during previous episodes of reparation payments (as after the Franco-Prussian War). The authors did not make the point explicitly that overall monetary stability was essential to the effective operation of market forces and indeed France had remained on the gold standard during the period of reparations payment. Further, as a point of fact, both Britain and France had continually run savings and current account surpluses of around 10% of GDP in the period before the First World War and yet no one raised the problem of global imbalances. So what could be the problem at an economic (not political) level of Germany generating extra savings to match reparations of a comparable amount (and indeed under the Dawes Plan of 1924 and subsequent Young Plan of 1929 the projected reparations were, at most, half that amount relative to German GDP).

Two big missing observations stand out when reviewing this reparations debate with the benefit of almost 100 years' hindsight. First, there was no reference to the benign downward influence of huge savings and trade surpluses, in one or more of the big economies, on the global cost of capital. And second, the focus was almost entirely on the relationship between the payer and the payee, without taking into account crucial turntable economies which play a key role in the overall adjustments of trade and capital flows. These same omissions can be found in Bernanke's analysis of the 'East Asian savings surplus problem'. And like the earlier debaters, Bernanke failed to fully integrate the role of monetary stability (or instability) into his analysis.

In the 1920s, the reparations imposed on Germany should have driven up that country's national savings rate (including budget surplus before deduction of reparations) as the government amassed revenue (or borrowed capital in part from its own citizens) to transfer to the victors. The lowering of the global cost of capital (both debt and equity), which would have accompanied the bulge of savings in the world's second largest economy (Germany), should have promoted investment spending in the European 'victor nations' and the US. Indeed the 1920s were an age of US-centric technological revolution. Strong demand for German exports from the rest of the world driven by global economic growth (as promoted by a lower cost of capital) would have facilitated that country's payment of reparations.

Contrary to Keynes's polemic, France and Britain – the main recipients of reparations – did not have to run big trade deficits to match German reparations. The US economy, as the centre of dynamic growth in that era and experiencing a consumer credit revolution in addition, could easily have become a large-scale absorber of European savings (running savings and current account deficits to match). France and Britain would have been turntables in the global flow of funds, re-exporting the reparations received from Germany into the US capital markets and thereby financing a huge US trade deficit (for simplicity we do not cover here the issue of wartime debts payable by the European allies to the US). Weighing against such an outcome was the monetary disequilibrium being generated by the Federal Reserve and the related under-valuation of the US dollar (see Chapter 1, p.20).

The Federal Reserve was stoking up (inadvertently) a massive global credit bubble via keeping interest rates far below the neutral level applicable to an age of immense technological opportunity – in part to support Britain's return to gold at an over-valued exchange rate and in part out of the misguided fixation on short-term price level behaviour (flat despite strong demand as costs were held down by rapid productivity growth). And so there were two aspects to the US generation of monetary disequilibrium. First, Federal Reserve monetary operations had the effect of driving market interest rates well below neutral level. Second, the US dollar was undervalued – and by much more than monetary disequilibrium in the US would have caused on its own under a freely floating currency regime. The pound's return to gold at its pre-war parity also played a big role.

The cheap dollar aspect (of US monetary disequilibrium) had, as a consequence, an above equilibrium level of US savings, what economists described as 'forced savings'. These could be found chiefly in the US business sector in the form of retained profits which were booming (stimulated by the cheap dollar, which meant strong exports and high profit margins in the traded goods and services sector of the US economy).

Hypothetically, we could say that if the dollar had not been undervalued and US monetary policy tighter (in line with monetary stability), the US might well have been in trade and savings deficit (with no forced saving), whilst the rise of temperature in credit, real estate and equity markets, both in the US and Germany (the latter on the dollar standard effectively from 1924) would have been much more modest, meaning a less violent business cycle ahead. Plausibly the descent of the Weimar Republic into the political and economic abyss had much

more to do with the bursting of a gigantic global (US, Germany and Central Europe) credit and asset bubble, of which Germany was the epicentre (with the Federal Reserve as the chief source of monetary fuel), than the economics of the transfer problem which formed the basis of Keynes's original polemic. That is not to ignore the powerful political effect which the reparations issue may have had as part of Nazi propaganda once the economy was falling into the abyss.

What are the inferences which can be drawn from the Keynesian misdiagnosis of the transfer problem related to reparations for Bernanke's hypothesis about the so-called Asian savings glut and its potentially harmful influence on the US?

Unlike Keynes, Bernanke does specifically consider the effect of the bulging savings surplus in the country or group of countries making the transfer (in the case of East Asia large capital exports) on the global cost of capital. But like Keynes he ignores or downplays the potentially efficient role of invisible hands in allocating capital efficiently around the globe and also the key role of monetary stability in facilitating such an outcome. Bernanke also (like Keynes) fails to perceive the potential turntable role of countries receiving the capital from the country in huge surplus and then re-exporting capital to an ultimate absorber of that capital. Let's take these points in turn.

Bernanke concedes that the Asian savings helped to finance an equity-led investment boom in the US during the late 1990s (see p.36). He does not take up the issue of whether this boom became excessive (irrationally exuberant) due to monetary disequilibrium under the Greenspan Federal Reserve (keeping rates below neutral as a consequence of fixation on implicit inflation-targeting whilst ignoring wider aspect of monetary stability) and whether, in consequence, the extent of recycling of savings between East Asia and the US also became excessive. If monetary policy in the US had been tighter there would have been less of boom, less mal-investment related to the Nasdaq bubble, less of a US overall savings and current account deficit, and less savings surplus in East Asia (which was bloated by 'forced savings' related to the boom in exports from that region intensified by US monetary disequilibrium).

As regards the growingly important turntable role of Europe in the global flow of savings out of East Asia and into the US, an increasingly strong current of capital flow was evident in the form of Asian portfolio capital (both private and official) filtering into European bond markets in anticipation of the European Monetary Union (launched at end-1998). European investors were enthusiastic buyers of both US companies and US equities, with the capital export related to these matched

by the Asian inflows. The point here is that the benign role of Asian savings in promoting IT investment in the US occurred despite some degree of risk aversion by the ultimate Asian savers (who had a strong preference for bonds in Europe and the US to equities) and depended on a process of risk-intermediation by the Europeans.

Fed myth – Asian savings surplus fuelled the global credit bubble!

Looking at the second period of recycling (of savings surplus out of Asia into the US), in the early and mid-years of the first decade of the 21st century, about which Bernanke is more critical, the Asian savers in the main were not buying the high-risk mortgage debt and corporate debt being issued massively in the US to finance either spending by US consumers or leveraged buy-outs by US companies. In particular, the Chinese government was building up its massive portfolio of US and top European government bonds. The big buyers of high-risk US debt were in Europe (largely European financial institutions), many of which were borrowing from US money market funds (MMFs) for that purpose. Those MMFs were themselves marketing their units to largely US investors who, under conditions of income famine (as the Fed was pressing market rates far below neutral via actual and signalled money-rate pegging), were vulnerable to distortion in their vision – ignoring risks and gullibly accepting that money market funds would always redeem at par.

It could be that the huge Asian savings surpluses coupled with the skewed demand of the particular groups of Asian investors (largely governments and sovereign wealth funds) for low or zero-risk assets contributed to a lowering of the equilibrium level of risk-free interest rates both in nominal and real terms in the global economy. And maybe those very low nominal rates triggered some irrational processes whereby many investors worldwide, with a normally large neutral weight for the dollar in their portfolios and now desperate for income, donned rose-coloured spectacles. With blurred vision they irrationally underestimated danger in buying high-risk bonds (such as mortgages or junk bonds) or ignored (failed to do their due diligence) the risks piling up in leveraged financial institutions which were investing in similar fashion.

In a well-designed monetary system such a rise in credit market temperature would precipitate a jump in demand for high-powered money (monetary base) which would trigger an increase in short-term interest rates. And long-term interest rates on high-quality paper, insulated to a considerable degree (in a well-designed system) from money rate

fluctuations, would have risen in line with apparently blossoming economic opportunity (and the related strength of demand for capital, especially in the construction and real estate sectors). Hence the disequilibrium processes of irrational exuberance and mal-investment would be self-limiting. As the hot markets cooled down, the one-time investors there would lose their enthusiasm to re-enter them even as the interest rates subsequently fell back to their low neutral level.

Yet the stories of Asian savings depressing the equilibrium level of global interest rates by a wide margin are implausible. The underlying savings surplus of China in the early and mid-2000s may have been around \$200bn p.a. (see below) and whatever downward influence this might have had on the equilibrium level of global interest rates was surely balanced by the sudden explosion in the US Federal Budget deficit (as the Bush Administration embarked on its tax-cut programme) and the apparently real innovations in providing consumer credit to borrowers previously unable to tap into, or strictly rationed in their access to, this market.

The much bigger reported totals of the Chinese trade surplus (at its peak around \$4–500bn) reflected first a flood of hot money inflows into the yuan which was camouflaged as either phantom exports or deductions from imports so as to circumvent restrictions on such speculative money flows. Second, some part of the savings surplus which matched the large trade surpluses in East Asia, especially China, should surely be regarded as involuntary – a result of booming export revenues and their accumulation in export corporations (this was occurring in China, especially in state companies which did not pay dividends), where these (revenues) reflected buoyant consumer demand in the US driven by disequilibrium US monetary policy. (Some of these forced savings could also be attributed to under-valuation of the Asian currencies promoted by various forms of monetary sterilization to block real appreciation in the context of fixed exchange rates versus the dollar).

In this way, much of the chatter in Washington and European capitals about the global imbalance problem was wide of the mark. US monetary disequilibrium, by promoting a rise in asset and credit market temperatures, was contributing to the observed size (but not the equilibrium size) of both the US current account deficit and of the East Asian surpluses. Bernanke, in arguing that the surpluses in some sense induced the deficits, was ignoring the common cause for both in US monetary disequilibrium.

In sum, the hypothesis of a global imbalance problem and the implication that this, somehow, required a realignment of exchange rates,

including a weaker US dollar and a strong Chinese yuan (and other East Asian currencies), largely grew out of blindness to underlying US monetary disequilibrium. And this disequilibrium was indeed being fuelled by the Greenspan–Bernanke Fed policy of breathing in inflation and seeking to accelerate the pace of US recovery from the post IT bubble recession beyond the natural rhythm which would at first be produced by self-recovery forces building in the private sector economy within the context of monetary stability in its broadest sense.

Should monetarist revolutionaries worry about global imbalances?

Does the conclusion above mean that there would be no possibility of a ‘global imbalance problem’ emerging at any point in the future if the blueprint for the second monetarist revolution, as outlined in the previous chapter, were ever to be implemented in the US and potential US monetary disequilibrium thereby greatly reduced? The answer is that there might still be a problem due to barriers put in the way of the invisible hands of market forces by foreign governments or due to monetary disequilibrium of huge proportions developing in a large foreign country or monetary zone. But in no way would these barriers be an issue for the institution put in charge of US monetary base growth. Rather they would be the focus of that US government department responsible for international economic diplomacy.

As regards barriers in the way of the invisible hands these include exchange restrictions or various versions of ‘dirty floating’ (at one extreme a fixed exchange rate where changes in foreign exchange reserves are sterilized from having any effect on the monetary base to large-scale intervention designed to steer the exchange rate path according to the whims of the government). It is tautological that exchange restrictions prevent market forces from producing a general equilibrium solution. And large export of savings via a governmental authority into almost exclusively low-risk foreign assets may create distortions in their effect on global capital market prices with serious economic consequences.

For example, the strong preference of East Asian governments for low or zero-risk government bonds in Europe and the US – in contrast to a greater preference for equities and other forms of risky assets which might well be manifested by private investors in these countries if they were playing a larger role in accumulation of foreign assets – would lower the equilibrium level of risk-free interest rates globally whilst raising the

equilibrium level of risk capital costs (especially the cost of equity capital). This would militate towards a lower level of business investment globally than would otherwise take place. In turn, the generation of market rates in line with a neutral real rate which is sometimes negative (the extent and frequency of negativity increased by the interferences with free floating and free capital movements as described) may require episodes of good deflation accompanied by price level recovery expectations. The generation of such episodes are problematic under many monetary regimes (though not the blueprint outlined in the previous chapter).

Finally, it is not in accordance with principles of a global liberal economic order that one large country effectively targets a large trade surplus (so as to suit a political coalition of domestic trade interests) by massive interventions in the foreign exchange market, which are sterilized in terms of any monetary impact (so that the real exchange value of the currency is lowered and the savings surplus raised above its underlying level in the hypothetical free market alternative environment). Rather the size of the surplus should be determined by the interplay of private market forces only.

Perhaps Ben Bernanke had some of these points about global imbalances in mind when he made comments about the Chinese currency problem, whether in front of Congress or wider audiences, but the emphasis (as in the quote above) on the need for a large appreciation of the yuan conflicted with a strictly free market approach. Who could tell what would be the exchange rate that would prevail under a fully convertible currency regime in China if there were no interference with the invisible hands? This lack of alignment of Bernanke's views with liberal free market principle also is evident in his endorsement of bold policies of quantitative easing as a means of tackling recession, where the main implicit (or even explicit) route for the policy ran through dollar depreciation (frightening investors about the possibility of high inflation in the future so that they would dump the greenback now, triggering a big fall in its exchange value). And this was not focused depreciation against the manipulated yuan. Indeed Beijing was largely successful in resisting the pressures from US monetary policy towards appreciation via its strict controls on capital inflows. It was depreciation against a broad range of currencies most of which were trading free of restriction and intervention.

Was this not just a new version of the beggar-your-neighbour devaluations of the 1930s against which there had been universal revulsion (amongst economists of all persuasion) leading up to the formation

of the Bretton Wood System in the flawed attempt to secure currency peace? In effect the Federal Reserve under Professor Bernanke became a currency war machine operating to a considerable degree as a loose canon alongside an Administration which, though following a 'strong dollar policy', was in fact glad to see the dollar fall. That gladness though was in fact giddiness. In reality the Bernanke Fed currency war machine was antagonizing the natural free market allies of the US who could have formed a coalition of pressure on Beijing to reform its currency (towards a free float and full convertibility). Instead Beijing could form a coalition against US currency aggression. Germany, with a huge trade surplus wholly determined by market forces, found itself in alliance with China against the Obama Administration demands (as expressed at the G-20 summit in Seoul, autumn 2010) that all large surplus countries commit themselves to a program of surplus reduction.

A second monetarist revolution in the US would shut down the Federal Reserve as a currency war machine. An era of currency peace depends on more than just dismantling that machine, although this would an important step. US diplomacy would have to carry forward the advantages into building the international coalitions and influencing the trade-offs considered by Beijing in their decision-making with respect to its currency. The saying is that to make peace it is necessary to prepare for war. In the context of defence against the Chinese menace to global economic equilibrium preparing for war may mean many things – toughening the negotiating stance on human rights, confronting Beijing's role in nuclear proliferation, toughening trade responses to the widespread tolerance in China of intellectual piracy, discovering and insisting on the removal of hidden subsidies to exports and barriers to imports and investigating the array of soft loans by state-owned banks to public sector corporations which jarred with any market-based order and principles of international competition according to treaty (in particular the WTO rules). Preparing for war, however, should not involve the Federal Reserve brandishing a currency weapon.

5

Revolt against Bernanke-ism

Bernanke-ism transcends the person of top Federal Reserve official Ben Bernanke. The set of monetary principles which Ben Bernanke has laid down, whether as a Princeton professor or central banker, is a partial clue to the meaning of Bernanke-ism but not an open window into its essence. That includes, in addition to a particular intellectual viewpoint or theoretical construct, the whole practice of monetary policy-making and how that fits into the wider political system. Many elements of Bernanke-ism were alive well before Professor Bernanke entered the Federal Reserve Board in 2002 and many are found in monetary policy-making and monetary frameworks outside the US. The whole is often more than the sum of the parts and that is the case with Bernanke-ism. Ten elements make up Bernanke-ism.

The ten elements of Bernanke-ism

First, there is absolutely no place for monetary rules which would regulate in a mainly non-discretionary way the growth over time of a key money aggregate so that this could perform the function of ‘nominal anchor’. (The authorities, by fixing a nominal anchor, make sure that the path of the price level over time is determined as part of the general equilibrium solution rather than being left undetermined). The pivot to the classical monetary system, the monetary base, around which automatic mechanisms of monetary control operated historically, is fully dislodged (under Bernanke-ite regimes). Monetary base (at least the key component of this in the form of reserves which banks hold at the central bank) becomes virtually indistinguishable from short-term debts (Treasury bills) issued directly by the government. (In Chapter 3 we discussed this dislodgement and the steps

which would be required to put monetary base back firmly in a pivotal position).

Second, instead of monetary rules, a monetary policy-making committee exercises 'command control' over short-term money market interest rates, carrying out this function on the basis of its expert judgement about all relevant matters. The tool for exercising control is setting the rate to be paid on excess reserves at the central bank. This regime may be described as one of monetary authoritarianism, albeit where the authority (central bank policy board) believes itself to be benign. Control extends into powerfully influencing expectations of where money market rates will be in the medium-term (thereby influencing medium- and long-term rates).

Third, in exercising its command control (over the path of short-term interest rates and expectations regarding these) the central bank aims to achieve a target for the inflation rate over the medium-term (for example, a two-year period). The controllers reject (or do not understand) the broad notion of monetary stability, in the tradition of J.S. Mill and later of the Austrian school economists, whereby money 'becoming a monkey wrench in all the machinery of the economy' might not emit a symptom in the form of inflationary or deflationary pressure in goods and services markets but rather of temperature fluctuations away from a normal temperate zone in asset and credit markets, generating malinvestment. The controllers have no understanding of the Austrian school insight that short-term price level fluctuations can emit false-positive signals of monetary disequilibrium (as for example a rise in prices related to resource shortage or 'good deflation' perhaps in the context of a business cycle recession).

Fourth, phobia of deflation permeates the monetary controllers. There is no recognition of the principle that deflation might sometimes be benign or that in some states of disequilibrium, triggered, for example, by 'irrationally excess optimism' (temperature rising) in asset markets (this optimism may have as its source a 'speculative displacement' such as a wave of innovation or perhaps an earlier episode of monetary disequilibrium), monetary tightening (ideally automatically triggered by monetary base control) might have as an acceptable side-effect a passing fall in the price level.

Fifth, the controllers put forward with confidence the hypothesis that hyperactive monetary policy can stimulate the economy out of severe recession even in a situation where short-term nominal interest rates have fallen to the 'zero rate boundary'. In this situation, the central bank applies a tool described as 'quantitative easing (QE)'. This involves

a massive expansion in the size of the central bank's balance sheet with the hypothesized reflationary influences coming via several channels: for example, lowering credit risk premiums via purchase of risky loan assets, lowering long-term interest rates via purchase of government bonds, raising credibility of the inflation target despite present below-target inflation by enhancing the commitment of the Federal Reserve to hold rates down at an abnormally low level for an abnormally long period of time, and creating widespread anxiety about currency debasement which even though irrational (according to the viewpoint of the well-meaning controllers) could stimulate consumers and businesses to bring forward spending.

Sixth, under Bernanke-ism there is no deep respect for the monetary consumer (in the sense of the investor whether inside or outside the country who puts their funds into the given central bank's money, in this case the dollar, as a store of value). Rather, it is wholly legitimate for the monetary controllers to spread anxiety and even panic amongst the holders of its money towards engineering a better perceived macro-economic outcome. Hence quantitative easing, which involves laying monetary time bombs along the path of the economy (US and global) whilst giving an ambiguous assurance that these will be diffused in time, thereby making investors (both in the US and outside) anxious enough to sell the dollar and households frightened enough to bring forward their spending, is wholly acceptable (to the Bernanke-ites) as means justifying the reflationary end. There is absolutely no weight given to offsetting geo-political considerations, for example, that an episode of US monetary disequilibrium accompanied by global distrust of the dollar could spark a bubble in commodity prices and add to inflationary pressures in the emerging market countries, triggering thereby economic and social turmoil in close allies of the US.

Seventh, monetary policy-makers give prominent place to the new Keynesian theory developed by Professor Bernanke about how credit channels can get blocked during severe financial stress and why the government should intervene by providing alternative publicly mediated channels at such times rather than depending on private market forces to bring about a general recuperation.

Eighth, a beggar-your-neighbour currency war is legitimate and the central bank is a key part of the war machine. This type of currency war should be distinguished from that waged directly against a manipulator with the purpose of getting it to desist from currency intervention (in the case of floating exchange rate) and remove all exchange restrictions so as to allow a full market determination of its savings

and trade surpluses in the context of international equilibrium. By contrast, a beggar-your-neighbour currency war is waged indiscriminately with the aim of achieving a 'competitive' devaluation of the national currency thereby stimulating the economy. It is this traditionally bad form of currency war which under Bernanke-ism obtains legitimacy. The good form gains support from classic politically liberal opinion, in principle hostile to Bernanke-ism.

Ninth, Bernanke-ism weaves a particular selection of historical folklore and myth in skilful fashion to justify non-orthodox and highly interventionist policy actions. The 'cloth' includes tales of Federal Reserve failures in the Great Depression, Japan 'deflation' in the 1990s and 2000s, the 'problem' of the Asian savings surplus, and a contemporary account of how the Bernanke Federal Reserve saved the US and world from a second Great Depression in 2008.

Tenth, Bernanke-ism means a suspension of political liberalism insofar as it applies to the monetary order. The central bank practises a code of transparency which allows the publication of economic forecasts made by its top officials but blocks the revelation of internal decision-making processes as regards policy other than in the highly censored and cryptic minutes of official meetings. Central bank officials resort to propaganda in buttressing the doctrine of infallibility. The essential message at press conferences held by the central bank president is 'trust me to adjust the money rate peg at the right time' and 'no significant dissent exists inside the policy board'. And the role of the apolitical monetary expert is extolled. Congress abdicates its key responsibility to exhaustively challenge nominations by the executive branch to monetary high office (including due scepticism of nominees who would likely deliver suitable policies ahead of an imminent election or who are close academic or business friends of top economic officials in the Cabinet). There is no challenge possible by ordinary citizens to the courts about elimination of rules which would preserve essential monetary stability.

Plan for a revolt against Bernanke-ism

Success of a second monetarist revolution (as described in Chapter 3) depends on the refutation and repeal of Bernanke-ism. This is an immense challenge. Bernanke-ism represents a new and dangerous phase in the corruption of the monetary order away from the ideal form that would underpin economic and political liberalism. That corruption in itself goes back a long time.

The waning of Bernanke-ism and its eventual eradication depends most of all on evolution in the body politic. Revulsion at the consequences of Bernanke-ism would provide the seeds for a new social contract to emerge between citizens, the government, and the authority made responsible for monetary stability. Academic research and authoritative laissez-faire professors must play an important role in leading the revulsion against Bernanke-ism.

The good news for the US is that the extremes of Bernanke-ism, coupled with the unique strengths of the US political order and potential for academic dissidence from mainstream economic consensus, make an early monetarist revolution more plausible there than anywhere else. The bad news for Europe is that monetary union swept into power a strand of Bernanke-ism which the weak political institutions there would be unable to evict even if monetarist revolutionaries were to emerge in strength.

Let's revert to describing how an eventual successful revolt against Bernanke-ism could take place. Four essential steps have to take place.

First, there is the need for historical stock-taking as to how Bernanke-ism triumphed in the first place. What were the flaws and failures in the first monetarist revolution which laid the way open for the monetary authoritarians to gain power? How could Bernanke-ism claim to be a descendant of Milton Friedman? The most lenient judgement of the first monetarist revolutionaries is that there was some opaqueness in their message. The harshest identifies some deep flaws that have to be corrected.

Second, a powerful refutation or exposure of the ten elements of Bernanke-ism, as listed above, has to take place and find its way into the academic and media mainstream.

Third, a manifesto has to be composed for a second monetarist revolution based on the broad concept of monetary stability as found in the J.S. Mill–Austrian school tradition, which recognizes the powerful rebalancing forces in a capitalist economy under conditions of monetary stability, and which is immunized against the Keynesian virus.

Fourth, political forces have to mobilize around the manifesto.

Bernanke-ism's claim to Friedman ancestry

Let's go back to the essential step leading up to revolt. The troubling claim of Bernanke-ism, to be descended from the first monetarist revolution, was made somewhat apologetically, at Milton Friedman's 90th

birthday party (8 November 2002) hosted by the University of Chicago. Professor Bernanke, just having joined the Federal Reserve as Governor, addressed Milton Friedman:

Regarding the Great Depression, you're right, we (i.e. the Fed) did it. We're very sorry. But, thanks to you, we won't do it again.

Just two weeks later (21 November 2002), Ben Bernanke continued with his claim to be an intellectual descendant of Friedman. In his (in)famous 'helicopter speech' to the National Economists Club in Washington under the title of 'Deflation: making sure it doesn't happen here', Bernanke again drew his inspiration from Milton Friedman. In discussing how monetary policy could always – if applied sufficiently boldly – tackle deflation successfully, he explained how a money-financed tax cut (where a tax cut is financed by the government borrowing from the central bank at zero interest and making clear that it intends never to repay that loan) was equivalent essentially to Milton Friedman's proposal for a famous 'helicopter drop' of money (the figurative notion of handing out cash to the public).

In that same speech, Bernanke had a section on Japan – a key part of the then developing Bernanke-ite folklore – under the subtitle of '*Why has Japan not ended its deflation*'. There he described '*Japan's deflation problem as real and serious*'. According to Bernanke, '*political constraints, rather than a lack of policy instruments, explain why Japanese deflation has persisted for as long as it has*'. Bernanke did not, in that speech, link the discussion of Japan's deflation to any teaching of Milton Friedman but some economic commentators have gone down that route.

For example, Professor Jeremy Siegel in a *Wall Street Journal* op-ed piece (2010) recounts how Friedman, in private discussion, told him he would have favoured radical monetary base expansion towards tackling Japan's deflation. A *Financial Times* blog makes a similar point, relating how Friedman exhorted Japan to aggressively expand the money supply in the mid-1990s (see Davies, 2010), and using this exhortation as evidence that Friedman would have approved of Bernanke laying QE time bombs along the rails of the US economy in 2009–10. The reader must judge whether a privately recorded statement of a great thinker in his or her 90s should be awarded the same weight as texts in acclaimed articles written decades earlier.

Yet the reality is that a significant part of Bernanke-ite 'folklore' stems directly from Milton Friedman, himself the most famous pioneer of the first monetarist revolution. It is indeed questionable whether Friedman

should be associated with the Japanese element of the folklore. And even more remarkable, the Japanese element is a historical untruth which goes unchallenged in public forums. There has been no monetary deflation in Japan since 1945, including the so-called 'Lost Decade' and beyond, contrary to what Professor Bernanke has claimed. The price level has been broadly stable throughout and it is hard to make the case that market rates on average have been above the neutral rate due to the 'zero rate boundary problem'. This problem can be seen only at specific points of cyclical recession and the solution of good deflation could have emerged if given a chance (see p.54). Japan's 'deflationary misery' has everything to do with private savings squandered by the public sector and little, if nothing, to do with monetary disequilibrium.

How did Milton Friedman unwittingly sew the seeds of Bernanke-ism (in the sense of his works being drawn into the folklore)?

Austrian school critics have long highlighted some dangerous features of Friedmanite monetarism which in hindsight may have played a role in the growth of Bernanke-ism. Murray Rothbard in his essay 'Milton Friedman Unravelled' (2002) takes issue with the 'Chicago school advocacy of proto-Keynesian policy of stabilizing the price level through expansionary fiscal and monetary programs during a recession'. Rothbard made the charge that Milton Friedman, in similar fashion to the first generation of the Chicago school (led by Henry C. Simons), saw monetary stability as essentially meaning price level stability rather than in the fuller sense of money not becoming the monkey wrench in the machine, of which there could be several symptoms. Price-level fluctuations in the short or even medium-run could be a false-positive symptom of monetary disequilibrium.

The irony is that Friedman gives much prominence to the J.S. Mill quote (most of the time the machinery of money is unimportant but when it gets out of control it becomes the monkey wrench in all the other machinery of the economy) without drawing in full its implication for the concept of monetary stability. Friedman, however, did not share in the deflation phobia of Bernanke-ism. In his essay on the *Optimum quantity of money* (2006), Friedman contemplates the potential welfare gains which might be present in a steady-state deflation (as against long-run price level stability) due to extinguishing of opportunity cost (interest foregone from alternative assets) on non-interest bearing fiat money which cost nothing to produce (see p.49). Households would increase their holdings of real money balances (as in a world of steady state deflation nominal interest rates on near alternative assets to money would be at a very low or zero level, given that this would

be significantly positive in real terms). But the emphasis here is on the optimality of steady-state deflation (rather than price level variability – both upwards and downwards – over time).

Furthermore, Rothbard points out that for Friedman ‘monetarism’ had an activist interpretation. If the economy swerved off the rails for any reason then, according to Friedman, monetary policy rather than fiscal policy possessed the really effective tools for getting back on track (albeit that Friedman’s preference here would have been to give maximum scope for automatic self-triggering mechanisms of recovery within a system of monetary rules rather than the exercise of fine-tuning discretion by benign policy-makers). Friedman did not, though, boldly advance the view that so long as monetary stability reined, the economy would pull itself out of any temporary or more serious stall as recovery forces were generated by the ‘invisible hands’ (although he would have argued that a serious stall, or even more so depression, most likely meant that money had been unstable in the first place). And so Bernanke could contend, partly based on his reading of Friedman and Schwartz’s *A Monetary History of the United States* (1963), that the Federal Reserve by bold action could have prevented the fantastic derailment of the US economy, which is now called the Great Depression. Friedman did not draw back in intuitively politically liberal (classical sense) horror from the massive creation of monetary base in order to pull an economy back from the abyss.

Hence we find Friedman discussing the monetary helicopters with no comment even about the social inequity of forcing a mad rush to spend the distributed notes, in which big real losses would result for many one-time holders of monetary wealth and no comment about the withdrawal symptoms which would follow in the economy following the initial rush (see p.62). Friedman and Schwartz make no link between the eventually aggressive expansion of the monetary base in 1934–6 and the powerful rise of temperature in commodity and equity markets during 1936 nor a link between the inevitability of a subsequent temperature fall and the sudden eruption of the 1937–8 Roosevelt recession (see p.24).

The reader of the *Monetary History of the United States* finds no reference to, or discussion of, the Austrian school hypothesis that monetary disequilibrium, as engendered by the Federal Reserve through the early and mid-1920s, lay behind the rise of temperature in credit and asset markets, which perspicacious contemporaries increasingly observed in the late 1920s, followed by the inevitable fall in temperature (and simultaneous revelation of much mal-investment throughout

the US and global economy). Benjamin Strong, the key figure in determining monetary policy in the early and mid-1920s, is the villain in the Austrian analysis, but for Friedman and Schwartz he is the missing hero who could have pulled the economy back from the monetary abyss in 1930. Nor will the reader find reference to the fact that the US monetary disequilibrium spread like fire via the fixed mark-dollar rate to the then second largest economy in the world, Germany, creating in many respects an even bigger bubble there. The narrative is blank about how the descent (by violent lurches) of Germany into the political and economic abyss from 1930 onwards had such knock-on effects to confidence in leading US banks and in global economic prospects as to reverse any periodic nascent tendency for the equity market to re-bounce and lead the economy forward, such as had occurred so effectively following the 1907 panic and great recession. These omissions are replicated in Bernanke's own historical work on the Great Depression (Bernanke, 2000).

Putting some blame at the door of Milton Friedman and Anna Schwartz for creating a germ which subsequently joined with many other intellectual influences in a particular historical environment to produce Bernanke-ism does not make them highly responsible for its existence or its triumph. Nor are they totally blameless. Friedman and Schwartz in writing a monetary history of the Great Depression, which expunges all contrarian views to their own from the Austrian school and Friedman by hypothesizing about monetary helicopters, did dull the force of *laissez-faire* economics.

Yet Bernanke, in developing his monetary principles, transgresses many of Milton Friedman's teachings whilst mal-interpreting important aspects of Anna Schwartz and Milton Friedman's monetary history.

In particular, Friedman stressed the primacy of monetary rules (money supply should increase by $x\%$ per annum) and the ill-fated efforts of monetary (or fiscal) policy-makers to fine-tune the economy. He warned against the pegging of money rates by the central bank advocating that instead the central bank should steer money supply growth whilst allowing rates to be freely determined in the marketplace. He argued that central banks should not target the price level directly as they had no means to achieve such a target with any precision and could not be held responsible for the outcome. Rather, they should target narrow money over which they had total control. And his underlying political and philosophical orientation, even with some blemishes as described by Rothbard, was towards freedom and capitalism (whereas Bernanke-ism has no such political or philosophical attachment).

Moreover, Bernanke stands accused by Anna Schwartz of wrongly linking his own monetary creed in an important issue to herself and Friedman's monetary history. She disputed (see Schwartz, 2009) that Bernanke's sweeping programme of mega lending to the banks, in the aftermath of the summer 2007 quake, was at all similar to what Friedman and Schwartz had recommended should have occurred in late 1930. At that time there was a liquidity crisis for banks heavily involved in agriculture which the Federal Reserve failed to stem, resulting in a massive bank run together with failures that would not have happened under the arrangements in place prior to the Federal Reserve Act (where local clearing houses would have enacted a temporary freeze on the conversion of bank deposits into banknotes). She claimed that by contrast what the Federal Reserve confronted in summer 2007 was already an insolvency crisis and there should not have been a generalized bailing out. Instead the lender of last resort function should have been restricted to banks which could still be preserved in solvency but not to the fundamentally insolvent – a distinction which had been made, of course, during the financial rescue operations driven by J.P. Morgan during the 1907 panic.

Implicitly Schwartz claimed that their criticism of the Federal Reserve during the 'great contraction' did not mean that there should have been a big bank bail-out such as the Federal Reserve sponsored in 2007–8. The invisible hands of private market forces should have been allowed to operate (bringing about insolvency where appropriate) in the banking sector as elsewhere in the economy. Friedman and Schwartz did not advance the hypothesis subsequently put forward by Bernanke that bank credit channels almost inevitable seize up during severe recession (thereby making government intervention inevitable). Rather they (Friedman and Schwartz) relate how the seizing up of credit channels in the midst of the Great Depression was a direct consequence of severe tightening of monetary conditions (resulting in massive monetary disequilibrium) as instituted by the Federal Reserve in autumn 1931 as response to the gold losses which occurred in the wake of Britain's break with the gold standard.

Consequently, the US credit crunch of second-half 1931 and 1932 was not a story of inevitable 'friction' or 'market failure' associated with severe recession (as told by Bernanke). Rather, Friedman and Schwartz saw the autumn 1931 tightening by the Federal Reserve as a game changer – a new and bigger monkey wrench thrown into the machinery of the US economy than anything which had gone before. Bernanke, in his account of the Great Depression, plays down this new and serious

source of monetary disequilibrium instead focusing on his two main themes of a dysfunctional banking system, meaning that the cost of credit to borrowers unable to access capital markets became prohibitive (if available), and balance sheet effects of deflation which inhibited overall recovery.

New Keynesian spectre of credit channel blockage

Bernanke's focus on credit channel blockage is an integral part of his new Keynesian vision. Self-recovery forces of the private sector economy would be too weak to bring about a return to prosperity due to malfunctioning in bank intermediation and the huge frictional costs of de-leverage. Friedman and Schwartz would have retorted that if it had not been for the monkey wrench of September 1931 (the Federal Reserve tightening savagely in response to gold losses), the private sector forces of recovery would not have been so weak. And those Bernanke-ite concerns about bank intermediation malfunctioning would have been over-blown and could not have justified mass bail-out.

Friedman and Schwartz do not explicitly comment on de-leverage, but evidently without the September 1931 monkey wrench this might have been on a much lesser scale. We do not know whether they would have agreed with the Austrian critique that de-leverage can occur fairly smoothly within a well-functioning capitalist economy (see p.52) in the context of monetary stability. There real rates can fall to negative levels consistent with price recovery expectations following a period of good deflation. No evidence exists on whether Friedman and Schwartz would have agreed with the wider critique that balance sheet deflation (whereby many borrowers find real debts rising with price falls) should not be a severe obstacle to recovery where the possibility of debt-equity swaps is alive and well and where a reasonably efficient market exists in corporate take-overs (financially weakened but still profitable firms are taken over by financially stronger firms).

Friedman and Schwartz ignore, in their history, the key role of price recovery expectations within the context of monetary stability in generating negative real interest rates during a recession and how this mechanism might have been impaired by the throwing of the September 1931 monkey wrench (see p.45). Specifically within the banking system, general expectations of price level recovery would have allowed rates of interest on risky loans to increase in nominal terms thereby widening the profit margin for the viable banks.

In summer 2007, however, Professor Bernanke proceeded as if all such points, if they had been raised, would have been invalid. In his new Keynesian view the central bank had to fight to keep open the channels of credit market intermediation to prevent these from seizing up and threatening to drive the economy into depression. Hence Professor Bernanke, in what President Obama was later to describe as 'creative thinking', took the Federal Reserve into a massive programme of subsidized, collateralized and, at first, sterilized lending to the banking system. A bizarre aspect of this was the simultaneous effort to shore up risk-free interest rates so as to maintain monetary restraint in the context of inflation still above target (due in large part to the oil price bubble which formed in spring and early summer 2008). By massive subsidized, sterilized purchases of credit paper and sterilized lending at low margins against the collateral of such paper, the Federal Reserve was, in effect, preventing spreads on credits (the gap between high-risk and zero-risk interest rates) blowing out in line with perceptions of increased risk and with increased investor aversion to bearing such risks. And yet, if forces of private market recovery were to operate within the banking system, just such a widening of spreads would be required.

In particular, if the history of 2007–8 were to be re-run, with the Federal Reserve immediately allowing risk-free rates to fall to zero in summer 2007 when the quake sounded, and allowing spreads on riskier interbank loans or on money market assets to blow out, then still solvent banks would have been incentivized to raise new equity capital. By deepening their equity cushion, they would have driven down their own cost of funding in money markets and maintained or added to their deposit base, whilst potentially making enhanced profits on risky lending (taking advantage in many cases, especially with regard to small and less well-known clients, of their unique ability to monitor and assess credit risks).

From destruction of monetary pivot to Taylor rule corruption

As the Bernanke Fed extended its massive lending operations through late 2007 it found increasing difficulty in sustaining its strict pegging of short-term interest rates (at around 3–4% p.a.) and applied to Congress for new powers to pay interest on excess reserves. In this way, the idea was to strengthen the floor below money market rates even as huge excess reserves were beginning to swirl around the system. And Bernanke could point to this already being the practice in Europe.

Whereas the old Bundesbank paid no interest on reserves, the ECB had gained such power and so was able (by steering the interest rate on reserves closely with its target money interest rate) to steer money market rates within a tight corridor. In advocating such a system, Bernanke was totally at the opposite end of the pole to Milton Friedman and other first monetarist revolutionaries.

Once excess reserves pay interest and at a rate which is linked closely to the market rates, monetary base (otherwise described as 'high-powered money') is no longer at the pivot of the monetary system. A pure monetarist framework has the central bank targeting the growth of monetary base (on which no interest is paid) and leaving everything else (including the determination of money interest rates) to the market. Under the system as brought into being by Chairman Bernanke, the central bank is restricted to being a micro-manager of money market rate levels – a situation which Friedman saw as a disastrous recipe for monetary stability (however flawed his particular definition).

In Bernanke-ism, there is fervent opposition to monetary base control. Professor Bernanke has stated that in his promised land of eventual monetary order, reserve requirements will have withered away to zero (see Bernanke, 2010a). More generally there is an aversion to monetary rules (in the classical sense, not the corrupt Taylor sense – see p.81). Enlightened monetary authoritarianism should replace rules. Well-meaning monetary bureaucrats around the policy-making table with special focus on the unemployment rate should decide where to peg nominal money rates and where to draw the projected path for these (informing the market accordingly) on the basis of their expert view of the future for the economy (based on the best of econometric modelling) and the consistency (or not) of this with their chosen path for inflation. (For an excellent and unashamed evidence of how this happens in practice see a speech (Duke, 2010) by a Fed Board Member under the friendly title of 'Come with Me to the FOMC').

The monetary bureaucrats may use guides for this purpose, and in many speeches Bernanke has referred to the so-called Taylor rule. This is designed to indicate to the rate-setters where the policy rate they set should ideally line up for any given values of the so-called output gap (extent of slack in the economy), the natural rate of interest (the equilibrium real rate of interest in the long run), and the desired inflation rate relative to the actual rate. There is no patience or tolerance towards the idea that markets may do a better job of estimating neutral or natural interest rates than the bureaucrats or their models, including the Taylor rule.

How monstrous is the Taylor rule for any follower of the Austrian school or of Milton Friedman! The latter would have ridiculed the idea that monetary policy could be run on the basis of a bureaucrat's perception of an output gap, as if anyone has the least idea of where that is in real time. The monetary disasters of the Great Inflation had been based on such faulty perceptions. And who in the Austrian school (or Friedman) would have credited monetary bureaucrats with superior intuition to the decentralized market-gathering of information in the assessment of neutral or natural interest rates? Yet over and over again we find Bernanke referring to the Taylor rule as a guide, even if most recently he favours an adjusted version of the rule where the inputs are expected ranges for the output gap and inflation rather than actual (Bernanke, 2010a).

Bernanke-ite embrace of fiscal fine-tuning and Keynesian 'savings paradox'

Bernanki-ism, unlike first revolution monetarism (Milton Friedman), is ready to embrace fiscal fine-tuning. Indeed, in the new Keynesian tradition, from which Bernanke-ism comes, fiscal action may be essential to driving the economy out of a steep recession, especially if channels of private credit are blocked, the equilibrium real interest rates are sub-zero, inflation expectations are very low or even negative, and so nominal interest rates at zero are still too high in real terms. In that context there is no confidence in the invisible hands bringing a balance between savings and investment over the medium-term in the context of a general equilibrium solution.

In Bernanke-ism there is no room (due to presumed impracticality, lack of imagination, or limited historical reference) for good deflation to empower the invisible hands, whereby prices in the immediate fall and this, coupled with the expectation of price recovery further ahead, generates negative real interest rates. That is a short-coming which Bernanke-ism shares with the teachers of the first monetarist revolution as we have seen.

The hypothesis about feasible aggressive monetary action in a situation of severe recession (not found in Friedman and Schwartz, where it is floated as a somewhat hazy counterfactual proposition as to what might have happened in the Great Depression) is a key element of Bernanke-ism but that in no way implies opposition to active fiscal policy as related to cyclical fine-tuning or to mega stimulus (in severe recession). By contrast, economists influenced by the Austrian school

might well argue that fiscal stimulus could actually handicap the private market forces of recovery. By blunting the amount of good deflation, if any, which takes place in the recession, fiscal stimulus limits the extent to which real risk-free rates can fall (in that any potential for price level re-bounce into a normal range depends on the size of its initial fall and it is the expectation of re-bounce that transforms low or zero nominal interest rates into negative real rates) and thereby curtails the re-bounce in equity prices (or equivalently fall in the equity cost of capital). And by creating anxiety about a future rise in taxes as part of an eventual return of fiscal sobriety the fiscal stimulus might have a similar deterrent effect (largely via the equity market).

Institutional historians might see, as one symptom of the close relationship between Bernanke-ism and Keynesian fiscal activism, the recruiting by Professor Bernanke of arch-Keynesian economist Paul Krugman to his faculty in Princeton. And just as Bernanke was leaving active duty in Princeton to take his governorship at the Federal Reserve, Krugman wrote approvingly a New York Times op-ed piece (2 August 2002) about a recommendation by Paul McCulley of Pimco that 'Alan Greenspan should produce a housing bubble to replace the Nasdaq bubble' (see Steil, 2010).

The Keynesian polemic against saving – 'the paradox of saving' – is totally at odds with the Austrian school. For the Austrians the rise in savings propensities, which follows an episode of credit bubble and bust (together with mal-investment driven by high temperatures in certain asset markets), is something to be celebrated in that it provides the essential input to a new wave of investment spending required to re-build a depleted capital stock. True, that re-building may be a slow process which requires a powerful combination of entrepreneurship (the spotting and creation of new profit opportunities), relative wage and price flexibility, and good appetites amongst savers for equity risk. And it may be that an initial episode of good deflation is required to set the stage for negative risk-free real rates alongside the positive real equity cost of capital (the spread between the two is the so-called equity risk premium). And there must be general confidence in monetary stability so that price recovery from present levels is expected over the long run.

The hypothesis of a possible benign circle of higher savings and investment driving an economy forward out of the rut of an imploded credit and asset bubble is not new in economic thought and can be traced back to the 1930s Cambridge-London debate (between the Keynesians on the one hand and Robbins together with Hayek on the

other) and then to the insights of Schumpeter (see Schumpeter, 1939 and McCraw, 2006). Critical additional features to that hypothesis, which were not present in the original debate, include stabilizing speculation in equity markets – where investors buy today at prices which reflect optimism about the nature of the long recovery further ahead and so capital spending begins to turn up even during the weak phase of the cycle.

Indeed, the benign free market-led recovery from recession emphasizes the importance of an environment in which healthy appetite (not stimulated artificially and only on transitory basis by a ‘shot’ of monetary disequilibrium) for equity risk can grow – a factor ignored in the older debates though recognized by Robbins (2007) in citing uncertainty about a possible looming war in Europe as holding back investment spending in the mid-1930s. The Austrian School makes an over-riding point that these rare crises, where private market forces of recovery might face very challenging circumstances, would not have erupted in the first place if there had been a regime in place favourable to onetary stability (preventing the bubble from forming).

Bernanke opens up Friedman’s black box

Even though differing on fiscal fine-tuning, Bernanke shares with Friedman and Schwartz the view that forceful monetary tools should be applied in deep recession where the invisible hands may be too feeble. According to the counterfactual hypothesis of Friedman and Schwartz, if somehow monetary base had been pumped up at an aggressive pace through 1930–2 without interruption, the recession would have been much less severe. But it remains a matter for Friedman’s proverbial ‘black box’ how the monetary base expansion would lead to the hypothesized better outcome. Friedman and Schwartz assume implicitly that the multiplier between monetary base and wider money would remain within narrow limits, and that wider money growth would go along with faster recovery. Bernanke opens up the black box and tries to design some tools to put in the box. In doing so, however, he insists that the use of these tools means powerful intervention by the authorities alongside the invisible hands and this might well take the form of waging currency war.

Friedman and Schwartz imply that their chosen monetary path during the Great Depression would have been forceful expansion of the monetary base. Perhaps they would have approved if the Federal Reserve in 1930 had taken action to drive the monetary base up to a level which

would have been projected as normal for 1935 on the basis of nominal GDP growing at trend between say 1928 and 1935 (with money supply and monetary base returning to their usual relation with nominal GDP by 1935). (There is no direct evidence for saying this is what they proposed).

Such actions may indeed have been successful in shoring up confidence amongst the general public in a re-bounce of the price level from its already fallen level (prices did decline sharply from autumn 1929 onwards) and so bringing about negative medium-maturity real rates with nominal rates at around zero. In turn the expectations of price level recovery would have allowed the nominal interest rate on risky loans to increase and banks to earn higher margins on such activity. Nothing in Friedman and Schwartz hints at their suggesting that the Federal Reserve in 1931 should have adopted a shock-and-awe policy of doubling the monetary base or something similar, though there is always that troubling passage in Friedman (2006) about the monetary helicopter (which implicitly involves a joint fiscal-monetary stimulus).

In spelling out what might be in the black box, Bernanke has become growingly explicit. Taking account of his speeches, papers and policy steps it is possible to make an inventory and description of the tools. Many of these involve technically massive operations on the monetary base.

It is important to recall, however, (see pp. 87 and 142) that the monetary base, about which Bernanke writes and speaks, is dislodged from the pivot of the monetary system, with reserves paying market interest and reserve requirements at very low levels. The hypothesized Friedman and Schwartz optimum monetary policy of 1931–2, depending for its success on the banking system's responses to shocks affecting the monetary pivot (including a reversion of so-called money multipliers to a normal level in the medium-term) is not applicable to the post-classical monetary system in which Bernanke-ism has established itself.

Moreover, monetary base expansion as hypothesized by Friedman and Schwartz would have occurred in a situation where the price level was already far below normal (given the deflation of 1929–30/31). Expectations of a price level re-bounce would mean real interest rates for medium-term maturities could be significantly negative. That has not been the case (except as a transitory phenomenon for 5-year inflation-protected Treasury bonds during episodes when speculative temperatures reached fever level in commodity markets) in Bernanke's actual world experiment. The tools in the Bernanke-ite tool box depend for their potential success on much smoke and mirrors in the context of no good deflation having occurred first.

QE time bombing

The Bernank-ite tool box (for dealing with recessionary or post-recessionary situations where the hypothesized equilibrium level of market interest rates for short and medium maturities has become negative) consists of money time bombs and of massive credit market operations to flush open some new channels to compensate for those blocked in a perceived dysfunctional banking system. The time bombs are laid along the path of the US economy and consist of huge amounts of excess reserves. For many years they may lie dormant in the balance sheets of the banks. But the Federal Reserve promises that as the strong economic recovery emerges it will act efficiently to sterilize the excess reserves and so the bombs will not actually go off (thereby the excess reserves will not lead to inflationary money and credit growth). The sterilization of excess reserves will take place in part by the Federal Reserve raising the rate of interest which it pays on these and so stimulate demand for them as other market rates rise in the course of economic recovery. The other method of sterilization is soaking up excess reserves via open market operations or security borrow-and-lend operations.

Taking the first method of sterilization, the Federal Reserve can, in this way, influence a wide range of money rates and can forestall demand for reserves falling behind supply (and so a sharp increase in lending momentum) as economic recovery begins to take off. It is not the actual quantity of reserves that is critical as to whether the time bomb explodes – given that reserves in the Bernanke-ite monetary system pay interest and are virtually indistinguishable from such near alternative assets as Treasury bills. Rather the danger of monetary disequilibrium (of the QE time bombs ultimately exploding) resides in the Federal Reserve controllers pegging a path for money interest rates (as heavily influenced by the rate they set on excess reserves) which turns out to be far below the level which would be consistent with neutrality.

In the rudder-less world of Bernanke-ism there are no automatic monetary rules tending to continually contain any incipient monetary disorder. Everything depends on the rate-setting skill of the command centre. And this skill would be most sorely tested under the conditions where QE time bombs lie along the rails of the economy. There is an existential ambiguity here. Bernanke would seem to imply that part of the stimulus effect of the QE (quantitative easing) depends on inhabitants of the financial marketplaces and of the wider economy possessing healthy scepticism as to whether the Federal Reserve bomb-diffusion would be successful. Expectations of higher inflation – and perhaps an

episode of hot temperature in some asset markets – spurs buying of goods and services in the present.

If everyone were 100% certain that the Federal Reserve would be successful in its mission of bomb-defusing, the present stimulus effect would be much weaker than foretold. And this is an essential defect of the Bernanke-ite tool box: its success in overcoming the limit to conventional monetary policy imposed by the ‘zero rate boundary’ depends on setting up economic agents for some dashing of expectations amidst a monetary context of considerable monetary instability. Inevitably there will be bad decisions and mal-investment along the way.

Another critical aspect of the essential ambiguity inherent in the use of the QE-2 tool is its bringing about a devaluation of the dollar which would stimulate economic recovery. Doubts as to whether the Federal Reserve will make an efficient and well-timed defusing of the QE time bombs means that the US dollar tumbles as investors seek safety in currencies not crippled in this way. Many investors take fright at the Federal Reserve’s massive ‘money-printing’ operations albeit that the Bernanke-ites argue correctly that this is not equivalent to present monetary expansion. If indeed the exit is more efficient than expected the dollar would re-bound – and so the monetary stimulus via QE again (as in the previous analysis) proceeds via unleashing forces which will drive considerable mal-investment (in particular over-extension of the export sector which subsequently has to contract).

These same drawbacks of QE are again apparent in its influence on commodity markets. In today’s world many of these markets are effectively asset markets where pricing is dominated by shifts in investors’ expectations about the future and attitudes to risk. The dropping of QE time-bombs causes some investors to become highly anxious about inflation danger even though the Bernanke-ites might sneer at their irrationality. The combination of such high anxiety in some parts of the highly heterogeneous investor universe (characterized by widespread differences in perceptions of the future) with the emergence of irrational exuberance (the catalyst is the promise of a long period of zero interest rates ahead) can cause commodity prices to race towards the sky. That race could undermine any potential stimulus effect of QE on spending by eroding the purchasing power of wage-incomes in the commodity importing countries. There is much mal-investment which could take place due to the huge temperature swings in a wide range of asset markets globally including commodities.

In sum, the use of QE time bombing under perceived conditions of the zero-rate trap inhibiting the practice of conventional monetary

policy-making (as carried out by discretionary changes of the money rate peg) is one important component and 'innovation' of Bernanke-ism. Yet there are many grounds, as listed here, for scepticism about this innovation.

Massive credit operations

The other main tool in the black box is massive credit operations to open up channels of public sector intermediation to compensate for those blocked in the banking system. This has been referred to already above in the context of the Bernanke Fed's reaction to the summer 2007 credit quake. Again in early 2009 one main plank of the QE policy then initiated was massive buying of bonds issued by the public sector housing corporations and also new programmes (not very successful in terms of size) for buying some private sector non-bank debts of good quality. In that the housing debts effectively enjoyed a semi-implicit government guarantee, the operation could hardly be described as life-saving, but it did hold down spreads on such paper.

The main problem with all such Bernanke-ite credit operations is that private market forces would have been driving credit spreads higher and risk-free rates lower in real terms. This would have happened in part through good deflation coupled with expectations of price level recovery. And so higher nominal rates on higher risk loans would have been less onerous in real terms (given higher prices expected in the future) and the risk free rate might well have been negative in real terms. The wider spread on credits would have provided new profit opportunity for banks and helped them raise new equity for the purpose of jump-starting such lending. The dead hand of public sector financial intermediation keeping spreads down blocked such a process.

The rationale within Bernanke-ism for public sector intermediated credit flows in the deep recessionary situation described stems from its deep phobia of deflation. The concept that a fall in prices may be indeed consistent with monetary stability, whether during a business recession or during a period of rapid productivity growth or during a period of rising temperature in asset and credit markets (which to be held in check require monetary conditions to tighten to such a degree as to mean some transitory downward pressure on prices), is totally anathema.

Breathing in inflation

So deep is the phobia of deflation in Bernanke-ism that we see there the advocacy of monetary policy measures to reduce the danger of deflation

emerging down the road even when at present there is still a low rate of inflation. The arch examples are first, in spring 2003, when the Greenspan Federal Reserve (prodded forward to an important extent by Ben Bernanke who had joined the Federal Reserve Board in autumn 2002) embarked on its breathing in inflation policy even though at that time core inflation was still at around 1% p.a. Second, there was summer 2010 when the Bernanke Fed defended its decision to launch a QE-2 time-bombing campaign on the basis of 'deflation dangers' even though all measures of inflation and inflation expectations were still significantly positive.

What lies behind this phobia of deflation found in Bernanke-ism? The fear, as spelt out in Bernanke's speeches and articles, is that once deflationary expectations become established even very low positive interest rates would be high in real terms and thereby likely above the equilibrium level (unless the natural rate is particularly high as during a period of capital shortage). The consequence would be the economy entering a permanent state of deflationary recession or depression with monetary policy severely crippled.

Certainly, the monetary authorities could turn to the black tool box as described above (laying out QE time bombs) but Bernanke would acknowledge that this is of uncertain effectiveness. And so it is best for the central bank to take bold pre-emptive action against the danger of deflation even when this is only one of several scenarios within the mainstream (but not at the centre) of a probabilistic vision. In coming to this conclusion, Bernanke was influenced, without doubt, by the whole debate in the late 1990s and early part of this decade about 'Japanese deflation' and what action the Bank of Japan should take or should have taken in the past.

In fact, if Japan had been in any such deflationary recession, prices would surely have fallen sharply – but this did not occur, instead they were broadly flat over the years 1992–2007 (see p.57). Bernanke does not consider at all the hypothesis that what went wrong in Japan was the failure of good deflation to emerge after the great bubble burst (at the start of the 1990s) in large part because of huge fiscal stimulus. And so instead of a period of negative real interest rates and low equity cost of capital driving the economy forward, Japan became hooked on Keynesian fiscal drugs. Japanese savings poured into the postal savings system to finance dead-end public spending rather than finding their way into equity investment at home or abroad. It is not plausible in this situation that very low nominal rates in Japanese money and bond markets were actually above the equilibrium level of real rates (which were propped up by the mega fiscal deficits).

Nevertheless, for better or worse, Bernanke became convinced that the optimal conduct of monetary policy was to aim for an inflation rate over the medium-term (meaning around two years) that was at a steady 2% p.a., and that undershoots should be avoided as much as overshoots. Inflation-targeting is at the core of the ten principles which Bernanke sets out for monetary policy-making and is a key part of what we describe as Bernanke-ism. These ten principles are derived from his articles, many of them jointly written with Mark Gertler (see for example Bernanke and Gertler, 2000) and cited in Brown (2008).

Bernanke's ten principles of monetary policy-making

Principle 1: Central banks should view price stability and financial stability as highly complimentary and mutually consistent objectives to be pursued within a unified policy framework.

Criticism: This is totally at odds with the distilled wisdom of monetary theorists from J.S. Mill through to Austrian school economists who emphasize that monetary stability in its broadest sense (to include the money monkey wrench not dislocating the machinery of the economy – including temperature rises in asset and credit markets with consequential mal-investment) may require considerable fluctuations in the price level and that there is an innate unavoidable tension between aiming for price stability in the long run and avoiding episodes of monetary instability. Such tensions are best managed within a system of rules (gold standard or monetary base control as described in Chapter 3).

Principle 2: The best policy framework for attaining both objectives (price level and financial stability) is a regime of 'flexible' inflation-targeting. Under this regime, monetary policy is committed to achieving a specific level of inflation in the long run and long-run price level stability is designated as the primary long-run goal of policy. Avoidance of deflation is as important or perhaps more important, as the avoidance of high inflation.

Criticism: How is the enlightened policy-maker to know the amount by which inflation should fluctuate period-by-period so as to be consistent with monetary equilibrium? This fluctuation should be left to market determination within a stable monetary framework set by rules. And as to Bernanke's deflation phobia, that has already been discussed in the text above.

Principle 3: Central banks should adjust monetary policy actively and pre-emptively to offset incipient inflationary or deflationary pressures.

Criticism: The focus here on forecast inflation rates (relative to target) as the main objective of policy is both wrong in terms of theory and implausible in terms of practice – which central bank has ever been pre-emptive?

Principle 4: Policy-makers should not normally respond to changes in asset prices, except insofar as they signal changes in expected inflation. If, however, fluctuations in asset prices are caused by non-fundamental factors (irrational expectations or poor regulatory practice) and they have potentially significant impacts on the rest of the economy then they can justify monetary policy action (within the regime of flexible inflation-targeting) so long as this is consistent with the long-run inflation objective.

Criticism: There is not a shred of evidence to suggest that central bankers, including Bernanke himself, have any ability to spot fluctuations in asset prices that meet these criteria. Certainly Bernanke as a key policy-maker through 2002–6 showed no awareness of the amount of mal-investment taking place related to rising temperature in asset and credit markets. Rather, response of interest rates to such incipient temperature rises is likely to be swifter, and possibly pre-emptive, if they occur within a monetary framework in which rates across the board are market-determined rather than heavily influenced especially at short and medium-maturities by central bank rate pegging (both the present peg and continuous official commentary about how the peg will be adjusted in the future). Capital market rates would respond to buoyant demand for funds from growingly optimistic entrepreneurs and households. Conditions in the money market would be sensitive to rising demand for money related to financial transactions (as in the blueprint of the second monetarist revolution).

Principle 5: Trying to stabilize asset prices *per se* is problematic – not least because it is nearly impossible to know for sure whether a given change in asset values results from fundamental factors, non-fundamental factors, or both.

Criticism: None. But of course trying to ascertain such matters is the job of stabilizing speculators in asset and credit markets who should perform their function adequately (though not perfectly) if overall monetary conditions are broadly stable.

Principle 6: A central bank, by focusing on the inflationary or deflationary pressures generated by asset price movements, effectively responds to the toxic side effects of asset booms and busts without getting into the business of distinguishing fundamental from non-fundamental factors.

Criticism: There is no theoretical or practical basis for assuming that temperature rises in asset and credit markets will always be accompanied by inflationary pressures in goods and services markets (the period 1924–8 in the US and Germany is a good example of where this did not occur). And so central bankers who determine the time profile for the rates they control on the basis only of inflation forecasts will seriously depart from the path of monetary stability.

Principle 7: Because inflation-targeting both helps to provide stable macro-economic conditions and also implies that interest rates will tend to rise during (inflationary) asset price booms and fall during (deflationary) asset price busts, this approach may reduce the potential for financial panics to arise in the first place.

Criticism: Inflation-targeting does not provide stable macro-economic conditions (for example, it stands in the way of good deflation and the essential price level fluctuations over time consistent with economic equilibrium) and thereby adds to likelihood of asset price booms and busts.

Principle 8: Inflation-targeting is generally characterized by substantial openness and transparency on the part of monetary policy-makers, including for example the issuance of regular reports on the inflation situation and open public discussion of policy options and plans.

Criticism: If there is openness and transparency, it is about misguided targets and inevitably wrong economic forecasts. The record shows that there is no openness about key policy decision – such as the massive QE operations which were decided on during 2009–10 or the massive credit support operations of 2008–9. Indeed, the Bernanke Fed systematically fought through the courts to a very late point (before conceding) the freedom of information applications made by Bloomberg and Fox News.

Principle 9: The Federal Reserve will do best by focusing its monetary policy instruments (essentially the Federal Funds rate) on achieving its macro-goals – price stability and maximum sustainable employment – whilst using its regulatory, supervisory, and lender of last resort powers to help ensure financial stability.

Criticism: The pursuance of monetary stability should bring the best results for employment (and prosperity) and this does not mean price stability in the short or medium-term.

Principle 10: The Federal Reserve should use the second tool (regulatory, lender of last resort etc.) to defend the financial system in general and make it less vulnerable to asset price shock. If a sudden correction in asset prices does occur, the Fed's first responsibility is to do its part to ensure the integrity of the financial infrastructure.

Criticism: The importance of over-riding the normal supply of monetary base and acting as lender of last resort to solvent financial institutions is not in dispute. But Bernanke's principles (and practice) imply much more than that and include aggressive clearing of new credit channels outside those of the partially blocked banks. Such action is likely to be counter-productive in jump-starting the bank credit flows as they suppress profit opportunity which would allow banks to raise new equity capital and increase their lending.

These ten principles set out by Bernanke as to how the Federal Reserve should conduct monetary policy are a useful contribution to the understanding of *Bernanke-ism*, but the concept is much broader than those. Already in this chapter we have analysed elements (of *Bernanke-ism*) such as deflation phobia, new Keynesian overtones – including, in particular, a belief that credit markets fail under certain circumstances, a black box of tools for overcoming the zero-rate barrier, readiness to embrace currency war, and forceful action to pre-empt a decline of inflation below a critically low level. Wider aspects of policy-making style and inter-reaction with the political system are also defining characteristics.

Style, form, and politics

A defining stylistic feature of *Bernanke-ism* is the lead role assigned to the economics expert. Implicit in *Bernanke-ism* lies the idea that the monetary policy-making process is somehow more likely to be successful if the chief controller is a highly skilled macro-economist who draws on the collective wisdom of highly talented economists within the Federal Reserve. The politicians who appoint or approve the appointment of experts to the Board (and of course not all the board members are to be experts) have done their job well when they choose economic experts of impeccable credentials. It is not for the politicians to sniff around their credentials and suggest that in fact monetary policy-making even by experts is deeply political and they have a right to determine whether they like the particular flavour on offer.

Once appointed the experts should get on with their job in a full spirit of independence subject to making their periodic testimonies to Congress but not facing ugly intrusions whether by audit commissions or outside experts insisting on detailed information as to how their decisions were reached. The experts should publish their views on where the economy is heading including their forecasts for inflation and growth in particular. Who in the marketplace would not be keen to

gain more details on how the benign and learned officials plotting the path of interest rates are getting on with their work?!

In fact, however, monetary policy-making is a deeply political subject. Political liberals who distrust discretionary power in the hands of even the well-intentioned officials are likely to prefer the task of monetary stability to be dominated by a system of rules. And the definition of monetary stability, as found in J.S. Mill or the Austrian school texts, is not one which would be approved of by economists or voters who believe that the invisible hands of market forces are at best crippled and weak. The meaning of monetary stability and the type of expert official best able to sustain that is something which politicians should not delegate to a computer, checking whether academic or professional credentials are of the highest order. Yet, that is what we find with Bernanke-ism.

The Bernanke-ite appointment process

Classical political liberals would cite the process by which Professor Bernanke reached the head of the Federal Reserve as an example of hugely important safeguards against authoritarianism being trampled upon without any protest. Here was the Administration of George W. Bush, ostensibly committed to so-called supply-side economics and political liberalism, appointing an expert economist of no declared political leaning (and thereby no mission to advance and defend liberalism in the J.S. Mill sense) to the most critical position of responsibility for monetary stability. Yet, if the monkey wrench of monetary instability seriously penetrated the machinery of the economy that would surely endanger the conservative ideology which had won such a strong place in the US political economy under the Reagan Administration? And in any rescue operation, Bernanke's writings suggested that he would side with Keynesian interventionism rather than with *laissez-faire* principles.

And why was Lawrence Lindsey's apparent lack of enthusiasm about the Bernanke appointment ignored? Lindsey, who had been with George W. Bush from the start (advising him whilst still only a presidential hopeful) in drawing up a conservative economic agenda, was pressing for alternative candidates to Bernanke in 2002 when a vacant seat as Governor – not chair – was to be filled on the Board. Lindsey knew more than most about monetary stability.

As a Federal Reserve Governor back in the mid-1990s Lindsey had been unhappy about Greenspan ignoring the incipient bubble in equities in

the conduct of monetary policy (though he did not vote against any policy decision). He was reputed to have, himself, sold out at the top of the hot equity market in the late 1990s. He would have known that Bernanke, like Greenspan, was a firm adherent of the view described loosely as the 'Blinder doctrine', according to which the Federal Reserve should ignore the possibility of asset or credit market bubbles as they were forming and concentrate on inflation, but once they burst, the Federal Reserve should act with great force. Indeed Bernanke and Gertler had given a paper to that effect at the Jackson Hole Federal Reserve research conference of summer 1999. Greenspan had quietly agreed with them at the end (of the presentation) whilst Rudiger Dornbusch had disputed the thesis asking prophetically how credit could be re-expanded rapidly following the bursting of a bubble (see Robb, 2005).

By late 2002, however, Lindsey's stock within the Bush Administration was falling. The economy, after having bounced back from the recession low in late 2001 (simultaneous with the terrorist attacks on the US), was again stalling. President Bush was intent on a further round of tax cuts. Lindsey was warning about the potential costs of military intervention in Iraq. (Subsequently, after the mid-term elections of November 2002 and after the nomination of Bernanke to the Federal Reserve Board, vice-president Cheney handed out his notorious pink slips to Lindsey and the Treasury Secretary O'Neil).

A key advocate within the Administration for Ben Bernanke was University of Columbia (New York) Professor Glenn Hubbard, an expert in finance theory and the business cycle, and now Chairman of the Council of Economic Advisers, a great enthusiast for supply-side tax reform (especially with respect to relief of dividends from double-taxation), but also a 'new Keynesian'. His co-author on many papers on the subject of financial variables and their use in business cycle analysis had been Mark Gertler of New York University and, as such, he had an academic partner in common with Ben Bernanke. It is not known whether Glen Hubbard spoke about a possible job in the Federal Reserve to Gertler first but, in any case, the surprised Bernanke found himself invited (in any event, he was known in academic circles to Hubbard).

There was the paradox at this time that George W. Bush, in persevering with tax cuts and yet taking no further action to reign in the budget deficit (by expenditure cuts), found it easier to reach out to new Keynesians (albeit the variety which favoured low taxes) than to politically liberal and *laissez-faire* economists (anti-Keynesian). When it was the turn of Hubbard (himself a new Keynesian but also an enthusiast of supply-side economics, in which role he had campaigned successfully

for a reduction in the double-taxation of dividends) to leave the Administration in 2003 (his initial two-year proposed term of leave from Columbia was ended and he had sought a higher-up position within the Administration but been re-buffed), President Bush replaced him with an arch new Keynesian, Professor Greg Mankiw. Mankiw approved of the further tax cuts being implemented, albeit in the context of large current budget deficits, which he viewed as appropriate in imparting stimulus to an economy with a large output gap.

Subsequently, when Mankiw announced, in early 2005, his intention of returning to Harvard University, he recommended his friend and close academic contact, Governor Ben Bernanke, as a highly suitable candidate to succeed him as Chairman of the Council of Economic Advisers. Much later, Greg Mankiw and Glenn Hubbard were conspicuous in their absence from a group of conservative economists who signed a letter to the Wall Street Journal criticizing (by then) Chairman Ben Bernanke for taking the US into great monetary danger by launching his second series of monetary time bombs (15 November 2010). That group included other economists who had been prominent in Republican Administrations (including John Taylor and Michael Boskin). Noteworthy, however, was the non-presence on the list of Larry Lindsey. Perhaps he was not asked or perhaps he could not break with the rules of the central bankers' club – never criticize a fellow member even after you have left. Or perhaps Lindsey had mixed or negative views about some of the other would-be signatories to the letter and about whether this would be a meaningful exercise in bringing about any desired change in policy. And of course, Larry Lindsey's successor as chief economic adviser to Bush, Allan Hubbard, was not on the list.

Traditionally, the chief economic adviser plays an important role in economics team appointments and so it fell to the strictly non-ideological Allan Hubbard, a classmate of Bush from the Harvard Business School, a Harvard Law School graduate, and a major fundraiser for Bush, to play his role in the infernal sequence of events which eventually brought Bernanke to the top of the Federal Reserve. The fast road through Washington took Bernanke from Chair of Council of Economic Advisers in spring 2005 to his nomination in late October 2005 as chairman of the Federal Reserve (to succeed Alan Greenspan in January 2006). There were no ideologically right-wing *laissez-faire* alternative candidates on the list.

According to Wessel (2009), Glenn Hubbard, Greg Mankiw, Martin Feldman, John Taylor and Stephen Friedman were on the short-list in addition to Bernanke. Feldman, though a supply sider and ex-chief of

council of economic advisers under Reagan is Keynesian and has a reputation as dollar devaluationist; Stephen Friedman as the chief economic adviser (previously co-chair of Goldman Sachs) who had succeeded Lindsey and preceded Al Hubbard espoused no ideology nor economic principles, and indeed his appointment as adviser had been attacked by conservatives. John Taylor, who had served as under-secretary of the Treasury responsible for international affairs in Bush's first administration before returning to Stanford did subsequently write a book (Taylor, 2009) attacking the Federal Reserve as responsible for creating the credit bubble. The core, however, of his attack was that Greenspan and his colleagues did not faithfully follow his rule in their pegging of short-term rates – hardly the substance of a full-blooded monetary critique based on the liberal principles of J.S. Mill and Hayek.

Yet why would Bush and his appointment committee have taken the ideological gamble of nominating a politically neutral new Keynesian expert such as Ben Bernanke if they had had any shred of concern about preserving the Reagan revolution and if they had realized that monetary stability would be essential to that purpose? The only logical answer is that they did not care so much about the Reagan revolution (at least in comparison with their own chances of re-election) or did not realize how important monetary stability would be to preserving the Reagan legacy and how unfit Bernanke might be to the cause of monetary stability. According to a group of New York Times editorialists (see Andrews et al., 2005), the answer was in part his 'stellar academic credentials and a good reputation in Congress'.

Of course Reagan himself had not been so astute in terms of protecting his revolution in appointing (summer 1987) Alan Greenspan, given the ultimately destructive great credit bubble and bust which emerged from his policies of monetary disequilibrium. But at least, in Reagan's defence, Greenspan had a fully adequate CV as a ideological political liberal – having been an associate of Ayn Rand, a conservative chairman of the council of economic advisers (instrumental in reforming social security), and author of an article praising the gold standard. Reagan and his appointment committee may have misunderstood the broadness of the task of maintaining monetary stability and that this extended well beyond inflation, but who was making that point then? The point was left to be made much later by Sechrest (2005).

Reagan's earlier appointment of a Fed Chairman (re-appointing Paul Volcker in 1983) could be seen as suitably appropriate by many conservatives given Volcker's lead in 'defeating inflation'. Certainly, many conservatives had had reservations but these were related to his original

links to the Democrats (appointed first by President Carter) and to questions as to whether he had administered tougher recessionary medicine than had been required. The key criticism never came into play in Washington, even amongst conservatives, that Volcker, once re-appointed, went on to create severe monetary disequilibrium during the second half of his reign (in form of credit and asset market temperature rise) and now was the time for a new approach to monetary policy.

For this reason, Greenspan's lack of knowledge about or respect for wider aspects of monetary stability (in the J.S. Mill and Austrian school sense) did not enter as a factor into any debate about his nomination during summer 1987. It is plausible that those on Reagan's appointment committee viewed Greenspan, with his keen focus on business cycle fluctuations, as a safe pair of hands to best steer the economy into the crucial presidential and congressional elections taking place in November 1988.

The record does not confirm this, but there are at least grounds for historical speculation that one big factor behind the Bush Administration's appointment of Ben Bernanke to the chair of the Federal Reserve in late 2005 was his reputation for bold contra-cyclical action and his advocacy of inflation-targeting (prompt action to prevent inflation falling below target, as could well occur in economic slowdowns or recessions, and tolerance of asset price inflation so long as inflation remained low). According to such speculation, Bernanke's helicopter speech would have won rather than lost points in the appointment process. With already much chatter about the housing bubble peaking (and on some measures speculative fever did, in fact, peak in autumn 2005), it was surely good to know that there was a pro-active chairman in charge. And Bernanke's lead role in promoting aggressive monetary expansion in 2003 so as to 'breathe inflation back into the system out of concern that it had fallen to a dangerously low level' may have been noticed (by the appointment committee) as one key factor in the successful re-election of President Bush in November 2004.

All of this is speculation. But there is that interesting letter from Mankiw to Bernanke, congratulating him on his appointment and giving him a few tips of advice (Mankiw, 2006) – in particular to follow inflation-targeting rule in practice but delay making any big announcement to this effect (given divisions within the Board on the issue and difficulties with Congress). Mankiw advises against becoming a high-profile figure:

Don't talk on social issues and foreign policy, become as boring a public figure as possible. The central bank's job is to create stability,

not excitement. It would be ideal, if after a long successful tenure your retirement as Fed Chairman were a less momentous event than your arrival. And P.S. I will miss seeing you as regularly at conferences, but I must admit that I will not miss you as a competitor in the textbook market.

Well whatever Mankiw's advice and whatever Bernanke's intention, his reign turned out to be one of fantastic monetary instability and huge monetary excitement. But before we discover more about the essence of Bernanke-ism from that reign, let's conclude what we have learnt about Bernanke-ism from his appointment process. Bernanke was not carried in miraculous triumph from the University of Princeton Chair to the Chair of the Federal Reserve. Rather, the journey occurred through the fast lane, steered by the appointment committees within the Bush Administration. All the various check-points at which, in principle, the guardians of political liberalism and a stable monetary order might have stopped the journey turned out to be unmanned or not yet even constructed.

How could this happen? There are many questions of detail. Should the Senate not be able to view the short-list and ask why others were not on the short-list and why this particular candidate had been selected – with an explanation set out in full written form? Why did some US senators not demand that a chairman more in line with their conservative views and political liberalism (including monetary stability) be presented? Surely it would have been appropriate for US senators to have full access to transcripts of all Federal Reserve policy meetings in which Bernanke had participated so that they could judge his record? (They would have seen, according to a subsequent release of such information, that Bernanke in 2003 had been pressing for a version of quantitative easing but had been over-ruled by Greenspan). The review process in the Senate was defective in terms of honouring the fundamental expectations of US citizens regarding monetary stability. Were all equally devoid of principle on these matters as President Bush and his inner circle? Was there too much uncritical thinking in the form of here is an academic expert of the first rank, what else is there to check about his appropriateness to the post? There could be nothing better than a top expert.

These unanswered questions (unmanned or unconstructed check-points) are all part of the essence of Bernanke-ism. And they touch on another essential part – the doctrine of infallibility for the top US monetary official.

Infallibility of the central bank president

Even by the late date of spring 2010, Bernanke did not admit any fault in the generation of the credit bubble and bust (see Bernanke, 2010a). It was the entire fault of the Asian savings surplus or of lax financial regulation. Bernanke was at pains to use the latest academic expertise (forward looking Taylor rules) to show the Federal Reserve could not have been to blame. This total lack of monetary self-criticism, albeit plausibly matched by conviction that no mistake had been indeed made, has been a visible feature of Bernanke-ism. In that respect – and indeed in many others – the chairmanship of Alan Greenspan was Bernanke-ite.

Greenspan did admit mistakes – but the mistake which he spoke about was having believed so fully in the beneficial power of free markets rather than in the conduct of monetary policy. This was more in the nature of a belated conversion – repudiating his Ayn Rand roots. He told the Senate (23 October 2008) that his free market ideology of shunning certain regulation on the financial industry had been flawed, though he subsequently clarified and minimized the extent of his back-tracking on principle.

For Bernanke there has been no prior allegiance to *laissez-faire* principles which might have created contradictions in embracing the populist hypothesis that unregulated financial markets had been a key source of trouble. Around the time of his difficult re-nomination hearings (early 2010), Ben Bernanke made clear in a TV programme that he was with the people who inhabited Main Street – he told his audience about how he had grown up there. On entering Wall Street as the bubble burst, and to save monetary system, he had to hold his nose (meaning that the stench of mal-practice was so great) (Brown, 2010). Later in the same year he took a highly moralistic tone against the mortgage bankers, promising that the Federal Reserve would be looking intensively at the policies, procedures and internal controls relating to foreclosures at the nation's largest mortgage lenders, following allegations that they cut corners to illegally throw defaulting mortgage holders out of their homes.

Ben Bernanke still had nothing to say about the Federal Reserve taking some blame for the bubble. He rebutted adamantly (but not convincingly!) the critique that if it had not been for the huge monetary instability created by the Greenspan Fed, of which he was a key latter-day member, and this continued in mutated form under his own watch, there would have been no bubble and bust. Cynical commentators might say that politics, including Bernanke-ite central bank politics, is

about the art of the possible, and here that meant deflecting the public and Congressional fingers of anger away from the Federal Reserve and towards Wall Street and the East Asians (most of all China). That interpretation, however, runs ahead of any hard evidence. Rather, public comments by Bernanke suggest a zest to perform a 'great monetary experiment' (based on his writings) successfully (meaning great economic benefit) rather than an inner cynicism.

Before the panic and bust of 2008, senior Federal Reserve officials had seen, as one of their tasks, bolstering the international competitiveness of New York as a global financial centre. Indeed that had been perhaps the key motivating drive of the Federal Reserve's founding board members (see p.12). Now, under Bernanke-ism, the Federal Reserve put up no resistance to the populist tide, which found expression in Congress drawing up massive new legislation to regulate the financial industry. Analysts could question whether that lack of resistance stemmed in part from deals made during the appointment process, though there was a more straightforward explanation that Professor Bernanke was indeed, by conviction, in favour of the legislation. Professor Bernanke had faced an uphill challenge in the Senate to his re-nomination (in late summer 2009) by President Obama. A combination of conservatives (who were highly critical of his monetary policy record) and left-wing Democrats (disapproving of his Wall Street bail-out operations) threatened to block his appointment. The media reported extensive behind-the-scene 'conversations' between Bernanke and key Democrat senators. The question for future monetary historians is whether those conversations in anyway diminished the Federal Reserve's subsequent independence as a weighty influence in the debate about the looming regulatory offensive on Wall Street.

Paris takes advantage of Bernanke-ism

Though Bernanke found that he had to 'hold his nose' so as not to be disturbed by the odour of malpractice when he entered Wall Street, he revealed no such problem about his regular participations in the international central bankers' club. The summer research conference of the Federal Reserve System – the Jackson Hole meeting – became such an international event that Central Banking Magazine reported in summer 2010 that the supply of tickets to regional Federal Reserve officials was being cut from two to one so as to allow room for more foreign central bankers. Senior officials of the ECB have been lively participants ever since its creation.

The ECB's monetary principles and practices – unlike those of the old Bundesbank – overlap, in part, what is here described as Bernankeism (see also Brown, 2010). It is hard, by contrast, to imagine the old Bundesbankers – the legendary Otmar Emminger, for example, the champion of the hard DM and monetarist principle in the 1970s and practitioner of revolt against following the global lead of the Arthur Burns Fed into Great Inflation – having come with enthusiasm to an international central bankers' club meetings in Jackson Hole. Ironically that path was taken by the officials of European Monetary Union for which one key argument (put forward especially by the political elite in Paris during the long journey to its realization) was to gain independence from US monetary instability.

French senior officials never tired of repeating their mantra about global imbalances and the role of undeserved US privilege in generating these. And here they found at last a monetary ally in Washington. We have already seen how historians might question whether Bernanke played the 'China currency card' towards winning much needed support in Congress for his re-nomination (see p.117). His testimonies and writings also reveal a strong view that 'global imbalances' are a fundamental problem for international economic prosperity and not soluble by simply removing all restrictions in the way of private capital flows and establishing monetary stability in each of the big countries (and especially in the US). In general, his commentaries have been highly favourable to the enterprise of European Monetary Union.

Back in the days of the great credit bubble of the first decade of the 21st century – both in the US and Europe – Bernanke praised the growing financial integration which EMU was bringing (even though we now know with hindsight that much of this integration was credit bubble engendered by ECB's unstable monetary path together with the Fed's own similar path) (see Brown, 2010). And during the crisis talks in April and May 2010 to prevent Greece and perhaps several other periphery zone countries in EMU going into debt default and possible enforced exit from the euro, Bernanke was in no doubt that Europe had to get its act together to prevent a further global meltdown and made it absolutely clear to any doubters in Washington that the US should fully back the IMF in lending to Greece and the other troubled nations. He may have had qualms about a rescue for Lehman, but he had no such qualms about joining in a rescue for the (almost entirely non-US) creditors of Greece (see Barber, 2010).

On calling for the 'Europeans to get their act together', Ben Bernanke entirely overlooked the all-important nuances about whether there was

such a person as the 'European'. Why indeed should the German taxpayer be bailing out the Greeks, the Portuguese, or anyone else, and why should Chancellor Merkel continue to be the 'mouse' portrayed in the German tabloids who could not say no to the hectoring French President, Sarkozy. Bernanke implicitly presented an analysis of the European periphery debt crisis in terms suited to an area where history did not exist and neither did deep political frictions and fissures between the various nation states which made up monetary union.

Further back in his career, Bernanke had presaged his general work on the Great Depression by saying that he approaches this as an economist studying the data with no particular knowledge of the historical nuances, especially in the all-important international arena (outside the US). That lack of knowledge explained one of the big flaws in his analysis – a failure to confront the enormity of Germany's journey to the abyss (see p.139). He omits from his work on the Depression the key feedback loops between the German collapse and the US financial system meltdown of the early 1930s. That same absence of understanding about the nuances of the European situation in political and historical terms is similarly present in his stark calls for action by the IMF and EU to save EMU.

Indeed long-time Bernanke and Fed critic, Representative Ron Paul, was aware of the real nature of the situation when he asked Bernanke, during the course of testimony on 24 February 2010, about the possibility that the Fed could be helping in the bail-out of Greece. Bernanke firmly denied any role in the bail-out process. Indeed he replied to Ron Paul: *'These specific allegations you've made, I think are absolutely bizarre. The Fed has no plans whatsoever to be involved in any foreign bailouts or anything of that sort'*. Within two months of that statement, Ben Bernanke was using all the force of his position in Washington to lobby for IMF participation of an EMU bail-out and within a few months of that he was preparing the way for a large further share of US government debt to be monetized.

How can we explain Bernanke's embrace of EMU and his exhortation that it be salvaged at a huge cost (most of all to the German taxpayer, but with some ultimate burden also falling on the US taxpayer?) There are three most obvious explanations. First, there is the solidarity of the central bankers club. Second, there is the fear of a second Lehman. Perhaps the extent of that fear stemmed from sensitivity on the part of Bernanke to accusations that the decision not to rescue that institution had played a key role in precipitating the panic of 2008 (and of course Bernanke had been a key decision-maker at that critical juncture),

even though he maintained that a rescue was simply not feasible. And third, Bernanke might have found it hard to comprehend the extent of German popular revulsion against a European Central Bank which might be embarking on the course of mega money printing to buy weak sovereign debts and lend massively through its back door (collateralized operations) to the euro-zone periphery.

In Bernanke-ism, there is no grand vision (at least on record) of the central bank having as its prime task production of a highly attractive money 'brand' for its own and foreign citizens. Rather, everything points in the opposite directions. The tricks of QE-2, for example, depend on frightening and confusing holders of dollars both in the US and worldwide. That is all in deep contrast to the old Bundesbank whose grand vision was inspirational. The old Bundesbank became the most popular institution in Germany and the hard Deutschmark the most popular currency in the world. Opinion poll evidence reveals, by contrast, that the Bernanke Federal Reserve is even more unpopular than the Internal Revenue Service.

Thin-deep transparency and continued maestro-ism

The actions of the Federal Reserve during the panic have attracted much journalistic and congressional attention. Various news organizations have made some headway with successful action in the courts in pursuit of freedom of information applications, which the Bernanke Federal Reserve stalled for as long as possible. The information obtained – amounting to data on emergency loans and borrowing institutions – does not go far in answering the big questions as to how and why the Federal Reserve took a series of giant decisions during the crises of 2007–9. The main point is that the boasted transparency of Bernanke-ism goes only thin deep – economic forecasts, which these days stir little interest as most market participants assume they are as wrong as the average of independent projections, information on present or future plans to rig short-term interest rates in accordance with the principles of Bernanke-ism, and the teaching of those principles (with no invitation to debate!).

The economic forecasting institute aspect of Bernanke-ism did not come into existence with the arrival of Professor Bernanke at the top of the Federal Reserve. But a bigger gap existed previously between the econometric-based model outputs of the staff and the intuitive assessments (themselves made with much knowledge of the business cycle both in theory and practice) made by the Fed Chair, most famously under Arthur Burns and later by Alan Greenspan. In part, the greater

team play element in economic forecasting and the apparent importance given to it by Ben Bernanke may reflect mainly the distinct personality and talent traits of successive Federal Reserve chiefs.

Some writers (for example Wessel, 2009) have suggested that Bernanke came to the Fed's top office in January 2006 with the idea that the chair should have less of a maestro role (than Alan Greenspan) and indeed we have seen that this was the advice to him from Mankiw (see p.161). The idea of the maestro is a Fed Chair who would be able to play the monetary strings with such perfection that the economy would be pulled back from any potential derailment (see Woodward, 2000). The history of Alan Greenspan's tenure (as head of the Fed) seemed to match just such a caricature – the list of averted derailments included the aftermath of the October 1987 stock market crash, the quelling of deep recession risks in 1991, the avoidance of an inflation break-out in 1994, the adroit monetary response to the Mexico debt market 'shock' of early 1995, the avoidance of recession and market meltdown in the aftermath of the South East Asian crisis of 1997–8.

To discerning critics of Alan Greenspan, the maestro had already lost his touch in his slow response to the bursting of the Nasdaq Bubble (summer 2000) and of the simultaneous telecommunications boom – failing to realize that a sharp slowdown was already under way in autumn 2000 and only slowly cutting rates through early 2001. And then the maestro's playing became totally bizarre in spring 2003, though some would blame this on the evil genius of Ben Bernanke who had now joined the Board and exerted a huge influence related to his expertise as a renowned monetary economist with a specialization in deep recessions. Greenspan's abrupt policy turn of spring 2003 towards 'breathing in inflation' was seen by some contemporaries as a further maestro stroke. But it was no such thing as the Iraq initial mission was already complete and the US economy on the verge of pulling into a growth cycle upturn.

Bernanke's dislike of the maestro image appears to have had more to do with style than any substance. He is not on record as making a connection between the opportunity to be a maestro and the deep flaws in monetary policy administered by that same maestro. To be specific, Alan Greenspan had so many opportunities to show his maestro skills (so-called) because the Federal Reserve had departed so far from monetary stability (in its widest sense). Monetary maestro skills were in fact essentially the same as the skills of a fireman called in to extinguish a fire which he had created.

To be fair, Greenspan's first performance as maestro, in the immediate aftermath of the October 1987 equity market crash, was not based

on a self-created fire. Rather the blame (for the fire) could be put at the door of his predecessor, Paul Volcker, who had presided over a monetary inflation in the mid-1980s which showed itself up primarily as rising temperature in asset and credit markets (see p.33). But after that, Greenspan's maestro moments had been flashes of lightening in a forest darkened by storms of monetary instability for which he had been responsible. The Mexican debt crisis of early 1995 was a descendent of over-easy Federal Reserve policy through 1992–3, when the maestro, so keen to get a rapid economic recovery going (not in time for the first President Bush to avoid defeat in November 1992), created such monetary disequilibrium as to power a wave of speculative funds searching for higher yields in Mexico and in other high coupon bond markets. And in the high-temperature conditions, irrational exuberance (as regards the Mexican paper) swamped sober judgement. The sudden sharp tightening of monetary policy by the Greenspan Fed in 1994, out of alarm at a rise of inflation in the US, was a key trigger to the Mexican bond bubble-bursting, though the maestro would seek acclaim for this 'early prompt action to prevent inflation'.

The 1997 Asian debt crisis stemmed in part from another maestro performance by the Greenspan Fed. Through the mid-1990s the maestro got much applause for recognizing the productivity enhancing affect of the IT revolution and how this contained any 'inflation pressures', but he completely missed the point that at such times the neutral rate of interest would be abnormally high and so should be market rates, even though that would go along with inflation at very low or even negative levels. By standing in the way of market rate rises in line with neutral, Alan Greenspan helped fuel the bubbles in the South East Asian (and more broadly in emerging market) economies, most of which were in the wider dollar area (pegging their currencies to the US dollar) (see previous chapter, p.114). His maestro performance in response to those bubbles bursting and threatening to blow up the US capital markets was another instance of arsonist turned into skilled fire-officer. The strong likelihood is that he was a mindless not pre-meditated arsonist. Having never shown any interest in Austrian school economics (Sechrest, 2005) or the concept of broad monetary stability, he could not conceive that the turbulence he encountered and dealt with had been self-created.

Indeed the concept of the maestro coming to the rescue to prevent a full-scale fire, never mind his initial responsibility for the fire, is as old as the Federal Reserve itself, albeit reaching a particular intensity under Greenspan and then climax under Bernanke (as about to be illustrated). For example, Milton Friedman and Anna Schwartz lament the

early death of Benjamin Strong in late 1928 as meaning there was no maestro (in Greenspan terms) to react aggressively against the forces of monetary contraction in 1930–1. Friedman and Schwartz, however, do not make the connection with Strong's earlier life as unwitting arsonist through the creation of huge monetary instability in the early and mid-1920s via focusing on price stability at a time of rapid technological change and ignoring the broader concept of monetary instability.

In some respects, Volcker took on the role of maestro when he ended the brief period of monetarism (1979–82) and responded to the severity of the recession by resuming direct pegging of money interest rates which the Fed promptly lowered sharply. Later as maestro, he took aim at the perceived over-valuation of the dollar, 'massive' US trade deficit, and growth recession of 1984–5, and was at the centre of an activist exchange and monetary policy aimed at stimulating the economy (even though he came into conflict with Reagan-appointed FOMC members 'the gang of four' who were arguing in 1986 for even greater ease).

Luck runs out for Bernanke maestro performances

Greenspan had not found himself cast in a role of maestro to deal with monetary system panic. It was Bernanke's fate – one could say of his own making given his role as Federal Reserve governor in promoting (in a separate but joint enterprise with the ECB) the monetary instability which created the global credit bubble – to find himself at the head of the Federal Reserve in when the panic of 2007–8 erupted (first with the quakes of summer 2007 and then with the actual or threatened bank collapses of autumn 2008). The maestro role, which Bernanke chose to follow, was quite distinct from the traditional lender of last resort role as set out in banking textbooks and histories, which included an elastic supply of base money to meet the crisis-induced increase in demand for this. Bernanke's maestro role, as we have seen (see p.141), took its cue from a particular version of new Keynesianism in which a seizing up of channels of financial intermediation would further cripple the likely weak forces of self-recovery in the market economy.

Ostensibly the high marks, which Bernanke got in the political and media marketplace for his performance as maestro in those new Keynesian terms, played a large part in his re-nomination as Fed chair in 2009/10. The Obama appointments team (including prominently chief economic adviser Professor Summers) undoubtedly would have viewed Bernanke as 'one of them' (as a fellow new Keynesian economist deeply sceptical of *laissez-faire* doctrine) whereas the Bush team

had less astutely regarded him as an apolitical expert. And in common with President Bush, President Obama may have appreciated Bernanke's credentials as a money helicopter pilot who could apply his skills to the political cycle, even though there was, by then, the stark evidence that this pilot had been powerless to save Bush from the sea of monetary instability created by the Greenspan Fed, of which he had been the unofficial co-pilot through the fateful decisions of 2003.

Hardly had President Obama got his re-nomination of Bernanke through the Senate than he sought his skills as maestro. Obama consulted his monetary maestro in summer 2010 (on 29 June) as to what could be done to re-accelerate the pace of economic recovery amidst the accumulating evidence of at least a temporary stalling and alarming poll news for the Democrats ahead of the November mid-term elections.

The outside world did not have long to wait to find out what Bernanke had in mind – a new dose of quantitative easing (QE-2). And even though no quick action would be possible from the FOMC (the case for QE had to be made slowly on the basis of incoming evidence and internal review), speculation about QE had an immediate effect in pushing the US dollar down and may have played some modest transitory role in driving equity prices up and bond yields down (as in frothy summer markets the opinion gained ground that a short-lived flow operation by the Fed in government bonds could bolster their prices even though the stock of these and of close substitute type paper completely swamped any flow dimension). Some recovery of equity prices would almost surely have occurred without QE-2 as economic slowdown risks, as perceived in the marketplace during the summer (2010), turned out to have been exaggerated. Maestro skills could not reverse the political tide, but the counterfactual question is whether they avoided an even bigger setback, in that the Democrats maintained a (diminished) majority in the Senate.

Note that this role of the Fed maestro in helping the President in terms of the political cycle has an obvious precedent in the history of the newly appointed Arthur Burns easing policy in early 1970 as evidence of a mild (and potentially severe) recession rumbled in, even though inflation and inflation expectation were still riding high (at 5% p.a. or higher). Greenspan's role as maestro was less ostensibly tuned into the political cycle though there are obvious implied links between the two which could be drawn.

Global reach of Bernanke-ism

In sum, the maestro property of Bernanke-ism did not start with Bernanke but it mutated in some distinct ways which have been just

illustrated. The maestro property is the aspect of Bernanke-ism which has travelled, globally, the least. By contrast, many of the other aspects are in evidence amongst the latest state of the art central banking as practised in Europe and Japan.

In particular the ECB, Bank of Japan and Bank of England, have all dislodged the monetary base from the pivot of their monetary systems (with now low reserve requirements and market-related interest paid on excess reserves) and adopted command-control rate regimes. But Bernanke-ism, as a description of the relationship between the central bank and the organs of political power, has no obvious parallel in European Monetary Union given that there is no parliament or Congress with real power to which the ECB is accountable and nominations occur by supra-national horse-trading and consensus-building rather than by Presidential selection. The Bank of Japan has been the most distant from adopting any or most of Bernanke's ten principles, even though it had to bow to political pressure when drawing up its monetary framework (2003) and include a long-run inflation target (seriously qualified). The Bank of England in its policy-making has kept closest to Bernanke's ten principles, with the ECB not far behind (despite its protests of having a 'monetary pillar' in its framework of policy-making and of not following an inflation target).

The Bank of England and ECB display the deflation phobia which is a key element of Bernanke-ism. The Bank of Japan has operated in a political climate where many critics are concerned about deflation danger, but deflation phobia is much less prominent within its corridors of power than in Europe or the US. The ECB and Bank of Japan have rarely, if at all, revealed any trait of currency aggression (in the direction of devaluation) a key aspect of Bernanke-ism, but this has been found (on an undeclared basis) abundantly in the recent history of the Bank of England.

The ECB and Bank of England, as much as the Federal Reserve, have proclaimed the Bernanke-ite doctrine of infallibility in denying that they created huge monetary instability in the past decade and that this lay behind the emergence of the credit bubble and related asset bubbles. In part, this proclamation might reflect a complete denial or ignorance of the monetary economics literature which stresses overall stability (J.S. Mill, Austrian school) and which explicitly or implicitly warns against the perils of inflation-targeting. Ignorance (though this is no excuse for blame) is an easier case to make in the case of the Bank of England than for the ECB. The first chief economist of the ECB, Professor Issing, was surely knowledgeable about the monetary economics literature in all its various strands even though he may have relegated some parts as being

of no practical interest. Evidence available (see Brown, 2010) reveals that Issing gave no weight in his decision-making (especially about which monetary framework to adopt) to Austrian school or wider libertarian warnings against highly discretionary policy-making or against command-style rate management with the market playing a minimal role in the discovery of neutral interest rate levels.

In the case of the ECB, the charge against it for responsibility in the formation of the credit bubble in 2003–7 has been laid out in the author's previous book *EURO CRASH*. (Brown, 2010). Specifically the flawed monetary framework (in which the monetary base was dislodged from the pivotal position and the so-called 'monetary pillar' was a fiction) left the new monetary zone open to the serious risk of monetary instability. Subsequently, the combination of tight committee control over every interest rate move, based on econometric evaluations and business cycle assessments, and in the pursuance of a virtual inflation target over a two-year period, as well as phobia against deflation to a degree that even a fall of current inflation to 1% during a weak phase of the cycle caused alarm bells to ring, did the rest of the damage. Certainly, Professor Issing and his colleagues saw it as part of their remit to 'study the behaviour of asset prices' but by the time they could be convinced that these were actually the source of concern, an excessive credit creation and much mal-investment had already occurred.

And in their continuing (if inadequate) search for symptoms of asset market temperature rise, the ECB was totally blind to happenings in the European sovereign debt market. The fact that in the mid-part of the decade, Greece, Ireland or Portugal were able to issue bonds at tiny margins over Bund yields can be seen now as an evidence of monetary disequilibrium. With the ECB pinning rates down at well below neutral through 2003–5/6 out of concern about inflation falling below 2% p.a. (too close to deflation zone for comfort) and also about the plunging dollar (driven by US monetary disequilibrium) and what it could mean for euro-zone economic activity, investors sought relief from the income famine by adopting a favourable view and plunging into higher risk government bond markets without assessing the new type of risks these might now be subject to within the context of monetary union (where a printing press could not be used to raise inflation tax if need be). Further, the below neutral rates (both in the US and Europe) stimulated a temperature rise in the market for financial equities where many investors overlooked the high-risk nature of profits stemming, for example, from highly leveraged positions in those same government debts or further afield in mortgage backed securities and leveraged loans.

Like their US opposite numbers, ECB officials blamed everyone except themselves for the financial system and wider economic debacle, putting particular focus on the East Asian savings surpluses and global imbalances as well as the greedy bankers and profligate 'periphery zone' governments. When it came to fire-fighting, the ECB administered the same new Keynesian prescriptions of massive intervention in the banking system, ostensibly to keep channels of credit flows open, but with all the same flaws as already outlined in the case of the Federal Reserve. There was the additional bizarre twist in Europe that the massive credit operations initially opened up wider the channels of already irrationally exuberant fund flows into the weak sovereign debt markets. Banks in Germany and France, for example, scurried to the ECB to borrow cheap funds to pour into additional holdings of Spanish, Portuguese, or even Greek bonds, through late 2007 and into 2008, placing those as collateral (with the ECB).

Why exorcism must end the Fed's monetary powers

In looking at how Bernanke-ism, in some or all of its various traits, might eventually be exorcised from the corridors of monetary power, the starting point is politics. The central bankers are not going to pioneer the second monetarist revolution. There will be no coup within the citadel. The triumph of Bernanke-ite monetary authoritarianism with the QE-2 announcement of 3 November 2010 came with just one dissenting vote.

The end of Bernanke-ism depends on political forces emerging, of sufficient momentum, to confront it successfully. At what point might it become a mainstream tide in US politics, not just a pet-theme of the libertarian right, that something big must be done to restore monetary stability and crush the authoritarians who have taken over the Federal Reserve (on the instigation of the Congress and the President, with varying degrees of commission and omission)? The timing of that point will doubtless depend much on the unfolding of the turbulence and its extent which follows the QE-1 and QE-2 time bombing campaigns. And there is the ever-present possibility of a new harsher climate developing within Congress towards the previous mistakes of the Federal Reserve, albeit denied by Alan Greenspan and Ben Bernanke.

The mid-term election results of November 2010, catapulting long-run critic of the Fed, Ron Paul, to the head of the House Sub-Committee responsible for monetary affairs has been hailed as an important milestone in progress towards reform. So far, however, there has been little

visible shift in the climate or make-up of expert monetary opinion in US universities. This is still generally hostile (with few exceptions) to, or uninterested in, a second monetarist revolution.

Can a second monetarist revolution succeed without closing down the Federal Reserve? That is a key institutional question whose answer depends on wide political contemplation beyond the subject-matter of this book. But a near 100-year history of monetary failure on a repeatedly grand scale and the most recent triumph of Bernanke-ite monetary authoritarianism suggest that radical institutional re-arrangement would surely be part of the solution. A successful revolt against Bernanke-ism is unthinkable with the present Federal Reserve and its power structures continuing to hold the monetary strings.

In fact, the wider success of a second monetarist revolution will certainly require taking away the Federal Reserve's power to create money. A separate agency, for example, a monetary authority, would instruct the Federal Reserve how much monetary base can be created, with both a short-term and long-term path set out as determined in accordance with principles in its constitution (see p.97). The Federal Reserve would have no say in the determination of the path including periodic revisions.

The monetary authority would function in a revamped monetary system where reserve requirements are set at a modestly high level and where reserves would pay no interest (as outlined in Chapter 3). The monetary authority would not have the power to alter reserve requirements (and this power would be taken away from the Federal Reserve). There would be a provision for strong disciplinary action against the Federal Reserve if it created monetary base during any period that was out of line with the monetary authority's instructions. Such action would be entirely within the jurisdiction of a Federal Reserve control authority, which could issue orders for a termination of any responsible Board member's employment. No Federal Reserve employee (including board member) could also be employed by the monetary authority.

The monetary authority might have a board of around five members whose five-year terms started sequentially (so that in any single year one new member came in and one retired). No member would be allowed to serve for more than one term. And each member would have one year as president of the board (with no second terms or extension possible). This design would prevent the emergence of maestros or more broadly based personality cults. Re-call that under the international gold standard, no one hardly knew the name of any central banker (and of course in the US there was no central bank). Bank of England governors served for two-year terms with no extension whatsoever. Appointments to the

Board of the Monetary Authority would be made by the President but subject to ratification by the Senate. Furthermore, the President would have to set out the detailed reasons for recommending a particular candidate plus provide two back-up candidates (alongside) for the Senate to consider (also with justifications) if the first listed was rejected.

Any over-riding of the normal rules for monetary base expansion would have to be accompanied by a full written justification by the Board of the Monetary Authority. Indeed all internal deliberations of the Monetary Authority, towards reaching its decision, would be fully transparent both to the public and to the Congressional committees responsible for its oversight. Those committees in turn would be able to challenge decisions and use expert witnesses (with the right to put questions to the authority's board) to that purpose. They (the committees) would not have the power to over-turn a decision but, evidently, if they find the decision-making flawed they could make future decision-making much more rigorous (for example requiring that deliberations get a hearing before a final decision).

A big question lurking behind any such re-organization as described here of the US monetary system is what happens to the rump of the Federal Reserve, with no longer any power of decision-making over interest rates or over monetary growth. The rump would carry out functions such as discounting paper in the market, making loans to member banks (all within the limits of the monetary base target), carrying out the vast supervisory and regulatory duties (all subject to review), the administering and management of its colossal holdings of assets (many residues from the financial panic), research and think-tank roles (including economic forecasts) and international responsibilities (management of foreign exchange reserves of other countries, correspondent relationships).

There would be the thorny issue of lender of last resort function, but this could be largely placed in the Treasury with the Federal Reserve acting as agent. And as regards these G-20 or G-7 meetings, the Federal Reserve chair could continue to attend as one of the US diplomatic team.

Outside the US, and especially in Europe, it is hard to conceive of any groundswell of political change which would lead a revolt against Bernanke-ism. There is the relieving fact, however, that in the case of the euro-zone, and especially Japan, Bernanke-ism did not reach the same degree of triumph in all its forms. The problem for the European Monetary Union is that its very foundations include Bernanke-ite structures. If these were dismantled, the union would fall apart.

Let's go back to the foundation of EMU and French President Mitterrand's immortal quote (Brown, 2004) – 'if you want to reach an EU agricultural

treaty you don't invite along the agricultural ministers: in the same way if you want to reach an EU monetary treaty you don't invite along the Finance Ministers'. And so Mitterrand and Kohl agreed (at the Evian Summit of summer 1988) to set up a committee of central bankers (the so-called Delors Committee presided over in Basel at the BIS by Alexandre Lamfalussy) to draw up the blueprint for European Monetary Union.

The Committee's prescription for consummating monetary union without political union was to hand over absolute monetary power almost entirely to the central bankers. And the central bankers had no inclination to agree on a monetary system based on rules to promote monetary stability in its widest sense. Rather, all the negotiation was about preserving – and indeed increasing – their independence from the national governments – whilst reserving all power on a discretionary basis for themselves. The monetary framework was to be drawn up only at the very end when the treaties were signed and the union about to go into operation. This meant that the central bankers would be the designers of the new monetary order.

In the event, the so-called Issing Committee designed in haste (during summer 1998) a framework which was far removed from that which the Bundesbank in its monetarist prime had adopted. Monetarism in the Bundesbank had died in the late 1980s on the eve of German unification. There was not one central banker or anyone else in the Delors Committee, or in the subsequent negotiations or framework discussions, that was even trying to fight a corner for monetary rules or for a broad concept of monetary stability to be adopted. But the extent of independence which they collectively obtained from any political democratic checks – the degree of possible monetary authoritarianism without check under the banner of *ordo liberalism* – was unprecedented. This absence of checks underlies the flaws of European Monetary Union as run by its all powerful club of central bankers.

This club is not going to recommend its own demise and replacement by a monetary authority administering the blueprint of a second monetarist revolution. And there is no political process in Europe to make that happen. Is there any stronger prospect of monetary reform in the UK? The short answer is 'no'. There is no mainstream political party in the UK with any inclination to launch an attack on the present framework and institutional arrangement of monetary policy. A long time ago, Prime Minister Margaret Thatcher briefly took up the cudgels of introducing a monetarist revolution in the UK, but her efforts ended up in failure (see p.91). The newly elected Labour government of Tony Blair in 1997 bestowed considerable independence on the Bank of England

but made it subject to an inflation target as set by the government. Though at the time many commentators celebrated the independence, the more than offsetting bad news was that a destabilizing regime of inflation-targeting had been solidified where the policy-makers had no concept in their work of overall monetary stability and were solidly Bernanke-ite for the most part.

The disappointment amidst all of this has been the failure of Japan to lead the way out of Bernanke-ism. The Bank of Japan only grudgingly adopted a loose inflation target (back in 2003) after intense pressure from the Diet. Its framework made clear that this target did not have pre-eminence over other considerations (in particular credit and asset market temperature swings). Some prominent monetary officials accepted fully that there could be bouts of 'good deflation'. And over the long run, Japan did enjoy virtual price level stability.

Even so, the Bank of Japan, in the middle years of the 2000s, presided over a big temperature rise in the yen carry trade without seeing this as a sign of monetary disequilibrium. The Bank of Japan was too slow to allow rates to rise. And officials in the Bank of Japan had no leaning, whether intellectual or sentimental, towards advocating monetary reform based on high reserve requirements and monetary base control. They were of the view that 'monetarism could not work in Japan' – meaning that the observed multipliers in their empirical work were too unstable. And in common with central bankers around the world they zealously sought to maintain and, if possible, increase their powers of independence gained in the aftermath of their claimed success in the 'war against inflation'.

It is in the US that the second monetarist revolution will erupt – if it erupts anywhere at all. The revolt against Bernanke-ism can start only from within the US political system. The long-term consequences of the QE-1 and QE-2 monetary time-bombing campaigns and how these are perceived by the US voting public will be crucial. Much will depend on the timing of future economic havoc, the extent of the damage, and the skill with which political opposition assembles its case, joining it with other highly moving issues. The fall of Bernanke-ism would mark symbolically the end of the old monetary disorder. Yet it is implausible that a second monetarist revolution can succeed without a permanent shuttering of the corridors of monetary power within the Federal Reserve. Building a stable monetary order requires the cutting away of the 100-year old deeply rotten structures and the digging of foundations on new land.

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