

# BUILDING THE FOUNDATIONS FOR A NEW CENTRAL BANK DOCTRINE: REDEFINING CENTRAL BANKS' MISSIONS IN THE 21st CENTURY

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## Abstract

The 2007-2008 financial crisis demonstrated both the responsibilities that central bankers, alongside other actors, bear for turbulences of this kind as well as how economics can be used to provide central bankers and governments with the understanding and tools that they need to prevent the international financial system from collapsing. At the same time, central banks' responses to the crisis have taken monetary policy into unknown territory. The paper's first section diagnoses good and bad practice in post-crisis central banking; assesses the efficiency of pre-crisis doctrines; and identifies the dangers of actions exceeding certain limits. It specifically focuses on the European Central Bank's much-debated intervention in certain peripheral bond markets, particularly Greece. The second section is more normative and lays the foundations for a social science perspective of how to manage modern central banks, an approach that draws on a variety of disciplines including economics, governance theory and management. This starts with a definition of the new doctrine and its underlying philosophy, followed by an identification of sound central banking practices (revolving around a few key concepts, notably inflation and financial stability). The missions and objectives of these practices are then defined (along with a choice of indicators), culminating in an exploration of which strategies and tools might be used in both normal and turbulent times. Lastly, a few concrete rules of governance are offered, built on the triptych of central banks' independence, accountability and composition, with specific focus placed on the process for selecting governors fit to handle the new role that modern central banks are destined to assume in developed countries.

**Key Words:** Central Bank Doctrine, Monetary Regulation, Crisis

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## Introduction

### ***A brief history of central banking: from financing the state to lending of the last resort***

The birth of central banks is clearly linked to states' funding needs and financial institutions' savings capacities. The first central bank, RiskBank, was established in Sweden in 1668<sup>1</sup> in an attempt to save Stockholm Banco, the country's only bank at the time, from bankruptcy. Born in 1694 following the *Glorious Revolution*, the Bank of England (BoE) was a private institution endowed with a government charter. Primarily designed to curb market debt and finance the Crown's wars against Jacques II and

Louis XIV<sup>2</sup>, because the BoE could also hold other banks' deposits, it slowly began to assume the role of a bankers' bank, facilitating inter-bank transactions while providing ancillary services. With large gold reserves cementing its repository role, it eventually began to act as a lender of last resort whenever there was a run on the bank system.<sup>3</sup> After another severe crisis in 1866, the BoE began to apply Walter Bagehot's responsibility doctrine,<sup>4</sup> based on the idea

<sup>2</sup> In the same manner, the Banque de France was set up in 1800 by Napoleon to fight inflation and finance his wars.

<sup>3</sup> But in fact, actions by the bank often worsened financial crises on several occasions (1825, 1837, 1847, 1857, and 1866) because the bank acted in its own interest to protect its gold reserves and, thus did not provide liquidity to other banks.

<sup>4</sup> According to Goodhart, Bagehot's main ideas come from Henry Thornton, *An Enquiry into The Nature and Effects of the Paper Credit of Great Britain 1802*. In Bagehot's own words (Lombard Street, Chapter 7, paragraphs 57-58; London: Henry S. King and Co., 1873), "lending by the central bank in order to stop a banking panic should follow two rules: First. That these loans should only be made at a very high rate of interest. This will operate as a heavy fine on unreasonable timidity, and will prevent the greatest number of applications by persons who do not require it. The rate

<sup>1</sup> The main and most famous contribution of this central bank is probably the so-called Nobel Prize of Economics (created in 1968 by the Bank of Sweden for its 300th anniversary), which has been in return provided the means to develop economics thoughts and research on central banks... as this paper exemplifies.

that a central bank's task is to provide liquidity to other banks, discounting secure collateral and lending funds at a penalty rate of interest so borrowers have an incentive to repay quickly.<sup>5</sup> Despite national variations, the main objective for most central banks before the 1929 crash was to safeguard the value and stability of currency.<sup>6</sup> In the United States, banking crises were commonplace following the elimination of a central bank in 1836. The 1907 crisis<sup>7</sup> convinced Americans to accept a federal entity responsible for managing the national currency and acting as lender of last resort.<sup>8</sup> It remains that prior to 1929, central banks were managed at governors' discretion, without any real research being conducted into appropriate doctrine or governance<sup>9</sup>.

### **The doctrine of central banking since 1979: a neo-Keynesian framework with a monetarist credo**

Before the 2007-2008 crisis, central banking applied a simple doctrine that was largely underlined by one main objective (the battle against inflation), one main

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should be raised early in the panic, so that the fine may be paid early; that no one may borrow out of idle precaution without paying well for it; that the Banking reserve may be protected as far as possible. Secondly. That at this rate these advances should be made on all good banking securities, and as largely as the public ask for them. The reason is plain. The object is to stay alarm, and nothing therefore should be done to cause alarm. But the way to cause alarm is to refuse someone who has good security to offer. . . . No advances indeed need be made by which the Bank will ultimately lose. The amount of bad business in commercial countries is an infinitesimally small fraction of the whole business. . . . The great majority, the majority to be protected, are the 'sound' people, the people who have good security to offer. If it is known that the Bank of England is freely advancing on what in ordinary times is reckoned a good security—on what is then commonly pledged and easily convertible—the alarm of the solvent merchants and bankers will be stayed. But if securities, really good and usually convertible, are refused by the Bank, the alarm will not abate, the other loans made will fail in obtaining their end, and the panic will become worse and worse."

<sup>5</sup> The doctrine required the BoE to subsume its private interest to the public interest of protecting the banking system as a whole. The end result was that no bank run or panic happened until... September 15, 2007, when Northern Rock collapsed.

<sup>6</sup> The word inflation is relatively recent given the almost perfect price stability before World War I. The UK and France issued the most famous government bond of the era, the 3% perpetual rent.

<sup>7</sup> The short-term interest rate rose to 125% during the 1907 crash; see E. Lefevbre, *Reminiscences of a Stock Operator* New York: Wiley, 2009). French translation By E. Pichet *Mémoires d'un spéculateur*, Valor, 2004.

<sup>8</sup> Yet politicians remained sceptical: The Federal Reserve (which, quite significantly, was denied the title of central bank by its founder, Carter Glass) had no macroeconomic objectives.

<sup>9</sup> Norman Montagu, Governor of the Bank of England from 1920 to 1944, replied regularly to people enquiring about his monetary policy: "I don't have reasons, I have instincts." For an analysis of general misapprehensions about the four most important central bankers between 1918 and 1940, read L. AHAMED, *Lords of Finance*, New York: Penguin, 2009.

monetary policy (short-term interest rates) and one tool (open market operations).<sup>10</sup> Given the United States' global influence and the dollar's pivotal role, practices at the Fed had a particular impact on other central banks' philosophy and doctrines. General banking missions and tools have evolved to promote two hypotheses at this level: inflation is always a monetary phenomenon;<sup>11</sup> and financial markets are efficient<sup>12</sup>: the underlying philosophy was that a view where financial markets select risk and distribute credit correctly. Under exceptional circumstances (e.g., September 11, 2001), the central bank could act as lender of last resort – but in the main, central bankers were generally little more than backroom technocrats before the recent crisis, an unelected and rather unexciting bunch of players (with the exception of a few stars like Greenspan, Trichet or Bernanke. Thus, the Fed injected liquidity into the financial system during the 1987 stock market crash,<sup>13</sup> and agreed to assume the liabilities of Long Term Capital Management in 1998 - but it never accepted responsibility for pricking financial bubbles. The premise of central banking was rooted in a neo-Keynesian model in which the CPI rate (around 2%)<sup>14</sup> was sometimes made explicit. In the main, strategy was determined by the Taylor rule.<sup>15</sup>

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<sup>10</sup> In fact, the official objective of central banks throughout the developed world is also to fight unemployment and pursue a pro-growth policy. Yet explicitly or implicitly, the main objective is always to keep a close eye on inflation (always understood as consumer prices). After the Great Depression of the 1930s, the Fed was given the extra responsibility of maximizing employment and it was one of the main objectives of the Employment Act of 1946. The Full Employment and Balance Growth Act of 1978 had two objectives: low inflation and optimal employment.

<sup>11</sup> Based on Friedman's famous assumption that "Inflation is always and everywhere a monetary phenomenon", c.f. *Inflation, causes and consequences*, 1963.

<sup>12</sup> Based on research by Markowitz, *Portfolio Selection*, The journal of Finance 7 (1) 77-91, March 1952.

<sup>13</sup> On October 19, 1987, the "Federal Reserve, consistent with its responsibilities as the nations' central bank, affirmed today its readiness to serve as a source of liquidity to support the economic and financial system setting up a new philosophy of supporting the financial markets when they fell". Since 1987, this so-called Greenspan doctrine had given economic agents too great a sense of security.

<sup>14</sup> Analyzing each central bank's attitude toward inflation in great detail serves no useful purpose. Every modern bank is explicitly committed to fighting inflation (irrespective of the stringency of the objectives set by the politicians or by the bank itself). As Mervin King, ex- Governor Bank of England said, no central banker is enough of an "inflation nutter" to be obsessed by this to the exclusion of everywhere else.

<sup>15</sup> The Taylor rate dictates that the Fed rate = 1+ inflation rate +  $\frac{1}{2}$ \*(inflation rate-2) +  $\frac{1}{2}$ \* (spread between potential an actual growth of GDP). "To caricature: we thought of monetary policy as having one target, inflation, and one instrument, the policy rate. . . . Stable and low inflation was presented as the primary, if not exclusive, mandate of central banks" O. Blanchard, G. Dell'Ariccia, and P. Mauro. 2010. "Rethinking Macroeconomic Policy," IMF, p. 3.

### ***A time of crisis: from innovative fire extinguishers to architects seeking new foundations***

During the crisis - and especially in its early stages (2007 and 2008) - central banks reacted realistically and pragmatically by lowering interest rates (Some commentators have criticized the attitude of the European Central Bank (ECB) and notably its decision to raise interest rates to 0.25 bp in late August 2007. These observers made the mistake of being anachronistic, analysing the decision in the context of the most severe deflationary pressures that the world economy had witnessed since the 1930s. In fact, the ECB's attitude at that time, when faced with a 4% rate of inflation and a more than 11% increase in the monetary mass (M3), was fully understandable and the ECB quickly lowered its interest rates to historic lows). Afterwards, things became increasingly complex, with the main question becoming whether central banks should be subject to macro-economic regulation, systemic supervision and even the oversight of all financial institution (Maintaining the separation between monetary policy and macro- or even micro-prudential policy).

The first questions at this level are whether central bankers' customary 2% CPI target rate should be modified (Blanchard suggests 4%, others say 0% and others still suggest a range.); if central banks' aims should be broadened to include asset (For example, stocks prices, property prices, etc) inflation and preventive action against future bubbles; and whether modern developed societies might give their central banks a new financial stability mission alongside their traditional goal of monetary stability.

#### ***Analytical framework***

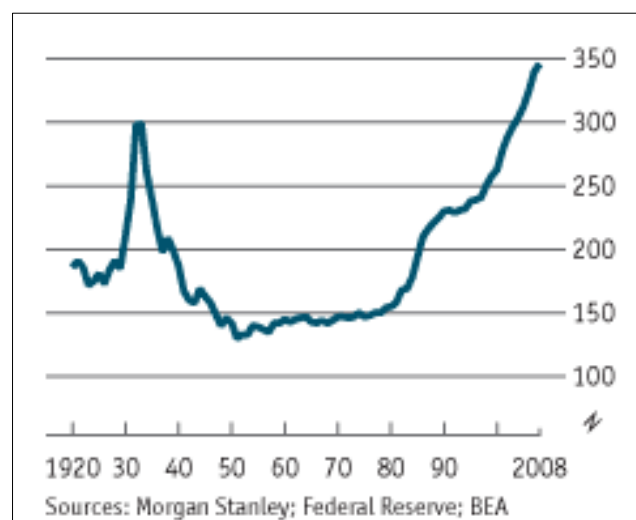
The paper's first section diagnoses good and bad practice in post-crisis central banking; assesses the

efficiency of pre-crisis doctrines; and identifies the dangers of actions exceeding certain limits. It specifically focuses on the European Central Bank's much-debated intervention in certain peripheral bond markets, particularly Greece. The second section is more normative and lays the foundations for a social science perspective of how to manage modern central banks, an approach that draws on a variety of disciplines including economics, governance theory and management. This starts with a definition of the new doctrine and its underlying philosophy, followed by an identification of sound central banking practices (revolving around a few key concepts, notably inflation and financial stability). The missions and objectives of these practices are then defined (along with a choice of indicators), culminating in an exploration of which strategies and tools might be used in both normal and turbulent times. Lastly, a few concrete rules of governance are offered, built on the triptych of central banks' independence, accountability and composition, with specific focus placed on the process for selecting governors fit to handle the new role that modern central banks are destined to assume in developed countries

#### **1. Analysis of Central Bank Actions before and During the Last Financial Crisis**

It is important to note that the crisis was in no way the consequence of subprime lending, which should be construed as little more than a virus attacking a fundamentally sound but fatigued organism - the US economy - weakened by its considerable debt (see Figure 1). Any turbulence affecting the US economy - which accounts for ca. 25% of global GDP - was bound to have a knock-on effect on the rest of the world.

**Figure 1.** The USA total Debt as % of GDP



### **1.1. Central bankers' responsibility for the origin of the crisis**

*"The responsibility of the central bank is to put away the punch bowl just as the party gets going."*

W. McChesney Martin, chairman of the Fed (1951-1970)

Central bankers' real involvement in the crisis has been a topic of great debate. For several reasons, this paper takes the view that there is little doubt that they bear at least some responsibility. The so-called subprime crisis happened very suddenly, but its roots go as far back as the aftermath of September 11, 2001. The Fed had reacted very quickly to the attacks on the World Trade Centre by dropping interest rates to minimal levels (1%) in an attempt to stave off recession, but the end effect was that from 2001 to 2006, US central bankers injected cash into the financial system and encouraged subprime lenders (amongst others) to raise total US debt levels even higher than they had been in 2001, which already equaled the excesses of 1929. In other words, the financial crisis was also rooted in mistakes made by the Fed, which from 2002 to 2007 and in violation of the Taylor's rule failed to act quickly enough to prick the bubble it had created.<sup>1</sup> During the 1960s, Keynesian<sup>2</sup> doctrine had achieved a balance between inflation and employment but this changed in 1979 when the Fed adopted a newly hawkish focus on inflation.

Mr. Greenspan was also wrong in asserting that the market alone is in a position to recognize (hence prick) a bubble. The implication of his doctrine was that the Fed should allow bubbles to happen, and simply mop things up afterwards by limiting the collapse in prices and collateral damage to the rest of the financial system.<sup>3</sup> His approach failed with the 2007-2008 financial crisis, however, since the end effect of the Greenspan paradox was to sew the seeds of further bubbles and undermine central bank credibility. This can be contrasted with Minsky, according to whom the crisis germinated during the quiet

period and it seems correct to assume "that the Fed could be accused of being a serial bubble blower."<sup>4</sup>

### **A failure of regulation and supervision**

The Anglo-American model for controlling financial institutions in the United States and the United Kingdom was characterized by so-called light touch regulation. "With the neglect of financial intermediation as a central macroeconomic feature, financial regulation and supervision focused on individual institutions and markets and largely ignored their macroeconomic implications."<sup>5</sup> This attitude probably led to the 1999 repeal of the Glass-Steagall Act in the United States; the Fed's attitude of benign neglect toward the property bubble; and the "light touch" with which the United Kingdom's three official regulators (the Bank of England, the Treasury, and the FSA) oversaw the country's banks and financial markets in the attempt to preserve London's attractiveness as a financial center. The most extreme cases of authorities falling asleep on the job were in Ireland<sup>6</sup> and Iceland. At the same time, some responsibility for this lax state of affairs must also be attributed to the watchdogs of the global financial system: neither the OECD nor the IMF showed any real awareness of dangers of the real estate bubble, or of the risks associated with the mountain of debt accumulating in the United States and elsewhere. Moreover, what regulations existed were full of holes, with the Fed neglecting to monitor the non-banking system. The examples of Bear Stearns, Lehman are very instructive at this level.

### **1.2 At first, the central bank reacted conventionally - and correctly - to the crisis**

*"Why did nobody notice it?"*

Queen Elizabeth II - said to have lost about £25 million in September 2008 – during a November 5, 2008 briefing at the London School of Economics

There is little doubt that the overwhelming majority of economists failed to anticipate the crisis<sup>7</sup>: as Ben Bernanke explained,<sup>8</sup> "Almost universally, economists failed to predict the nature, timing and severity of the crisis; and those few who issued early warnings generally identified only isolated

<sup>1</sup> This mistake was already witnessed when the Bank of Japan waited far too long to raise rates from 2.5% at yearend 1989 to 6% in August 1990 and subsequently 0.5% in September 1995. Regarding errors made by the Bank of Japan, see Bernanke, Japanese Monetary Policy: A Case of Self-Induced Paralysis, December 1999, p.3.

<sup>2</sup> The standard macroeconomic model used by central bankers—the "dynamic stochastic general equilibrium" (DSGE) — was not an accurate representation of this model, which featured households, non-financial institutions and government - but no banks. See "The intellectual support for inflation targeting provided by the New Keynesian Model," Blanchard et al., "Rethinking Macroeconomic Policy," p. 3.

<sup>3</sup> Strategies repeatedly adopted in 1987 after the stock market crash, during the dotcom stock bubble, and when house prices skyrocketed in the 2000s.

<sup>4</sup> A. Blinder, "Two Bubbles, Two Paths," New York Times, June 15, 2008.

<sup>5</sup> Blanchard et al., "Rethinking Macroeconomic Policy," p. 6.

<sup>6</sup> Bailing out the Irish banks cost about 40% of GDP, which was a major factor in the debt-GDP ratio's jump from 25% in 2007 to 115% in 2012.

<sup>7</sup> Remember Solow's analysis: "The economist is a little bit as a plumber; he can fix the problem but not necessarily predict at what time the plumber will be out."

<sup>8</sup> B. S. Bernanke, On the Implications of the Financial Crisis for Economics, conference at Princeton, NJ, September 2010, page 2.

weaknesses in the system.<sup>9</sup>, not anything approaching the full set of complex linkages and mechanisms that amplified the initial shocks and ultimately resulted in a devastating global crisis and recession.” The strongest evidence for the contention that economics is a science - a famous debate amongst scientists<sup>10</sup> - lies in the fact that the knowledge accumulated is useful not only for scientists but also for politicians and central bankers. Economics improves itself, as witnessed most notably by the Fed’s creation in 1913, once the lessons of the 1907 crash had been learned, specifically in relation to the absence of a lender of last resort.<sup>11</sup>

### *Lessons from 1933 and Japan’s lost decade*

In general, the system’s first response teams — central banks and governments—moved very quickly and effectively to implement the knowledge that economists had accumulated over the previous century. Bernanke’s Ph.D thesis on the Great Depression<sup>12</sup> had made him perfectly aware of the

risks involved, as had his analysis of Japan’s lost decade, a disastrous period of economic stagnation and deflation from 1991 to 2001 once the country’s stock market bubble had burst.<sup>13</sup> Central bank economics improved significantly in the wake of the 1907 panic, a trend that continued through the 1929 crash and ensuing Depression. Indeed, there are signs of advances in knowledge from the 1970s until 2002. The quality of governance, epitomized by the main central banks’ highly competent leaders in their field of competency (monetary policy), is clear to see, especially in comparison with their predecessors from the 1930s.<sup>14</sup> Indeed, from 2007 to 2010 central bankers would generally apply the lessons that they had learnt from previous financial debacles. Analysis of the 1907 bank panic of 1907 reveals similar causes as the current crisis. In a context of light regulation and major investment opportunities, trust companies used leverage to expand at a remarkable speed.<sup>15</sup>

<sup>9</sup> As with each financial disaster it is always possible to identify a few economists who did in fact anticipate the crisis. Most, however, never saw it coming.

<sup>10</sup> In simpler terms, there is still a debate between the hard natural science and soft social science. Most researchers in the former field deny social researchers’ right to call themselves “scientists”, ostensibly because of their lack of rigour. Yet “of we consider the most complex object in the universe, besides the universe itself, to be the human brain, then human societies - and particularly the societies of today’s hypermodern era which derive from the interaction between thousands of human minds (and even, since globalisation and the advent of the internet, of the interaction of billions of human minds) - are far and away the most complex entities there are to study.” In Éric Pichet, “L’art de l’HDR,” (2011), p. 115.

<sup>11</sup> After the 1929 Crash and ensuing Depression, the Fed tightened policy, because it wanted to stifle any further stock market booms. This was a major mistake, especially the failure to use open market policy to offset a series of banking panics. Having said that, the 1929 financial crisis did have several very important legacies, starting with the Emergency Banking Act from March 1933 and above all the creation of the Federal Deposit Insurance Corporation (FDIC). In 2010, the FDIC closed 157 banks (after closing 140 in 2009) without causing any damage to the financial system. Retail depositors in the US do not lose a single penny up to the insurance limit of \$250,000 per person. The losers are the bank’s owners and top managers. Seeking to prevent bank runs and collapses, the FDIC has been successful in preventing systemic panic, bolstered by the Glass-Steagall Act, which segregated commercial and investment banking. Otherwise, there is the Securities and Exchange Commission, established by the 1934 Securities Act. Note that from 1934 to 1936, the US economy seemed to be perfectly healthy, achieving an astonishing annual rate of growth of more than 9%. Unemployment fell from 25% to 14%. Two measures caused a violent recession in 1937 and 1938, however: Congress decided to raise new taxes; and the Fed, worried by the huge cash reserves held by US banks, doubled their reserve requirements, causing immediate monetary contraction and a new and violent recession. In 1938, President Roosevelt reset a contractionary policy and the US GDP rebounded by +9% in 1939.

<sup>12</sup> To confirm the usefulness of the economics profession, note Bernanke’s quite grand declaration in 2002 on the

occasion of Friedman’s 90<sup>th</sup> birthday: “You are right; we were wrong but thanks to you, we will not be wrong anymore.”

<sup>13</sup> Japanese monetary policy displayed a case of self-induced paralysis in December 1999. From June 1991 to June 1996, the interest rate dropped from 6% to 1%. In March 1999, it was near zero. The error was that monetary policy had been too loose before 1990 and too strict from 1990 to 1995. As noted by Bernanke, the policy mistakes that Japanese officials made in 1990 were similar to policymakers worldwide 1930s and resulted from the “the inherent conservatism of a society that places so much value on consensus.” The same criticism could be made in 2013, with the new Abe government pressuring the Bank of Japan to raise its inflation objective from 1% to 2%. Bernanke and Gertler mentioned Japan’s exceptionally poor monetary policy-making from 1984 to 1999 in Bernanke and Gertler, “Monetary Policy and Asset Price Volatility,” Proceedings (Kansas City: Federal Reserve Bank of Kansas City, 1999), pp. 77-128, with “the failure to tighten policy during 1987-1989, despite evidence of growing inflationary pressures, a failure that contributed to the development of the “bubble economy,” the apparent attempts to “prick” the stock market bubble 1989-1991, which helped to induce an asset-price crash; and the failure to ease adequately during the 1991-1994 period, as asset prices, the banking system, and the economy declined hurriedly.” Japanese Monetary Policy: A Case of Self-Induced Paralysis, December 1999, p. 3.

<sup>14</sup> For an astonishing picture of big four central bankers’ failing before the Second World War, see Ahamed, *Lords of Finance*, Windmill Books, 2010.

<sup>15</sup> E. W. Tallman and J. R. Moen. “Lessons from the Panic of 1907.” *Economic Review* (1990, May/June).

After the April 1906 San Francisco earthquake, insurance companies faced substantial costs to rebuild the city. In October 1907, at the height of the panic and after the closure of one of the most prominent financial institutions—the Knickerbocker Trust Company—the stock exchange fell by more than 40% and short-term rates hit 100% on the market for call loans. President Theodore Roosevelt asked J. P. Morgan and John D. Rockefeller to help rescue the economy by setting up money pools. This was a crisis of liquidity, not solvency, which can be better described as a short and brutal contraction in economic growth, followed by steady rise. Suddenly waking up to the financial system’s weaknesses and the robber baron’s oligopolistic position of the robber barons, Congress established the National Monetary Commission in 1908 and gave it the mission of analyzing fundamental reform. Two important laws were fashioned to address the two main problems: the December 23, 1913 Federal Reserve Act, creating a lender of the last

### ***Putting out the fire***

When the crisis began on August 9, 2007, the ECB injected liquidity into the markets to offset the credit crunch that erupted in the wake of BNP's money market funding crisis. Lending to illiquid banks was the first tool that the Eurozone banks would use,<sup>16</sup> with liquidities being injected just after Lehman's collapse in an attempt to unfreeze the interbank market. To keep the economy's normal funding circuits in operation, the central banks tried to ensure that no financial institution would go bankrupt and that deposits would stay safe. Indeed, towards yearend 2012, the Fed announced that its near zero interest rate policy would remain in place not only through 2015 but for as long as the unemployment rate exceeded 6.5%. The Eurozone has implemented more or less the same strategy with its long-term refinancing operations, which is now meant to last three years as opposed to a maximum of one year previously. This involved refinancing the banking system via a €1 trillion facility towards yearend 2011, at the extremely low rate of 1%.

### ***1.3. Implementing completely new policies: the central banks entering new territory***

Given the severity of the crisis, central banks in the developed world adopted unconventional monetary policy measures aimed at countering risks to economic and financial stability. These took the form of credit policy changes, bailouts of non-bank financial institutions and quantitative easing.

#### ***Policy of quantitative easing***

Quantitative easing's main principle is large-scale asset purchases. Realizing that by itself, a zero interest rate policy is not enough to stave off a possible depression - and in a bid to stabilize monetary policy by keeping short-term rates near zero until mid-2015 - the Fed used the first wave of quantitative easing (quantitative easing I or QEI) to lend more money to the banks. At first, these loans were accompanied by usual secure collateral such as government bonds. After a while, however, the Fed began accepting other, **but always investment-grade**, financial assets.<sup>17</sup> The other central banks

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resort; and the 1916 Clayton Act antitrust law, limiting the number of directorships that any single individual could have.

<sup>16</sup> The falling value of the CDOs in which two BNP money market funds had invested led to the extraordinary step of the bank refusing to redeem these normally highly liquid and safe vehicles.

<sup>17</sup> From November 25, 2008 onwards, the Fed bought debts issued by Fannie Mae and Freddie Mac (\$175 billion), as well as Fannie Mae and Freddie Mac-guaranteed mortgage-backed securities for \$1.25 trillion. A second wave (QEII) followed on November 3, 2010, involving the purchase of federal bonds with a maturity of five to six years (\$600 billion). September 21, 2011 saw the so-called "Operation

broadly followed the same approach.<sup>18</sup> On January 22, 2013, for instance, the Bank of Japan - under pressure from the new government - decided to change its monetary policy and raise the inflation target from 1% to 2%, even as its anti-deflationary efforts caused it to embark upon a massive quantitative easing programme (involving an almost unlimited purchase of financial assets, which ultimately reached nearly \$1 trillion).<sup>19</sup>

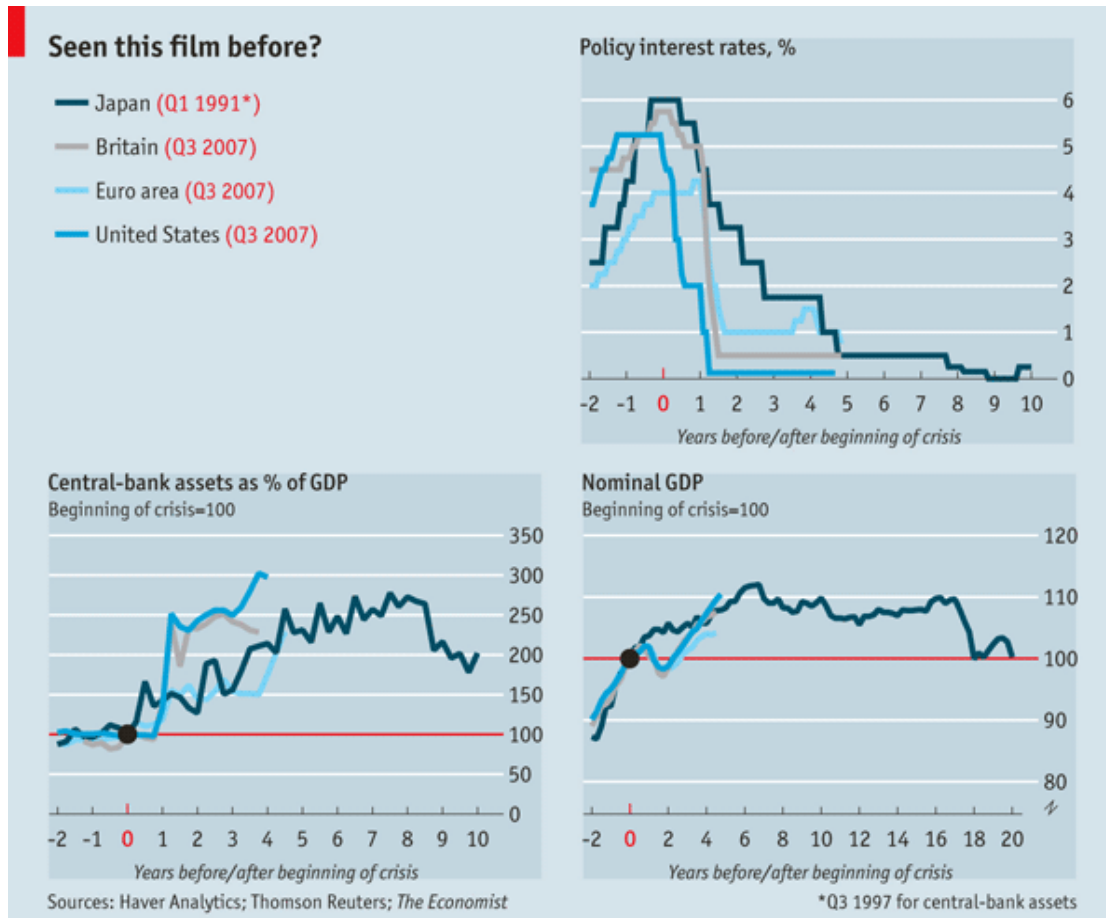
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Twist", a more neutral, third wave (QEIII) measure based on the purchase of long-term bonds and sale of short-term bills (\$400 +\$267 billion) in the third wave September 12, 2012 saw a more flexible program involving MBS purchases guaranteed by Fannie Mae and Freddie Mac for up to \$40 billion a month - along with a monthly purchase of \$45 billion of Treasury bonds that had no time limits.

<sup>18</sup> First and foremost the ECB on September 6, 2012, with its launch of certain outright monetary transactions. This was a shift in ECB policy but - unlike the Bank of England and the Fed - maturities were limited to less than three years. The ECB's decision to buy "unlimited amounts of short-term government debt is likely to prompt a positive market reaction; in theory buying short-term maturities is less risky than long term."

<sup>19</sup> Short-term interest rates have been around 0% in Japan since 1995 without any significant effect on what has become a long-term deflationary process. Between 2000 and 2011, the country only witnessed three years in which there was some inflation (2006-2008), versus eight years of declining CPI.

Figure 2. Macroeconomic situation in different countries in crisis



### The ECB's much bolder strategy

*"A practice without doctrine is like strolling in a minefield after dark."*

Whereas the Fed and other big players only bought investment grade bonds, the ECB entered an entirely new territory in May 2010 when it decided both to accept as collateral bonds rated below BBB- (especially issued by Greece),<sup>1</sup> and to buy these securities directly on the secondary market.<sup>2</sup> This strategy was supposed to lower long-term interest rates but ultimately failed.<sup>3</sup> All in all, the ECB<sup>4</sup>

bought €214 billion in bonds or the equivalent of 2.5% of Eurozone GDP. The equivalent numbers were 8% for the Fed and 20% for the Bank of England – although the quality of the debt in question was fundamentally different.<sup>5</sup> Central banks purchasing US and UK bonds were acquiring the assets of countries that each have a single budget policy and a single monetary policy. The same does not apply in the Eurozone, explaining why the ECB established a ceiling mechanism to limit public debt. Contrary to the United States and the United Kingdom, the Eurozone is fragmented. Only the four Eurozone countries with an AAA rating – Germany, Luxemburg and possibly Finland and the Netherlands – can be considered risk-free. All the other bond issuers are at risk, as witnessed in their credit default

<sup>1</sup> On March 25, 2010, M. Trichet announced that the ECB would accept Greek bonds with a BBB- rating. Note that previously, the minimum rating had been A-. On May 3, 2010, the ECB declared that it would accept Greek bonds, irrespective of the rating.

<sup>2</sup> ECB statutes allow it to buy sovereign bonds on the secondary market. A European Council rule dated 1993 specifies, however, that this is no more than a tool meant to ensure the transmission of monetary policy.

<sup>3</sup> The implied rate on 10 year Greek bonds rose well above 20% after the purchase. They hit 37% by yearend 2011. Compare this with 8% in May 2010.

<sup>4</sup> The European Central Bank's May 14, 2010 decision established a securities markets program (ECB/2010/5). Article 1 of the ECB's Governing Council states that, "Under the terms of this Decision, Eurosystem central banks may purchase the following: (a) on the secondary market, eligible

marketable debt instruments issued by the central governments or public entities of the Member State whose currency is the euro, and (b) on the primary and secondary markets, eligible marketable debt instruments issued by private entities incorporated in the euro area."

<sup>5</sup> The Bank of Greece owes the ECB around €130 billion under Target 2. In total, the Greek government owes Eurozone governments and institutions €300 billion. The structure of the public debt's ownership is now diametrically opposed to what it had been in 2009 (€298 billion solely held by private investors). By November 2012, the outstanding debt of €287 billion was largely held by public sector interests.

swap rates. Investing in non-investment-grade bonds, the ECB simply bought time, allowing the private banks to exit the Greek mess and virtuous governments (including France) to enjoy low interest rates – a solution that did little to address the issue of Greek insolvency. In addition, given the risk of a Greek government default, it is possible that the ECB, with direct holdings of about \$45 billion along with another \$100 billion accepted as collateral, will lose much more than the €4.9 billion that the France's record rogue trader Jerome Kerviel ever did. The ECB's Council of Governors was totally inexperienced in real markets or bond trading. By 2013, the ECB's funds had dropped to €15 billion, with the whole of the Eurosystem holding no more

than €86 billion (January 22, 2013 ECB press release; January 18, 2013 consolidated Eurosystem financial statement).

### **Central bank acting on its currency: the example of the Swiss National Bank**

The strength of the Swiss franc took central bank innovation one step further. The Swiss National Bank decided in September 2011 to buy unlimited quantities of euros (funded by printing additional quantities of Swiss francs). This was a success, with the Bank generating profits of €6 billion in 2012, 80% from its euro purchases.

**Figure 3.** Non-standard bearers



### **Conclusion**

The paper's first section has given two reasons why central banks also bear responsibility for the financial crisis: 1) They failed to follow the Taylor rule in the 2000s, and 2) They forgot to focus on financial stability (and even worse, ignored the subprime and general property price bubble). Alongside of this, the financial system has also been the victim of a credibility paradox: actors' overconfidence in the stability of money caused them to under-estimate the real of risk-taking. Having said that, the central bank must all take responsibility at this level, given how entwined monetary and financial stability are with one another. Hence the need to also question the validity of the Tinbergen rule,<sup>1</sup> especially as an

instrument dedicated to short-term interest rate. The authors' view is that central banks became too focused on consumer price stability as their overriding objective, and on short-term interest rates as their prime tool.<sup>2</sup> As exemplified in the UK by the collapse of Northern Rock – and given the way the country had separated its banking supervision functions among three different entities (the Bank of England, Treasury, and FSA), it seems reasonable to conclude that there is a good case for giving central banks a central role in financial stability.

<sup>1</sup> Tinbergen categorized economic quantities into targets - macroeconomic variables that the central banker wishes to influence - or instruments, which are the variables that the central banker can directly control. According to the Tinbergen rule, achieving several targets simultaneously

requires the central banker to control an equal number of instruments.

<sup>2</sup> The job was facilitated by the astonishing number of citizens who admire central bankers unreservedly because of their supposed flair and great intelligence.



## 2. A New Theory of Modern Central Banking

*"Rules always come after the fact. They never precede it."*

### 2.1. A New Doctrine for Central Banking

*"Preventing is better than curing."*

#### 2.1.1. A fight against all forms of inflation

##### *Causes and measures of inflation*

Contrary to the pre-crisis doctrine<sup>3</sup>, it became clear that inflation<sup>4</sup> is not always a monetary phenomenon and that the recurrence of bubbles disproves the idea that financial markets are efficient. Monetary policy is not the only explanation for the low inflation of the 1990s and 2000s. Inflation was very low during this latter decade because of the glut of products, goods, and services on sale; the large supply of people seeking work; the trend since the 1980s towards greater market liberalization; the ongoing fluctuation in trade and financial flows; globalization in general; and the shifting balance of power (see Porter) between sellers and buyers. The question then becomes how to measure consumer inflation, a concept that is much broader than CPI alone. Inflation supersedes consumer goods (which are already difficult to measure) and might therefore be construed as phenomenon that destroys economic agents' wealth. A further complication is the way in which individual prices adjust to the presence of new products – not to measure the difficulties in measuring price-driven innovation and substitution<sup>5</sup>.

##### *Identifying and fighting asset price bubbles*

An asset bubble is "the part of an asset price movement that cannot be explained by fundamentals."<sup>6</sup> The question then becomes whether it is possible to detect a bubble before it bursts; whether the bubble should be pricked before it bursts by itself and whether monetary policy is the right means of bursting a bubble.<sup>7</sup> Similarly, the usefulness of *leaning against the wind* policies also needs to be

explored. It is clear that not all bubbles are necessarily dangerous and that a boom in asset prices must be followed by a crash.<sup>8</sup> A distinction should be made between bank-centered bubbles, which are speculative excesses caused by crazy bank lending (the subprime bubble), versus other kinds of bubbles, ones where banks play a minor role (stock market bubbles) and which involve stock valuation errors caused by the advent of a new business model.<sup>9</sup> The latter are not very dangerous (see the crash of 1987) – although it is true that the central bank has no specific advantage in such situations. Indeed, it is up to central bankers to identify which bubbles are dangerous, involving, for instance, excess debt or leverage.<sup>10</sup> Typically these are comprised of real estate and property bubbles, which are the most frequent cause of bubbles<sup>11</sup> due to their rent-to-price ratios and given households' debt levels.<sup>12</sup>

#### 2.1.2. Lender but not investor of the last resort: updating the Bagehot rule

*"The essence of central banking lies in its power to create liquidity, by manipulating its own balance sheet. The question is often asked whether a central bank that sets interest rates should also manage financial stability."*

CAE Goodhart, *The Changing Role of Central Banks*, p. 9

##### *Lender of last resort on the basis of solid guarantees*

In turbulent times, central banks should adhere to an updated Bagehot rule, lending to banks and non-banking institution but not necessarily at a penalty rate – as long as the old rule of secure collateralization is being respected. The United States and the United Kingdom, for instance, have been deeply affected by a problem of liquidity but do not face any solvency issues.<sup>13</sup> The situation in Greece is

<sup>3</sup> Mainly based on Friedman's famous assumption that "inflation is always and everywhere a monetary phenomenon", in *Inflation, causes and consequences*, 1963.

<sup>4</sup> Defined as a general rise in the price of goods and services.

<sup>5</sup> Along these lines, note the significant variation between current data sets and the findings of an IT system called John William's Shadow Government Statistics that reconstructed CPI data for the United States using methodology first developed in 1980.

<sup>6</sup> P. Garber, "Famous First Bubbles," *The Journal of Economic Perspectives* 4, no. 2 (Spring 1990).

<sup>7</sup> G. D. Rudebusch, "Monetary Policy and Asset Price Bubbles," FRBSF Economic Letter, 2005-18 (August 2005): 5.

<sup>8</sup> e.g., the developed world experienced 24 bouts of asset inflation between 1960 and 1995, yet these "bubbles" only burst on three occasions. See Bordo and Jeanne Boom, "Busts in Asset Prices, Economic Instability and Monetary Policy," CEPR Discussion Papers, 3398 (2002).

<sup>9</sup> Blinder (2008).

<sup>10</sup> Where credit funds the bubble and price changes are the main factor motivating highly geared buyers.

<sup>11</sup> See Reinhart and Rogoff, *The Aftermath of Financial Crises* (2009).

<sup>12</sup> In the case of a banking bubble, the central bank can raise their interest rates. However, this will not be effective, because of the probability of gain is always much more important than the capacity of the central bank to raise the short-term rate: who cares to borrow at 7% instead of 5% if the expected capital gain is to be +15% a year...

<sup>13</sup> This is especially true in the United States, which has a mandatory contribution level of only 27% versus 37% in the EU and 44% in France. It would be very easy for the US to cut its budget deficit by taxing the country's wealthier households.

completely different, however, given the problem at both a budgetary and national solvency level.<sup>14</sup>

### ***Never become the investor of the last resort for non-investment-grade assets***

During the 2008 crisis, the Fed and a number of other central banks strayed from Bagehot's doctrine by lending on a huge scale not only to the market but also to specific troubled institutions,<sup>15</sup> sometimes against questionable collateral.<sup>16</sup> This generally turned governments into investors of the last resort alongside central banks.<sup>17</sup> Having said that (and unlike the ECB's more than €100 billion in loans to Greek banks), most central banks would refuse to become investor of the last resort if the collateral on offer involved non-investment-grade junk bonds. In short, the central bank's role during times of turbulence might be to serve as investor of the last resort alongside its customary mission of coordinating services amongst the various private parties involved in a bail-out (as happened with LTCM in 1998). Otherwise, it might be to help the government – as the Fed did with AIG in 2008, when it judged that the company's financial and business assets were adequate to secure an \$85 billion credit line, thereby averting imminent failure.

### ***Currency interventions must be the exception, not the rule***

If the "Japanese monetary policy after 1985 had focused on stabilization aggregate demand and inflation, rather than being distracted by the exchange rate or asset prices, the results would have been much better."<sup>18</sup> Of course monetary policy per se - and central bank policy in general - has always had an impact on currency, explaining commentators' ritual talk about "wars" where each country tries to

devalue its national currency. In reality, central banks rarely target currency levels,<sup>19</sup> which constitute less a key mission for them than one indicator among many others. For instance, the ECB has only intervened on one occasion (in Autumn 2000) to buy the euro and sell another currency (the Swiss franc). "Our strategy is to have a strong, stable and reliable euro." The only exception to this rule was the Swiss National Bank's successful decision in September 2011 to buy euros to stop the Swiss franc rising above 1.20.

### ***2.1.3. Broadening central banks' mission***

Much as monetary policy is clearly a pre-condition for financial stability, macro-prudential regulation can be used to bolster monetary policy.<sup>20</sup> Prudential economic regulation is paradoxical, insofar as the better a regulator performs, the lower the demand for its services. Yet however well-informed a central bank may be, it does not necessarily follow that it has to supervise and regulate the whole of the financial sector. Instead, it should suffice to have good communication with the regulators.<sup>21</sup> In part, this is because the concept of financial stability is even harder to master than inflation, as seen above. All of which explains why central bankers' missions is already in the process of being expanded. Since the 2008 financial crisis, central banks have been assuming greater responsibility for bank supervision via the Financial Stability Board system. The Dodd-Frank Act reforming Wall Street and the Consumer Protection Act of 2010 have caused major changes in the missions and responsibilities of the Fed especially by making financial stability an explicit goal. For the tools, this bill fixes some new limits<sup>22</sup>.

### ***The ideal frontier between macro- and micro-prudential supervision***

Arguments about the micro-regulation role that central banks should play are well known and generally revolve around goals such as competency, harmonization, adaptation, economies of scale, allocations, having a unified vision and

<sup>14</sup> Theoretically, the primary surplus (i.e. the balance before interest on the debt) must exceed the GDP debt rate \* spread between the interest rate and the rate of GDP growth. In the current situation and even with a long term interest rate of about 4%, Greece needs a primary surplus of 8%, Portugal, 4%, Spain and Italy? (4%). Yet the Italian state is the only one in this position (explaining why rates on long-term Italian bonds are lower than the other countries). Regarding national solvency, the trade surplus (excluding interest on external debt) must exceed the external debt rate \* the spread between the interest rate and the rate of growth. It remains that all of the countries involved experienced an external deficit. Greece's external insolvency is particular high. Italy, on the other hand, is close to being balanced (given its external debt of only 20% GDP). That is why Greece is insolvent - and Portugal and Spain in great trouble - but Italy and Ireland are keeping their heads above water.

<sup>15</sup> AIG, Fannie Mae, Freddy Mac, etc.

<sup>16</sup> See ECB lending to the Greek banks against below investment grade Greek Government Bonds rated, in contradiction with standard collateralization policy.

<sup>17</sup> See the ECB's \$45 billion purchase of Greek bonds as well as the Fed and BoE's purchase of huge quantities of government bonds on the secondary market.

<sup>18</sup> Japanese Monetary Policy: A case of self-Induced paralysis, December 1999, page 3.

<sup>19</sup> With the recent exception of the Swiss franc and the decision by the Swiss National Bank to buy any amount of euros to stop the franc rising above 1.20 against the euro.

<sup>20</sup> As Bernanke explained in 2007, "The Fed's ability to deal with diverse and hard-to-predict threats to financial stability depends critically on the information, expertise and powers that it holds by virtue of being both a bank supervisor and a central bank".

<sup>21</sup> Note Northern Rock's problems in the UK in 2007, caused in part by poor communications between the FSA and the BoE, which takes responsibility for supervision and emergency lending facilities. 2007-2009 also saw the US having to develop mechanisms (like the Treasury Auction facility or the Primary Dealer Credit facility) to gain experience in financial system management.

<sup>22</sup> Such as the ability to lend and provide liquidity during a crisis.

transparency.<sup>23</sup> The same applies to the opposing arguments: excessive concentration of powers, bureaucracy, lack of competition, conflict of interest or reputational risk.<sup>24</sup> The solution might be a better relationship between macro-regulators and micro-supervisors.<sup>25</sup> In the banking system is considered a public good for macro-regulatory reasons, it makes sense for central banks to also be charge of supervising the whole of the banking system – or, at the very least, the biggest and most dangerous section, to wit, the systematically important financial institutions (SIFIs) that are too big to fail and must therefore receive specific supervision<sup>26</sup>. Above and beyond improving the regulation of SIFIs,<sup>27</sup> there is also a need to address systemic problems affecting smaller institutions (i.e. the 16 September 2008 run on money market mutual funds). Moreover, if interest rates stay low for too long a period of time, an asset price bubble will arise and the central bank might be expected to take on the responsibility of pricking this. In any event, the already strong relationship between macro and micro-supervisory authorities needs to be further improved.<sup>28</sup> Of course, besides from the SIFIs, macro-prudential policies should not affect individual financial institutions. Indeed, it seems appropriate to make an exception for these institutions, so that corrective action can be taken promptly if needs be. Financial stability is a systemic phenomenon and must therefore be subject to permanent not episodic control.

<sup>23</sup> "The regulator in charge of systemic stabilization – which we assume, for the reasons given, to be the central bank – should also be a direct supervisor of the main systemic financial intermediaries. It should also have unquestioned supervisory access to such other banks and intermediaries which it considers may cause, or be involved in, systemic problems. But it need not, and probably should not, be the sole supervisor of even the most important and largest banks." CAE Goodhart, *The changing role of central banks*, page 13. Micro-prudential supervision involves a different kind of expertise, lodged in France – where, with the exception of Dexia, the situation was less negative – in a specifically dedicated institution. In Ireland, on the other hand, this organisation was extremely costly.

<sup>24</sup> J. R. Barth, D. E. Nolle, T. Phumiwasana, G. Yago, *A Cross-Country Analysis of the Bank Supervisory Framework and Bank Performance*, 77<sup>th</sup> Annual Conference of the Western Economic Association International, Seattle, June 29-July 3, 2002

<sup>25</sup> In the United Kingdom, for instance. The pre-crisis relationship between Bank of England, the FSA and the Treasury had been poor, creating the conditions for the first bankruptcy of a bank since 1866.

<sup>26</sup> The Dodd Frank Act in the US, the Banking Act in the UK and the European Union Recovery Directive decided to improve the supervision of the about 28 SIFIs.

<sup>27</sup> Systematically Important Financial Institutions have been defined by the Financial Stability Board by 5 criteria: global activities, size, interconnections, substitutability and complexity.

<sup>28</sup> As an example, the UK Parliament took a radical decision in deciding that from April 2013 onwards, the BoE will resume the supervision and regulation of individual banks - a function it had lost in 1997 to the FSA.

## **2.2. Central banks' new aims and toolboxes in the 21<sup>st</sup> Century**

*"A central bank is a bank, not a study group."*

Lord Cobbold, former Governor of the Bank of England

### **2.2.1. Objectives and indicators**

#### **Consumer inflation**

The new inflation doctrine requires a new objective such as targeting a 2% inflation rate instead of zero, and the commitment to pay specific attention to certain types of bubbles. The concept of inflation must be reviewed and not only with regards to CPI (c.f. J. Williams work on Shadow Government Statistics).<sup>29</sup> The question then becomes whether the level of nominal GDP constitutes a better target than inflation alone – in which case, monetary policy must focus on growth in the monetary base.

#### **Tackling dangerous asset bubbles and assuming financial stability**

As defined above, an asset price bubble can be defined as unsustainable asset price changes associated with persistent credit growth and rising leverage.<sup>30</sup> The main macroeconomic indicators could include: increased credit, the size of banks' balance sheets (especially compared to GDP)<sup>31</sup> and financial institutions' average size. "It has been shown that an indicator defined to provide a warning signal when both the credit to income ratio and real aggregate asset prices simultaneously deviate by 4 percentage points and 40% respectively, from their trends, would have predicted 55% of financial crises three years in advance and the likelihood that this indicator triggered a false alarm has been at least historically very small (around 3%)."<sup>32</sup> Otherwise, "considering deviations of the credit to income ratio beyond a threshold of 4 percentage points alone as warning signal, would have predicted even 79% of financial

<sup>29</sup> Not to mention radical inflation control measures such as in Argentina, where Ms. Kirchner's government decided to grossly underestimate CPI levels of around 25% as closer to 8%, so as to save a few billion dollars in interest charges on domestic governmental inflation-linked bonds. When the director of the country's national statistics service protested, he was simply fired...

<sup>30</sup> The three conditions set by Rudebusch in 2005 in terms of when asset prices can affect monetary policy are: evidence of a bubble; whether bursting it will have significant macroeconomic consequences; and the certainty and low cost of rising interest rates.

<sup>31</sup> See Iceland, Ireland and UK in 2008 before the crisis, as well as Cyprus in 2013. In Mr. Volcker's opinion, the solution is to keep banks small.

<sup>32</sup> Trichet, *Asset Price Bubbles and Monetary Policy*, Speech at the Mas Lecture, Monetary Authority of Singapore, 8 June 2005, quoting C. BORIO and LOWE (2002)

crises, although in this case the indicator would have provided a false warning signal in 18% times.<sup>33</sup>

### **Supporting financial stability and growth**

Whereas one objective or indicator can be determined for inflation (at least CPI), the concept of financial stability is not as straightforward.<sup>34</sup> "The financial cycle is best apprehended as the joint behavior of credit and property prices. It has a much longer (and much greater) cycle than traditional business cycles. It is also closely associated with systemic banking crises, which tend to occur close to its peak. Financial cycles make it possible to identify permits the risk of future financial crises in real time and long in advance. They are deeply rooted in existing financial, monetary and real-economy policy regime."<sup>35</sup>

#### **2.2.2. New powers and strategies for central banks**

The question then becomes how monetary policy and macro-prudential policy might be combined as harmoniously as possible. The two interact frequently, insofar as monetary policy influences both asset prices and quality.<sup>36</sup> Hence the idea that a new macro-prudential approach might affect banks' attitudes towards lending.

##### **- Monetary policy**

The starting point here would be an updated Taylor Rule based on strict loan-to-value ratios because "We find robust evidence that lower overnight rates soften bank credit standards, both for the average and also for the riskier loans."<sup>37</sup>

##### **- Macro-prudential supervision**

The "leaning against the wind" strategy consists of cautiously raising interest rates beyond the level needed to maintain price stability over the short and medium term. According to Rudebusch, the fundamental difference between a standard and a bubble policy is that the former takes the bubble component essentially as given or exogenous, while the latter takes into account how the policy instrument can influence the bubble.<sup>38</sup> The decision

tree derived from this raises the question of whether policy makers are in a position identify a bubble. "The policy rate is a poor tool to deal with excess leverage, excessive risk taking, or apparent deviations of asset prices from fundamentals. Even if a higher policy rate reduces some excessively high asset price, it is likely to do so at the cost of a larger output gap."<sup>39</sup> A more traditional regulatory and prudential framework is needed to develop the macroeconomic dimension. Central banks have at their disposal a large array of tools they can use on SIFIs. They can require dynamic charging for risks, pro-cyclical capital, reserves, refinancing ratios, liquidity ratio loan-to-book ratio or living wills. The focus here is on addressing the financial system's pro-cyclical susceptibility. Reserves have to be built up in the good times before financial vulnerabilities grow. These will involve quantities such as capital or liquidity ratios, charges for risks, collateral and margining practices. Ultimately, banks need to develop closer relationship with the ir supervisors (Bank of England, Northern Rock)

##### **- Communications policy**

*"The basic idea is that if communications steer expectations successfully, asset prices should react and policy decisions should become more predictable. Both appear to have happened."*

Normally, when central banks make themselves more predictable to the markets, what they are doing is making market reaction more predictable to monetary policy to itself. After all, monetary policy is the art of managing expectations. According to Blinder et al, there are two types of communication: the creation of news (i.e. shifts in short-term interest rates); and reductions in noise (the way central banks talk increases the predictability of their actions by lowering market uncertainty).<sup>40</sup> In times of crisis, the most important thing is the credibility of the central bank<sup>41</sup>.

### **2.3. Governance in modern central banks**

It is up to politicians to establish central banking's institutional design. In a state of law, it is perfectly normal for central banks to be defined by the legislator, and for top officials to be nominated by elected officials based on their competency. The central bank should be created by lawmakers and both accountable (in terms of making disclosures) and answerable to them. It must also be independent

<sup>33</sup> Ibid.

<sup>34</sup> Financial stability can also be defined as the absence of instability, exactly as health is the absence of disease. Note that biological metaphors are anything but absurd - the social world is much more of a living entity than a mechanical one.

<sup>35</sup> C. Borio, *The Financial cycle and macroeconomics: What have we learnt?*, BIS working papers, December 2012, page 23.

<sup>36</sup> See A. Maddaloni, J. L. Peydro, and S. Scopel, *Does Monetary Policy Affect Bank Credit Standards? Evidence from the Euro Area Bank Lending Survey*, ECB Working Paper, 2009.

<sup>37</sup> Ibid.

<sup>38</sup> According to the definitions found in Rudebusch, "Monetary Policy and Asset Price Bubbles."

<sup>39</sup> Blanchard et al., "Rethinking Macroeconomic Policy," p. 11.

<sup>40</sup> AS Blinder, M. Ehrmann, M. Fritzscher, J De Haan, D-J. Jansen, *Central bank communication and monetary policy: a survey of theory and evidence*, NBER Working paper, April 2008, page 5.

<sup>41</sup> With Draghi July 26, 2012's declaration, the power of words became a reality for a central bank

enough, however to resist government's eternal request that it fund excess public expenses.<sup>42</sup> The core philosophy for a sound governance of central must be based on the following triptych: independence, accountability and competency

### **2.3.1. Central bank independence**

Some authors make a subtle distinction between "autonomy" and "independence".<sup>43</sup> From a theoretical perspective (and as has been widely documented in literature and history), independence is a precondition for a successful mission. It is vital because a central bank must be insulated from short-term political pressure in order to pursue its prime mission of ensuring price stability. Greater autonomy gives more power to prick bubbles. Empirical studies have corroborated this vision, with Arnone et al having revealed, for instance, a clear correlation between a country's level independence and its wealth<sup>44</sup>. Independence can still be questioned in countries lacking a real state of law<sup>45</sup> or full cultural independence (as is the case in Japan). A distinction can be made between political and economic independence, with the suggestion that political autonomy is real if (1) the governors and board are appointed for 5 years or more, (2) there is no requirement that government representatives be board members, (3) no government approval is required for the formulation of monetary policy, (4) the central bank is legally obliged to pursue monetary stability as one of its prime objectives, and (5) there are legal provisions strengthening the central bank's position in the event of a conflict with the government. A further suggestion is that economic autonomy be defined by (1) the impossibility for the government (in times of peace at least) to demand credit directly from the central bank, (2) when direct credit facilities are available they be extended to the government at market interest rates, (3) the central bank does not participate in primary public debt markets, and (4)

<sup>42</sup> In actual fact, transparency and independence are correlated since if a central bank is independent, it has a duty to explain its actions and underlying thinking.

<sup>43</sup> Arnone and Alii mention that, "Literature often use terms like 'autonomy' and 'independence' interchangeably. However, there is a difference between the two concepts as autonomy entails operational freedom, while independence indicates the lack of institutional constraints." M. Arnone, B.J Laurens, J-F Segalotto, M. Sommer "Central Bank autonomy: lessons from global trends", IMF Working paper, April 2007, page 5.

<sup>44</sup> M. Arnone, B.J Laurens, J-F Segalotto, M. Sommer "Central Bank autonomy: lessons from global trends", IMF Working paper, April 2007. How to measure independence? See Eiffinger and Gerrats 2006 How transparent are central banks? De jure? De facto? Regarding independence and financial stability, see Klomp and Haan 2009 Central bank independence and financial instability, Journal of Financial Stability 5 (4), 321-338

<sup>45</sup> See the Argentine government's decision - after dipping into private pension fund reserves for \$30 billion - to turn to central bank reserves, as well as the governor's refusal to countenance this action.

the central bank take responsibility for setting policy rates (5).

### **2.3.2. Accountability**

Accountability means much more than merely respecting procedures (box ticking). It implies transparency and explanation, as well as a willingness to disclose strategies and cooperate with authorities. In a developed country with a democratic regime, a central bank holding such power (and invested by the legislator with new missions) must be subject to review and held accountable by elected officials. This can also be done indirectly, based on full disclosure of the bank's terms and counterparties in their different forms; directly, through communications with citizens and increased transparency; and/or formally, through official hearings with elected bodies.<sup>46</sup> All in all, there has been tremendous progress towards greater accountability,<sup>47</sup> in line with guidelines once developed by Sir Montagu Norman.<sup>48</sup>

Accountability is also a way to get central banking to perform better, for example by publishing the minutes of each meeting promptly. "Besides satisfying the principle of democratic accountability, a more open policymaking process is also likely to lead to better policy decisions, because engagement with an informed public provides central bankers with useful feedback in the form of outside views and analyses."<sup>49</sup> Theoretical literature has yet to draw clear conclusions regarding the optimal level of transparency.<sup>50</sup>

<sup>46</sup> "As civil servants whose policy actions affect the lives of every citizen, central bankers have a basic responsibility to give the public full and compelling explanations of the rationales for those actions." B. Bernanke, FedSpeak, Meetings of the American Economic Association, Dan Diego, January 3, 2004.

<sup>47</sup> c.f. Sir Montagu Norman, "I don't have reasons, I have instincts." Also, "We achieved absolutely nothing, except that we collected a lot of money from a lot of poor devils and gave it to the four winds." Lastly, "Never explain, never apologise."

<sup>48</sup> A step towards greater public transparency: "In February 1994, the Federal Open market Committee (FOMC) began announcing its federal funds rate target decisions, with 'bias' assessment publications commencing in May 1999. February 2005 saw it expedite the release of its minutes to make them available before the next FOMC meeting... After November 2007, the Fed increased the frequency of its public forecasts and expanded their contents and scope. c.f. AS Blinder, M. Ehrmann, M. Fritzscher, J De Haan, D-J. Jansen, Central bank communication and monetary policy: a survey of theory and evidence, NBER Working paper, April 2008, page 3.

<sup>49</sup> B. Bernanke, FedSpeak, at the Meetings of the American Economic Association, Dan Diego, January 3, 2004.

<sup>50</sup> Carin van der Cruisjen and S Euffinger, The economic impact of central bank transparency, A survey, CEPR Discussion Paper, n° 6070, 2007. According to Blinder, Ehrmann, Fratzscher, de Haan, Jansne (2008) Central bank communication and monetary policy: a survey of the evidence Journal of Economic literature, American Economic Association, vol46, n°4, pp.910-945, there are no optimal level of transparency.

### 2.3.3. Composition of board of governors

Central bank board member's key qualities remain the same as before: honesty/integrity; collegiality (given the diversity of views and opinions likely to exist among members of large committees); and competency. The new missions will, however, have some major effects on the composition of the board. To achieve collegiality, board members should have had a wide variety of professional experiences. Hence concerns about the ECB's current board, with this uniformity<sup>51</sup> potentially key factor in one of the main errors that it has committed in recent years, namely the decision to buy Greek bonds on the secondary market from May 2010 onwards. Each of the ECB's 22 members (6 members of the directory and the 17 national central bank governors) seems honest<sup>52</sup> and serious but none has any real experience of the financial markets.<sup>53</sup> Yet it should be possible to get people with all three qualities. The question is members' level of competency not only in terms of the ECB's core business (anyone with some experience of a national central bank should know how to use conventional monetary policy) as well as their experience in making massive purchases in one of the world's deepest markets.

### Conclusion: A New Framework for a Modern Central Banking Pyramid

*A more German(e) mission...* The paper concludes with some important conclusions regarding the doctrine, objectives, indicators, strategies and tools (with a clear doctrine corresponding to a clear box of tools) applicable to modern central banks in developed countries.

### *The foundations of the new central banking doctrine*

Central banking is still considered as an art<sup>54</sup> (grounded in central bankers' experience and seriousness) than a science.<sup>55</sup> From an economic and management perspective, central banks are clearly being run better (largely because they have learned from past mistakes) and it reasonable to consider that central bank management might qualify as a new

discipline taught at business schools. Similarly, there is no doubt that research has helped central bankers. Their doctrine has had to be adapted to the globalization of the world economy and the growing sophistication of the financial world. Henceforth, it will have to be based on two missions: price stability; and financial stability (the latter a revolution in central banking theory). Central banks must remain a lender but not an investor of the last resort - or at least, they should never invest in non-investment grade assets. It is true that in extreme cases like AIG, their expertise might help them to assume an investor of the last resort's role). In general, however, it is up to the state to fulfill this mission. Nor should central banks receive a hierarchical mandate, if only because they operate in a two-pillar rather than a pyramid framework. Macro-prudential supervision is acceptable - possibly involving SIFIs, due to the systemic risks they incur - but not micro-supervision, which in France is the job of an expert body such as ACP. Above all, central banks must stick to the Taylor rule. It must be clearly stated that they cannot buy non-premium government bonds (i.e., governments bonds where there is a reasonable risk of failure). There are clear flaws in the new strategy that the ECB pursued from May 2010 onwards - involving the purchase of €200 billion in government bonds issued by fragile Eurozone countries (above all, €45 billion of Greek securities). Of course, this is much more an issue of credibility than a financial one due to the fact that central banks can in fact operate perfectly well in a situation of negative equity.

### *Objectives and indicators*

The two core missions (monetary and financial stability) are also means to detect and alleviate pressures on the global financial system. This too must also be upgraded. For instance, with regards to inflation, central banks must define a CPI target, which might be the same as the customarily tolerated core inflation of 2%. They must also add a new objective, namely the identification of asset price bubbles, often caused by excess credit and leverage that can be dangerous for financial stability. Employment (at around 6.5%) and credit levels should also become key indicators. It must be clear, on the other hand, that currency parities must not become an objective.<sup>56</sup> Lastly, with respect to the 2% inflation target, it is worth noting that for the FED, the core PCE (Personal Consumption Expenditures) remains more important than the CPI.<sup>57</sup>

<sup>51</sup> One anecdotal problem is the total absence of women on the ECB's board in 2013.

<sup>52</sup> Integrity is the first quality and the reason why the former President of the Swiss National Bank had to resign after news broke that his wife was possibly involved in insider trading.

<sup>53</sup> The fact that Draghi had been an employee of Goldman does not constitute proof given that what Goldman bought with Draghi's addresses and reputation was no more than a trophy asset. He never had any operational responsibilities, meaning that - fortunately enough - real business remained under practitioners' control. Of course, this era Goldman suffered a great deal of criticism given the possible conflict of interest.

<sup>54</sup> See quote from Montagu Norman.

<sup>55</sup> See Leeper (2010).

<sup>56</sup> Even in a historical situation such as the German unification, parities were not decided by the central bank, with Bundeskanzler Kohl being the one who decided to maintain the official (and totally unrealistic) *pari passu* rate - a nonsense in economic terms given that a black market rate of 1 Deutsche mark for 50 Ostmarks. This was a quintessentially political decision aimed at averting a mass exit from East to West Germany.

<sup>57</sup> See differences

### ***Consequences for governance***

The foundations of the new doctrine, based on independence, responsibility, accountability<sup>58</sup> and transparency, is in need of upgrading. Independence must be safeguarded and responsibility improved through greater transparency and a strategic use of central bank communications. Collegiality and competencies are two additional criteria of good governance, as is an adapted composition of central bank board (with members characterized by their competency, integrity and ability to work with one another. The new doctrine should promote a more varied membership, not only in terms of gender but to avoid the “consanguinity (propinquity) syndrome” where the only individuals selected are former civil servants with no real experience, for instance, of trading or financial analysis.

Bernanke was right to say that, “Specifying a complete and explicit policy rule, from which the central bank would never deviate under any circumstances, is impractical. The problem is that the number of contingencies to which policy might respond is effectively infinite (and, indeed, many are unforeseeable).”<sup>59</sup> Central banks must not be constrained by overly stringent rules if they are to maintain the capacity for flexibility that they successfully manifested in 2007-8 when they put out of the fire ranging through the world’s financial systems. Safeguarding and reinforcing central banks’ main asset - their credibility – is the key challenge of our times.

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<sup>58</sup> Accountability to elected entities is of course important for legal reasons, but also for practical ones: *Rendre compte, c’est se rendre compte*

<sup>59</sup> Bernanke, *Fedspeak*, Remarks at Meetings of the American Economic Association, San Diego 2004