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**What went wrong?**

**Alternative interpretations of the global financial crisis**

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In cooperation with

# What went wrong? Alternative interpretations of the global financial crisis

*Jan Priewe<sup>1</sup>*

## **Abstract**

*This paper first reviews different interpretations of the global financial crisis of 2008-2009 (and its aftermath), focusing on the proximate causes in the financial sector of the United States. However, behind the immediate causes lie ultimate causes without which the crisis cannot be properly understood. These were mainly the global imbalances in trade and in cross-border capital flows, the systemic root of which lies in what the paper refers to as a “new Triffin dilemma”. This dilemma relates to the shortcomings of the present global currency system that uses the United States dollar as the key reserve currency, which has to serve both national and global objectives. Other ultimate causes are the trend towards a finance-driven capitalism in many OECD countries, most pronounced in the United States, and the trend towards greater income inequality, which dampens aggregate demand and contributes to financial instability as well as global imbalances. The confluence of the proximate and ultimate causes paved the way for the crisis.*

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## **Introduction: What went wrong?**

The financial and economic crisis of 2008–2009 is not well understood in the media, in politics or in academic discourse, like the Great Depression, the causes of which continue to be discussed today. The public tends to search for the guilty without necessarily understanding the complex causes of the disaster. Many believe that the culprits were the bankers, their bonuses, their greed, fraud, corruption and speculation. Others hint at human failures: contingent decisions like the refusal to bail out the investment bank Lehman Brothers, which triggered an avalanche of failing financial institutions. According to Alan Greenspan, it was hard to avoid this “hundred year flood” (Greenspan, 2010). Much of this is neither right nor wrong. We have witnessed a systemic crisis in which many factors interacted. How could such greed emerge that did not exist before? How could a crisis in a small segment of the financial markets (i.e. subprime mortgages) turn into a deep global recession, with losses of gross domestic product (GDP) amounting to nearly 10 per cent of global output in 2008–2010,<sup>2</sup> not to mention the loss in values of assets and the astronomical bills to be paid later? Why do the shareholders of profit maximizing corporations tolerate such high bonus payments? It seems that the search for scapegoats targets only the tip of the iceberg. Is the gist of the matter still hidden?

In academic discourse, other interpretations of the causes of the crisis predominate, which focus on the financial sector – primarily in the United States – or on supervisory authorities, or on the trend towards deregulation since the 1970s – especially under the George W. Bush Administration. Others blame what they consider the excessive monetary policy of the Federal Reserve between 2002 and 2004 (Hellwig, 2008; Krahen

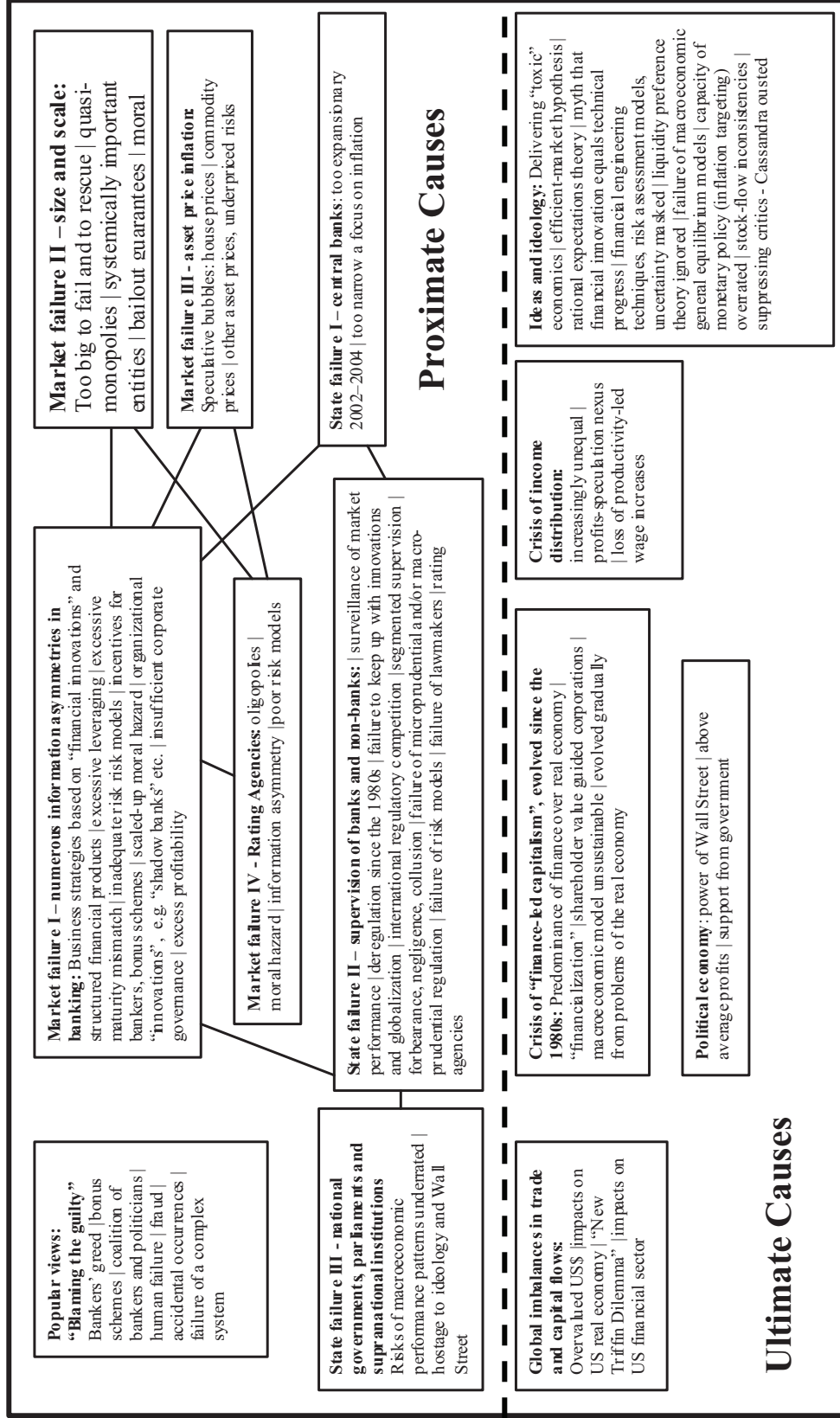
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<sup>2</sup> If global growth had continued at the 2007 rate of 5.2 per cent, world GDP would have been 16.4 per cent higher in 2010. However, it grew by only 3 per cent in 2008 and by 0.8 per cent in 2009, and is expected to recover somewhat with a projected 3.9 per cent growth in 2010, according to the IMF (2010a). This means a loss of about 10 percentage points of GDP relative to the previous growth trend. Moreover, without countercyclical policies the losses would have been much higher.

and Franke, 2009; Sinn, 2009; Posner, 2009; Taylor, 2009). Yet others, like Borio and Drehmann (2009) and Reinhart and Rogoff (2009), hold that most financial crises in history evolved from previous excessive credit lending and asset price bubbles. The patterns of emergence and unwinding of the major financial crises in emerging and industrialized economies in the past few decades (e.g. Japan in 1992, the Asian crisis in 1997–1998 and Argentina in 2001) are similar to those of the subprime crisis. In phases of boom, the confidence that “this time is different” prevails until the crash disabuses all. Those who cite a lack of macroprudential surveillance by banks have emphasized that the risks of the bubble were not recognised in time (Brunnermeier et al., 2009; Goodhart, 2009). Here, in the lack of macroprudential surveillance lies the predominant answer, as expressed by the G-20 meeting in Pittsburgh in 2009 and by the Financial Stability Forum (2009). Although interesting, it falls short of explaining the full scope of what happened.

Most observers exclude the role of global imbalances in trade and capital flows as a major cause of the crisis. Some cite a “global saving glut” as one of the causes, but fail to explain what this really means. Furthermore, most observers fail to consider that the roots of the financial crisis lie in a pattern of macroeconomic and structural development that has been described as finance-driven capitalism. This pattern has led to seemingly ever-increasing income inequality in most OECD countries. Here, some deeper underlying causes are addressed, which emerged in the past decades with the concomitant financial vulnerability of developed economies. It can demonstrate only that a financial crisis of this type *could* happen, but not that it *did* happen and in the specific manner of the latest crisis.

**Box 1: Causes of the systemic crisis: market and State failures, and basic underlying structural distortions**



This paper distinguishes between proximate and more structural or ultimate causes of the financial crisis (see box 1). Global imbalances in trade and capital flows, globalization of financial markets, the trend towards a new finance-led capitalism and the related pattern of income distribution constitute what I consider to be the ultimate causes. If these ultimate causes prove valid, different conclusions can be drawn as to how to prevent similar crises in the future, including rebalancing the global economy, reconsidering globalization, definancialization of the advanced type of capitalism, and new patterns of income distribution. This paper focuses on global imbalances. Those who emphasize only the proximate causes tend to adopt a narrow view that focuses on what happened in the United States. They view the United States (with some careless free-riders from abroad) as being at the origin of the crisis, which was then transmitted via different channels of contagion into a global crisis affecting the real economy. However, from the structural point of view, the turmoil in the United States occurred in a detrimental global environment. Hence the origin of the crisis can only be understood as the confluence of national and global determinants.

Finally, part of the ultimate causes are the power distribution with respect to the financial sector, relative to the State/government and relative to other sectors, and the negative impact of “toxic ideas” – economic theories and concepts that provide the dominant wisdom shared by the majority of academic professionals, practitioners in the financial industry and policymakers. However, a discussion of these aspects is beyond the scope of this paper.

The paper is organized as follows: section 1 reviews prevailing analyses of the proximate causes, followed by an analysis of global imbalances (section 2) and the insufficient global financial architecture, characterized here as a “new Triffin dilemma” (section 3). The role of finance-led capitalism and an increasingly skewed income distribution is roughly sketched in section 4, and section 5 concludes.

## 1. Prevailing explanations of the causes of the crisis

### 1.1 Various explanations focusing on financial markets

Apart from apportioning blame to greedy and, in some cases, fraudulent bankers,<sup>3</sup> most analyses focus on proximate causes within the financial sector, especially in the United States. These mainly relate to four forms of market failure and three types of state failure.

#### 1.1.1 Market failures

The classical market failure (see item I in box 1) stems, first of all, from the typical information asymmetry in financial markets, normally discussed as prevailing between banks and debtors. Generally speaking, it can be conceived of as information asymmetry between banks and all their customers, which can lead – intentionally or unintentionally – to obscuring risk. A very important information asymmetry concerns risk assessment of financial products by financial institutions. This knowledge is, similar to a patent, only partly available to the public, and perhaps is not completely known even by rating agencies. Furthermore, risk assessments are normally of a microeconomic nature: they do not capture *mass* undervaluation of risk in good times. This is prone to creating the risk of moral hazard unless banking regulations can prevent it. A related type of market failure can stem from financial innovations which are inherently opaque instruments prone to risk, especially if there is no prior experience of using such instruments. This can be considered a special form of information asymmetry.

If banks or non-banks have become too big to fail, or too big to be rescued (e.g. Lehman Brothers), exit strategies become either intolerable due to extreme collateral damage, or bailouts are so costly that there is no alternative to allowing bankruptcy. This dilemma, beyond all principles, underlies a competitive market economy. Often, it is associated with a high degree of monopoly in the financial sector (see item II in box 1).

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<sup>3</sup> At the time of writing, there are ongoing investigations by the United States Securities and Exchange Commission (SEC) against Goldman Sachs and other major banks. Also, the United States Senate Judiciary Committee's Subcommittee on Crime, is looking into the practices of these institutions. Yet most conventional economists have tended to ignore the issue of financial crime and fraud (Galbraith, 2010).

Speculative asset price inflation can be considered another type of market failure, which can induce large-scale misallocation of capital and huge collateral damages after the bursting of a bubble (item III). In this respect, the inefficiency of financial markets may be viewed as a market failure, in addition to traditional typologies of market failure in microeconomics. Finally, oligopolistic rating agencies which collude with their clients are likely to be biased, and if they suffer from information asymmetry, they may tend to spread false information with highly negative external effects (item IV).

### *1.1.2 State failures*

If market failures exist, they should be cured or mitigated by government regulations, specifically in the financial sector. Three types of state failures, including false policies, are under discussion. First, many observers believe that monetary policy was too expansionary after the terrorist attacks in New York in September 2001 and the bursting of the dot-com bubble. Too much money in circulation had fuelled asset price increases, and not inflation, which was checked by global competition (Taylor, 2009). Implicitly it is held that the Federal Reserve, or central banks in general, can avoid both inflation *and* asset price bubbles if they strictly follow the Taylor rule.<sup>4</sup> However, if this proposition does not hold, and if neither the Federal Reserve nor the government cares about asset inflation, and if the central bank narrowly focuses on inflation-targeting (i.e. consumer prices), there would be no instrument to counter speculative bubbles, although these can have a severe macroeconomic impact. In the case of the Federal Reserve, its former chairman, Alan Greenspan, and his successor, Bernanke (and many others), believed that monetary policy should target only inflation, and that burst bubbles could be dealt with by a proactive monetary policy of low interest rates, as in 2001–2002, sometimes referred to as the “Jackson Hole doctrine”. This doctrine believes in the omnipotence of monetary policy, categorically ruling out such

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<sup>4</sup> The Taylor rule stipulates that the interest rate should be determined solely by the equilibrium short-term interest rate plus the weighted average of the inflation gap and the output gap. The Federal Funds Rate, which should have averaged 3.8 per cent during the period 2002–2005, according the Taylor rule, averaged in actual fact 1.8 per cent (Taylor 2009).



problems as liquidity traps, credit crunches and systemic financial instability.<sup>5</sup> In short, modern central banking claims that “it cannot happen again”.

A second, much-discussed state failure is the shortcomings of banking supervision, not only in the United States,<sup>6</sup> due to gradual deregulation over several decades, segmented authorities and lack of international cooperation causing regulatory arbitrage – all promoted and legitimated in the belief that financial markets need to be free in order to thrive. A number of authors (e.g. Brunnermeier et al., 2009) focus on the lack of macroprudential supervision rather than on traditional microprudential supervision. Even if all banks were sound, there could be risk at the macro level due to small changes on a broad scale – a fallacy-of-composition problem. *Macroprudential* supervision would be a novel type of regulation, probably best undertaken by central banks. This type of regulation would require new instruments, which could be in conflict with monetary policy and involve a number of open issues. Besides, given the number of shortcomings in traditional microeconomic banking supervision, the sudden call for a new regulatory approach is surprising. There is considerable agreement that traditional regulation has not kept up with financial innovations.

A third type of failure pertains to government policy and the respective parliaments, which deliberately promoted financial deregulation in the United States following pressure from the Wall Street lobby, and opposed coordinated international financial regulation. Posner (2009: 269) argues convincingly that the Administration under President George W Bush consistently ignored problems in the financial market, in particular the looming housing bubble. After the eruption of the subprime crisis, the handling of the problems in the initial phases was insufficient and imprudent, culminating in the decision to let Lehman Brothers go bankrupt,

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<sup>5</sup>To cite Alan Greenspan’s take on bursting bubbles: “Assuaging their aftermath seems the best we can hope for” (2010: 46).

<sup>6</sup> Although the United States was at the epicentre of the crisis, and banking regulation in most other OECD countries was not as lax as in the United States, the high level of financial integration in the world today resulted in immediate contagion. With financial globalization, national regulation becomes extremely porous due to open borders and a lack of transnational regulatory institutions.

and then failing to recognise that not only a liquidity crisis but also a solvency crisis had emerged.

### *1.1.3 Ongoing debate*

There appear to be three areas of ongoing debate about the proximate causes. The first area concerns the massive bonus payments. There can be no question that short-term incentives for bankers contributed to risk taking and speculative behaviour, although the incentives were designed to prevent this and to make bankers accountable for misbehaviour. The underlying questions relate to the corporate governance of financial institutions – why shareholders did not voice concern – and the enormous profits made by them, with much higher returns on equity than elsewhere in the economy. The latter can, in principle, be due to their incurring higher risks, to monopoly power (including rent seeking), windfall profits based on extraordinarily high demand for financial services, technical progress (due to innovations) and/or creative accounting practice, apart from fraud. All of them may have contributed to the crisis, and should have been a matter of concern for regulators and governments, but were not. However, fixed salaries and small bonuses would not have prevented the crisis.

The second area of debate concerns monetary policy. Blaming the Federal Reserve for maintaining excessively low open-market interest rates that triggered an increase in asset prices implies that central banks can and should target money aggregates, and that they know how much money fuels inflation and to what extent asset prices. There is no theoretical or empirical basis for such assumptions. There is no clear-cut causal relationship between short-term rates, broad money and asset prices. Demand for mortgages depends on long-term rates which do not follow one-to-one with short-term rates, and which were somewhat reduced by excessive external demand for bonds, as pointed out rightly by Greenspan (2010) and others, as against Taylor (2009) who criticized the Federal Reserve for an excessively easy monetary policy between 2002 and 2005. But the simple truth is that the arsenal of tools of modern and powerful central banks includes no suitable instruments for fighting housing bubbles or other asset price booms. Commercial banks tend to behave procyclically, with increasing leveraging during business cycle booms. If the

Greenspan-Bernanke doctrine – that an activist expansionary policy can easily pull the economy out of recession – is no longer tenable, new tools for a pre-emptive policy to curb speculation need to be invented.

The third issue of debate concerns re-regulation of the financial sector. Some emphasize the necessity for macroprudential supervision, but the design is not yet clear. This could involve a rule- (or principle) based countercyclical leverage prescription for banks, provision of equity buffers or a return to the Glass-Steagall Act,<sup>7</sup> but also asset-based reserve requirements (Palley, 2004). Others call for a better coordinated and stricter conventional form of microeconomic supervision, supported by rules for approval of new financial products (e.g. proposed by the German Chancellor Angela Merkel). Some question the present business model and call for much narrower banking and the abandonment of a number of unnecessary financial services. In their view, today's financial industry is overstretched and constitutes a deadweight for the economy. Many hold that common minimum rules have to be found on an international scale, requiring a global supervisory institution (Reinhart and Rogoff, 2008).

Some in the banking industry argue that very fundamental regulatory reforms could throw the baby out with the bathwater and that only minor reforms are necessary. In their view, it was mainly the failure of Lehman Brothers, based on a disastrous political decision, and the often unprofessional and late policy responses of the Administration of the time, which amplified the crisis (vividly described by Posner, 2009: 269).

### *1.2 Alan Greenspan's view*

Of special interest is Alan Greenspan's (2010) interpretation of the crisis, which seems to be shared, more or less, by other influential economists (see, for example, Mankiw, 2010). Greenspan contends that it was the long-standing trend towards low, long-term real interest rates on a global

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<sup>7</sup> This Act, which took effect in 1933, introduced the separation of commercial and investment banking, and it founded the Federal Deposit Insurance Corporation (FDIC) for insuring bank deposits.

scale that triggered house price inflation worldwide, with a few exceptions (e.g. Germany, Japan and Switzerland). This trend emerged from the aftermath of the Cold War, when countries like China, and later the Russian Federation, started to produce at low prices for the global market, and global saving exceeded global investment,<sup>8</sup> mainly driven by some developing countries which achieved double the GDP growth rate of developed countries between 2000 and 2007 (“saving glut”). All this, sometimes referred to as the “the Great Moderation”, led to low global inflation and then to low long-term real interest rates.

The acceleration of house price inflation in the United States, which originated in the initially small subprime market segment, came with widespread securitization activities by financial firms that faced strong demand for such structured, highly profitable products. According to Greenspan, the demand came mainly from the government-sponsored enterprises, Fannie Mae and Freddie Mac, which claimed to have been pressured by the Department of Housing and Urban Development to increase the provision of affordable housing (but with no mention of who pressured the Department). In addition, strong demand came from domestic and European financial investors. Grossly inflated credit ratings, deteriorating loan underwriting standards, underpricing of risks, and a general “irrational exuberance” unfolded. Greenspan claims the bubble was easy to identify relative to historical measures, but not the point in time when it would burst. Besides, almost all experts were sanguine, both inside and outside the United States, including a number of Nobel laureates. There was an overwhelming trust in “our highly sophisticated global system of financial risk management to contain market breakdowns” (Greenspan, 2010: 11), which made use of data covering the past few decades (backward looking), so that signs of systemic risks went undetected.<sup>9</sup> However, as noted by Greenspan (2010: 12), “the risk management paradigm nonetheless, harboured a fatal flaw.” Greenspan hints at the “indecipherable complexity of ... financial products and markets that

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<sup>8</sup> Greenspan (2010) refers to intended saving and investment.

<sup>9</sup> IMF staff wrote in April 2007: “...global economic risks have declined since ... September 2006 ... [T]he overall U.S. economy is holding up well ... [and] the signs elsewhere are very encouraging” (IMF, 2007, xii). See also Reinhart and Rogoff, 2009: 214.

developed with the advent of sophisticated mathematical techniques to evaluate risk.” In a footnote he adds the telling insight: “I often argued that because of the complexity, we had to rely on an international ‘invisible hand’ to bring equilibrium to such undecipherable markets. The high level of market liquidity (erroneously) appeared to confirm that the system was working.” (Greenspan 2010: 12) This appears to be no different from the famous 2007 remark by Charles Prince, former chairman of Citigroup: “When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you’ve got to get up and dance. We’re still dancing.” Did this represent a stubborn belief in equilibrium instead of a sober analysis and responsible governance? Was Greenspan an ideologue – an “animal spirit” of market-fundamentalist policymakers?

Greenspan continues that the crisis was a “hundred year flood” that, under the circumstances – excessive leveraging, two decades of unrelenting prosperity with low inflation and low real interest rates – was impossible to prevent. He asserts that bank regulation is incapable and fundamentally inferior to big banks. And he proposes mainly higher capital-asset ratios and a requirement for all financial intermediaries to hold contingent bonds that can be converted to equity if more equity is needed, as well as increased collateral requirements for globally traded financial products.

Greenspan’s statement is indeed revealing if it is representative of the views of leading central bankers and policymakers. Many questions arise: Why do low real interest rates compellingly ignite housing bubbles? Why did supervisors and the Federal Reserve not take action against excessive financial leverage or propose new tools? Why was the mushrooming of the subprime segment in the mortgage market and the excessive securitization tolerated or even promoted? Why was risk management so fundamentally flawed? Why was there no mention of the unregulated market for derivatives – mainly credit default swaps? Why were all of the many measures of financial deregulation over the past few decades not addressed? And why was the excessive debt-led consumption excluded from analysis? The “saving glut” approach is highly opaque (see below). What is evident, however, is the economic mismanagement in the United States after 2001, the unshaken belief in the wisdom of financial markets and their market makers, as well as a compla-

cent belief in the power of the Federal Reserve, and simply the overwhelming belief that “it” cannot happen again.

### ***1.3 Beyond the proximate causes***

Without going into the details, summarized below are what could be considered the proximate causes of the financial crisis in five key areas:

1. The starting point was a classical asset price and speculation crisis that emerged in the United States housing market in 1995 and accelerated after 2001. This was facilitated by an ill-designed policy and uncontrolled excessive securitization by the financial industry. The bubble burst due to a monetary stance of increasing interest rates necessitated by global inflationary pressure. This in turn led to a banking crisis, including a liquidity and solvency crisis.
2. The housing bubble translated into the build-up of a financial house of cards comprising multiple securitization, collateralized debt obligations (CDOs) and credit default swaps (CDS). This represented an enormous extension of the derivatives markets, in part facilitated by shadow banks (so-called “special investment vehicles”) and non-banks such as hedge and pensions funds. Extreme leveraging, excessive maturity risks and considerable overall risk taking occurred, as in many historical boom-bust cycles.
3. The methods of risk assessment by bank managers for their financial products and for the banks themselves, based on mainstream thinking in the economics profession, were systematically flawed. The underestimation of risk was masked by mass demand for “toxic” assets.
4. Until the failure of Lehman Brothers in September 2008, there was a general misjudgement of the accelerators in the spreading of the financial crisis to the national and global economy, especially the role of vulnerable interbank money markets (Brunermeier 2009).
5. Traditional banking supervision had not kept up with financial innovations and the ever-increasing complexity of the financial in-

dustry, either in the United States or in most other OECD countries. This holds true also for supranational institutions, specifically the IMF, which was not aware of the inherent risks of financial globalization.

However, all the above-mentioned factors do not capture the essential reasons which established the preconditions for the financial crisis and subsequent widespread recession. They are at best half the story. Most of these factors focus on microeconomic aspects and on the supply side of financial products. They neglect to explain the huge demand for risky assets, and thus lead to underestimating the enormous scale of demand and supply – and therefore the magnitude of the financial house of cards. Indeed, the United States banks themselves created a big chunk of the demand for structured financial products, using the Federal Reserve's money creation and the money markets. But private domestic net saving was small and shrank to a negative value, despite huge government budget deficits, even during the upswing after 2001. International saving consistently compensated for the shortfall in domestic saving since the mid-1990s until 2006, which was reflected in a rising capital-account surplus – the flipside of the rising current-account deficit. This international saving flooded the United States economy, providing an enormous, ostensibly infinite, source of funds for the various financial markets. On the one hand, the United States – and to a lesser extent the United Kingdom – became the global magnet for capital flows for risky or semi-risky investments (Gros, 2009). The risks were systematically underestimated as long as masses of financial investors participated; they swam, so to speak, with the tide. On the other hand, the United States also attracted risk-averse finance on a large scale, specifically the currency reserves of surplus countries.

The increasing and cumulating financial inflows enabled private households to lower their saving rate and indulge in a consumption frenzy, encouraged by rising house and other asset prices that signalled a new age of wealth. The growth pattern of the United States in the pre-crisis period, since the 1990s, was grounded in consumption dynamics, housing investment and government spending; whereas domestic non-financial fixed investment remained weak, even though it was urgently needed to cope with problems of deindustrialization. This macroeconomic constel-



lation would not have been possible without massive capital inflows from the rest of the world.

The reputation of the dollar, the main global reserve currency, lowered the currency risk to foreign financial investors. This currency bonus contributed to the taking of excessive risks by financial investors from abroad, since the United States was considered immune to a currency crisis, and since the Federal Reserve and the Government were believed to be capable of managing bailouts should they become necessary. Similar to almost all other financial crises in recent decades, excessive current-account deficits had been early warning signs of macroeconomic turmoil (Reinhart and Rogoff, 2009: 204). The narrow focus on the financial sector blinded observers to the shaky global environment. These problems have been much discussed under the heading of “global imbalances”. But the causal nexus of these imbalances with the emergence of the financial crisis needs to be explored in greater depth.

## **2. The role of global imbalances**

Global imbalances are normally understood as the confluence of high and increasing current-account surpluses in some countries and the huge current-account deficit of the United States, along with some other smaller deficit countries (see figure 1). At the peak of the imbalances in 2006, the United States absorbed 60 per cent of all surpluses, whereas China, Germany, Japan and six other countries – mainly oil exporters – generated 75 per cent of all surpluses before the crisis (figure 2). China’s much discussed surplus accounted for 19 per cent of the aggregate surplus, while Germany<sup>10</sup> and Japan together accounted for 25 per cent. There were also 45 small, mainly strongly performing developing countries which made up the remaining quarter of total surpluses. In the group of deficit countries, there were a few other developed economies besides the United States (mainly Australia, Italy, Spain, Turkey and the United Kingdom) which had a combined share of 22 per cent of deficits, and 75

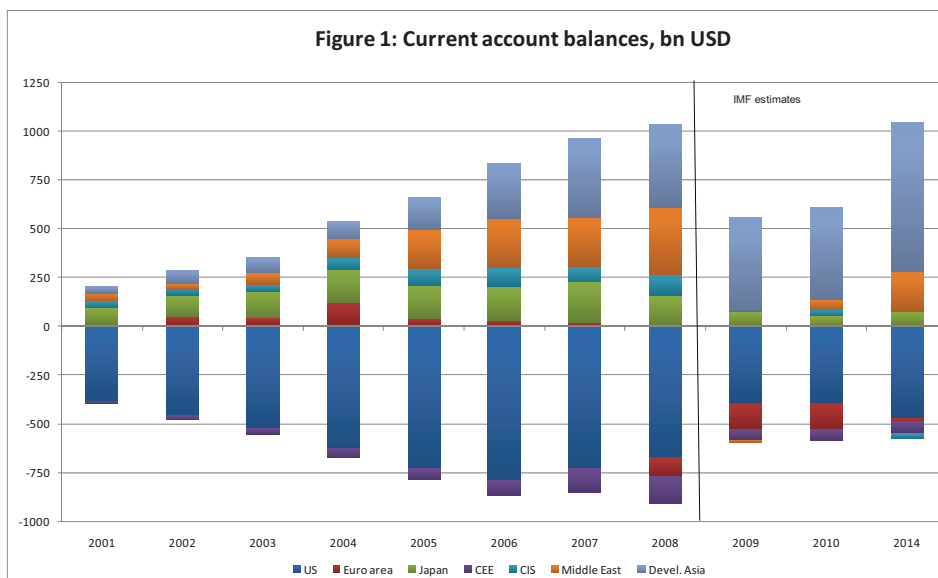
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<sup>10</sup> Germany’s huge surplus is mainly absorbed by deficits in the euro zone, which has an almost balanced current account.

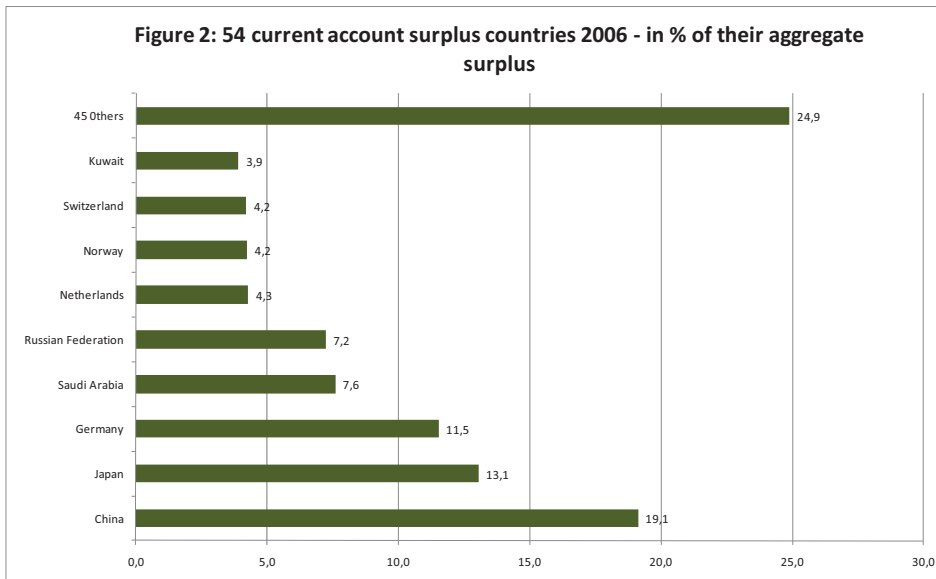


small, mainly developing countries, which accounted for another 17 per cent of deficits (figure 3).

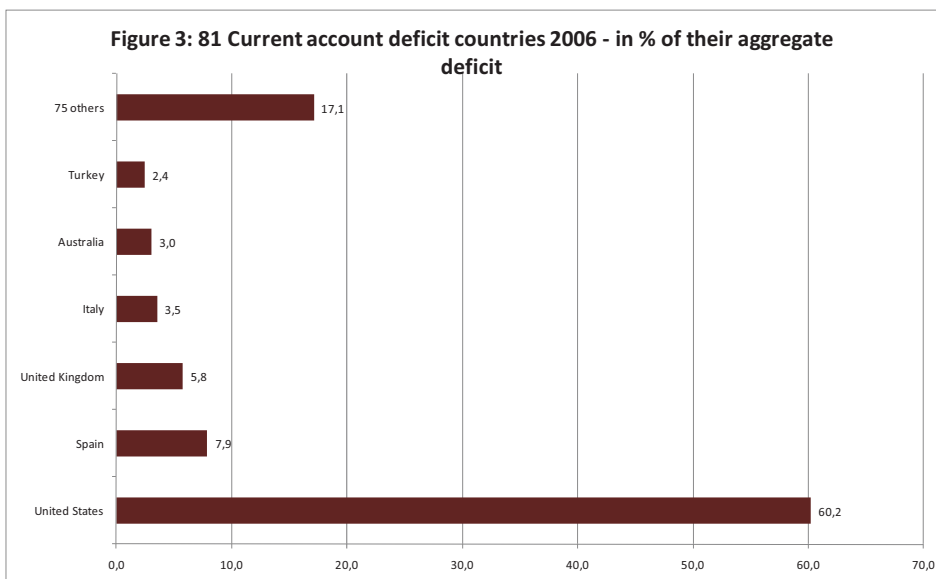
The United States deficit grew continuously from 1991, reaching a peak in 2006 (figure 4). Since the mid-1980s, the United States had turned into an ever-growing net debtor country, with a net debt of around 20 per cent of GDP prior to the crisis. During the crisis, imbalances shrank when imports plummeted due to a drop in GDP and an increase in household saving, but imbalances are projected to grow again. The bilateral China-United States trade deficit accounts for roughly 30 per cent of the total deficit. Never before had there been global imbalances of this magnitude.



Source: IMF, 2010a.



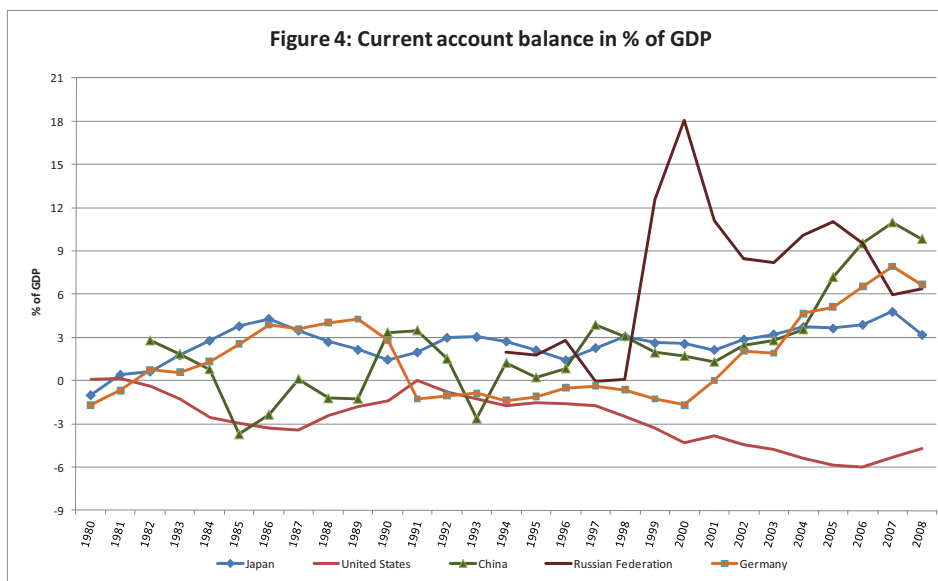
Source: World Bank, 2009



Source: World Bank, 2009.

Debates about global imbalances have focused mainly on trade in goods, but have tended to ignore capital flows that reflect financial globalization. This is misleading since capital flows normally are a budget con-

straint for deficit countries as well as key determinants of exchange rates. The eminent German economist Wolfgang Stützel was among those who contended that, under normal conditions, the capital-account balance determines the current-account balance (Stützel 1978: 125 ff.), in this respect following Böhm-Bawerk. Moreover, the magnitude of gross cross-border capital flows is much bigger than that of trade in goods, specifically because of their short-term nature, and cross-border redeployment of huge capital stocks adds to the flow of capital from current saving. Continuous net capital inflows into a deficit country cumulate and can reach a high, ever-increasing stock level relative to GDP. A large share of capital inflows into the United States financial system was due to increasing official reserves of the central banks of surplus countries which had fixed or managed exchange-rate regimes (e.g. China and Japan).



Source: World Bank, 2009

The general notion that the capital-account balance determines the current-account balance refers to a fully-fledged open-market economy. However, this insight needs to be applied to the special case where the largest economy in the world provides the major reserve currency, where the exchange rates in many emerging-market economies (as well as in

Japan) are managed and, as in China, where the capital account is highly regulated or semi-closed so that purely market-determined capital flows play a minor role. Hence the finance that flows into such a surplus country originates from income and money and credit creation in the United States, used mainly for the importation of goods (e.g. from China or oil-producing countries) and returns to the United States as reserves or other capital flows. The reserve-currency country (i.e. the United States) has no budget constraint in the balance of payments if its capital account is open and the leading central bank (i.e. the Federal Reserve) does not intervene in foreign exchange markets. In this specific constellation, it is mainly the finance created in the United States that determines both that country's current-account deficit and a large part of the capital return inflows in the United States capital account. In contrast, for developed countries such as those in the euro area or the United Kingdom, the origin of financial flows from there to the United States may lie in the portfolio decisions of *their* wealth owners, which influence exchange rates and current-account balances.

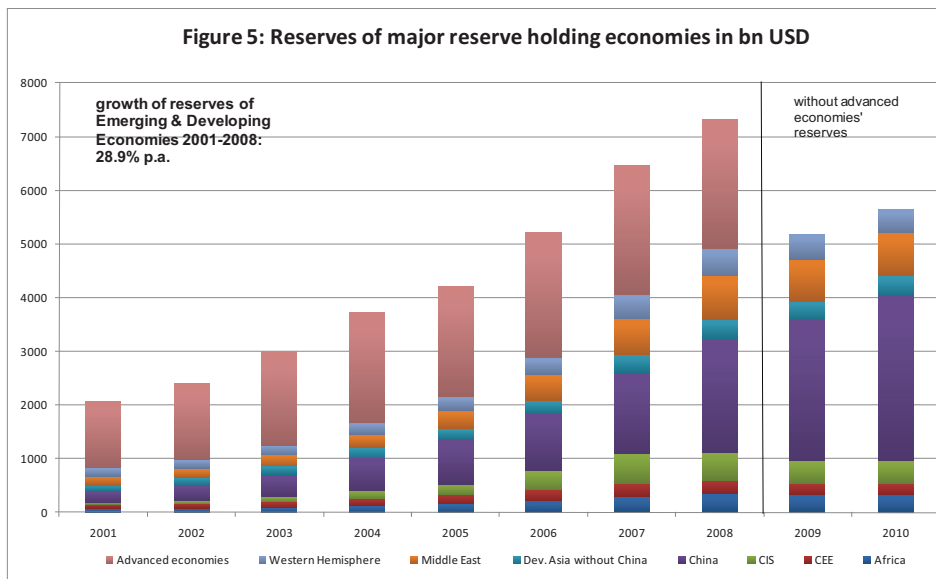
Official capital flows from the surplus countries are mainly risk-averse (i.e. directed towards government bonds or similar assets), whereas private investments are often attracted to higher yields that carry higher risk, or simply for the purpose of diversifying portfolios by investing in countries with different risks. The United States financial industry adjusted its offers of financial products to this global demand and attempted to exploit the surging capital inflows, which were driven by a high level of trust in the dollar and seduced by the reputation of the financial system, and, last but not least, by expectations of higher yields than elsewhere. The causes of the emergence of high surpluses vary in each of the different surplus countries.

*China*, since its accession to the World Trade Organization (WTO) in 2001, followed a more or less neo-mercantilist trade and exchange-rate strategy to boost its net exports through real undervaluation of the renminbi, thus supporting high growth and employment, which were necessary for political stability. In addition, China continued to peg its currency to the dollar (nominal anchor until 2005 and again since mid 2008), accumulated reserves to defend the peg if necessary, successfully sterilized excess money creation and continued to fend off capital inflows

other than foreign direct investment. This policy led to more than a 10 per cent current-account surplus at the peak, and to ballooning reserves, mostly invested in the United States.

Since the end of the 1990s, *Germany* was faced with a decoupling of real wages from productivity increases (“wage-restraint”), which led to stagnation of domestic demand. In also following a neo-mercantilist growth path, its trade surplus rose to 7.1 per cent of GDP in 2007. Germany took advantage of the euro: wage restraint and trade surplus could no longer induce appreciation of the exchange rate after the latter was abandoned, but they improved international competitiveness in the same way as a real currency depreciation. Subsequently, capital exports were regarded as more profitable than investing in the real domestic economy, which was suffering from slack aggregate demand. The resulting trade imbalances occurred mainly within the European Union (EU), especially within the euro zone, reflecting deficits in other member countries of the EU. However, capital outflows from Germany did not match the regional structure of trade flows; instead, they were directed, to some extent, to the major financial markets, especially those in the United States. Thus, sluggish domestic demand and higher expected returns abroad triggered capital outflows from Germany to the United States.

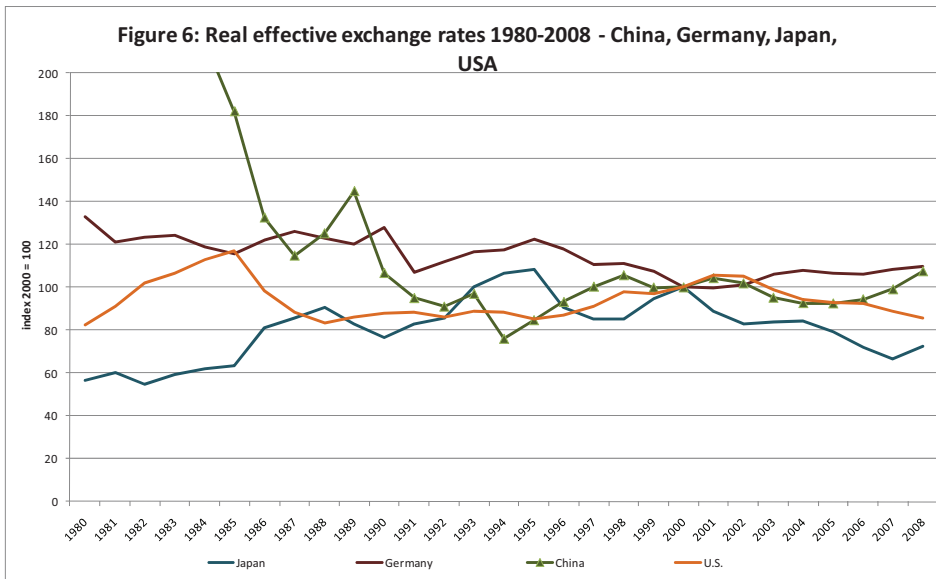
Some fluctuations aside, *Japan* tried to maintain a high surplus of its current account with a managed floating exchange-rate regime that sought to curb yen appreciations. To overcome the deflationary pressure, which the country suffered in the mid-1990s and again since 2001, a strong real effective depreciation of the yen was facilitated to offset weak domestic demand. In 2007, Japan’s current-account surplus peaked at around 5 per cent of GDP and the trade surplus reached 3.9 per cent of GDP in 2006. Capital outflows from Japan consist of private flows (seeking higher than the low domestic yield), carry trade (i.e. borrowing cheap and short-term in Japan and investing in countries with higher interest rates, see Hattori and Shin 2009), foreign direct investment (mainly targeting emerging Asia) and large official investment of currency reserves.



Source: IMF, 2009 and 2010b

The role of official reserves in capital flows should not be underestimated. Global currency reserves almost quadrupled from the Asian crisis up to 2008, when they reached more than US\$ 7 trillion (figure 5; see also CEA, 2010: appendix B, table B111). The maximum annual increase was in 2007, almost US\$ 1.3 trillion. Around two thirds of the global reserves were estimated to be denominated in dollars (Wooldridge, 2006). Considering that the United States capital-account surplus was around 6 per cent of GDP in the peak year 2007, or roughly US\$ 800 billion, it is reasonable to assume that more than half of the inflows came from official reserves (Bernanke, 2005). It was not only China and Japan, but many other countries, including developing, that had accumulated reserves.

Capital exports, be they private finance or official reserves, are saving, and do not reflect demand for domestic goods but rather a preference for foreign financial assets. They slow down growth of the world economy unless offset by robust growth, for instance by debt-led consumption or government spending in the deficit countries. Needless to say, this saving does not necessarily translate into higher aggregate demand in the deficit countries.



Source: World Bank, 2009

While private capital flows to the United States fluctuate according to the expected yield differentials, and thus contribute to exchange-rate volatility, investing official reserves in the United States stabilizes the dollar vis-à-vis other currencies. On average, the real effective exchange rate of the dollar will move up and down only to a limited extent. Indeed, a massive and sustained real depreciation of the dollar has not occurred in the past 25 years, although the United States clearly needed this to lower its current-account deficits (figure 6). From this point of view, the dollar is overvalued in real terms, which has contributed to the much complained about deindustrialization in that country.<sup>11</sup> Structural transformation towards a new export base to offset the exchange-rate disadvantage has failed, as became evident after the bursting of the “new economy” bubble in 2001. The response to this failure has been structural change that favoured the expansion of the financial sector. Wall Street became, so to speak, Main Street; put in simple terms, more and more financial assets, instead of goods, were exported.

<sup>11</sup> The United States dollar appreciated continuously by about 20 per cent (in real effective terms) from 1990 to 2002, and devalued from then until 2008 at the same rate. For different measures of the real effective exchange rate, see CEA, 2010, annex table B 110.

In the debates about the potential risks of these imbalances, three main opinions predominate (Priewe, 2008). First, that the United States deficit is without risk as it reflects the “saving glut” in Asia and elsewhere, coupled with a high level of trust in the stability of the United States economy (Greenspan, 2004 and 2010; Bernanke, 2005 and 2008). Second, that the combination of deficit and surplus countries was an informal “Bretton Woods II” currency system with a high degree of stability (Dooley, Folkerts-Landau and Garber, 2003). Third, that the imbalances were risky and would lead sooner or later to a strong devaluation of the dollar, which would harm primarily the growth of the surplus economies but also the entire world economy, hence collective action was needed (e.g. Obstfeld, 2005). Some blame China and other surplus countries for their neo-mercantilist exchange-rate policies, while others blame the United States for living beyond its means by tolerating excessive household consumption and high budget deficits. All these positions captured a grain of truth. However, none of them foresaw that the imbalances would trigger financial boom and bust, and the expected currency crisis did not occur.

The notion of a saving glut, as developed by Bernanke (2005), refers to several trends since the mid-1990s, such as an ageing population, fewer investment opportunities in rich countries, excessive household saving in emerging-market economies, strong currency reserve accumulation in emerging-market and developing economies to prevent potential financial crises, and increasing surpluses of oil-producing countries due to price increases.<sup>12</sup> According to Bernanke, the common feature of all these reasons for the United States’ current-account deficit is that they are external to the economy and cannot therefore be changed by policymakers in the country.

The “saving glut” proposition is weak on two counts. First, the term is not very clear. It seems to suggest that the glut derives mainly from individual behaviour. However, from a macroeconomic point of view, over-saving means that aggregate domestic demand falls short of domestic

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<sup>12</sup> Bernanke (2005) suggested that the United States’ current account could run out of control, but he believed, optimistically, in medium-term moderation of the deficit.



output, which implies overproduction or lack of domestic demand (i.e. over-saving or capital export as an accounting identity<sup>13</sup>). This occurred not only in emerging Asia, especially China, but also in Germany, Japan, and oil-producing economies, and even in many poor developing countries. Thus the term saving glut explains nothing, but simply reflects overproduction relative to domestic demand. Second, Bernanke and others overlook the simple fact that the “savings” are transferred mainly to one single country that seems more attractive than all others, namely the reserve-currency country and its financial markets. There must be peculiar pull factors in the United States which exist nowhere else. Hence the reasons for that country’s deficit are not only external to it.

It is true that the present global currency system can be compared to the Bretton Woods system, though in a less stable form, with the United States dollar as the main global currency (i.e. the dollar standard as compared to the former gold–dollar standard). An informal system of this kind rests on trust in the dollar and in the United States’ financial system, but it is less sustainable than the original Bretton Woods system if inherent contradictions start to unfold. Although “Bretton Woods II” has contributed to the highest worldwide growth (1998–2007) since the breakdown of the original Bretton Woods system, it has been tied to the excessive consumption dynamics of the United States (in the absence of investment-led growth) and to the highly absorptive capacity of that country’s financial system. The growth mechanism of the present system is based on an unsustainable and skewed division of labour, where one group of countries produces more goods than it can absorb, while the other generates global aggregate demand and absorbs more products than it produces. Both sides depend on each other, and no single country or group of countries can be blamed for the imbalances. Thus, the more the imbalances grew, the more likely it was that the system would explode. The Achilles heel was not the value of the dollar, since there was no alternative candidate for a reserve currency, but rather the fragility of the

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<sup>13</sup> The ex post accounting identity can be expressed as:  $X-M = (S-I) - (G-T)$ , where X represents exports, M imports, S private saving, I private investment, G government expenditure in final goods and T tax receipts. With a negligible budget deficit,  $X-M = S-I$ . A trade surplus implies that part of aggregate output is neither invested nor consumed (S as non-consumption) at home, due to a lack of demand; instead, it is exported. Therefore, to term this a “saving glut” seems misleading.

United States financial sector, which was indulging in asset inflation with new financial products. As the growth momentum induced by “Bretton Woods II” overheated and precipitated global inflation, which required a tightening of monetary policy, the bust was only a matter of time, as rising interest rates triggered a fall in prices of housing and other assets.

The global imbalances have contributed to the financial crisis and the subsequent global “grand recession”. Whether the core reasons for the imbalances lie in the specific policies of the main surplus and deficit countries or are of a systemic nature, related to the present global currency system, is analysed below.

### **3. The “new Triffin dilemma”**

The crucial weakness of “Bretton Woods II” can be described as a “new Triffin dilemma”. Robert Triffin (1960) detected a flaw in the architecture of the original Bretton Woods system that constituted a dilemma and would lead to the demise of this system. And so it happened in the early 1970s. Similar defects, albeit somewhat different, have undermined the “Bretton Woods II” system. As is well known, the old system was a gold-dollar standard with a commitment to maintain a constant price of US\$ 35 per ounce of gold in order to reinforce the reputation and credibility of the dollar as the reserve currency. The dollar served both as a national and a global currency, as a unit of account, a means of payment for traded goods and many credit contracts, and as a store of value, in particular for currency reserves of central banks. The Federal Reserve had to provide dollars both for the United States economy and for the rest of the world; but with a rising demand for dollars in a growing world economy and a more or less constant supply of dollars bound to scarce gold supplies, the promise to change dollars to gold at a constant price would lose credibility. Triffin had proposed a system, governed by the IMF, which would generate Special Drawing Rights (SDRs) as a new artificial basket currency that would substitute more and more for the dollar, thus transforming the IMF into a global central bank, similar to Keynes’s original proposal at Bretton Woods.

The Triffin dilemma was aggravated if dollars were allocated to the rest of the world via net imports of the United States, financed with the re-

serves of central banks outside that country. Whereas a credible dollar standard would require a surplus in the current account, a deficit status would undermine the value of the dollar and sooner or later would lead to devaluation. Furthermore, the Bretton Woods system gave the reserve-currency country the advantage of getting indebted in its own currency, implying a lack of “budget constraint” in its balance of payments which eased the financing of budget deficits – even when inflationary – through capital inflows from abroad. These foreign inflows resulted either from foreign exchange interventions to stabilize the currency pegs to the dollar, or from investing reserves in United States Treasury bills. According to this view, the inflation in the late 1960s that eventually destroyed trust in the dollar and its peg to gold was an indirect result of the Triffin dilemma.

In addition to the Triffin dilemma, a number of similar weaknesses can be mentioned. In the Bretton Woods system, the dollar as the  $n$ -th currency could not be depreciated; only  $n-1$  currencies could be appreciated.<sup>14</sup> This created incentives for protracted misalignments of exchange rates, especially in the absence of rules for surplus countries to apply expansionary policies. Moreover, the trend to full capital-account liberalization after the Second World War and the emergence of global financial markets undermined the possibilities of defending exchange-rate pegs. The gist of the matter is that a currency, even if it has by all measures a clear supremacy over others, cannot easily serve both national and global objectives.

What has been called “Bretton Woods II” is a system based on a pure dollar standard (i.e. not a gold-dollar standard), to which a number of mainly emerging-market and developing economies have loosely or even firmly pegged their currencies. This has stabilized the currency system somewhat after the demise of Bretton Woods, although there have nevertheless been wide swings in exchange rates. The preconditions are that the dollar is not threatened by severe inflation, that the Federal Reserve can pursue a fully autonomous monetary policy without regard for the

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<sup>14</sup> It is assumed that there are  $n$  currencies, and the  $n$ -th currency is the major reserve currency (here the United States dollar), in which the value of the other  $n-1$  currencies is expressed.

external value of the dollar, and that there is a deep and large financial market sufficiently attractive to allure net capital flows from abroad to finance that country's current-account deficit. The system may be stable in the sense that there is no alternative as long as no other reserve-currency candidate emerges and as long as full and unfettered floating is unacceptable for the majority of countries, in particular developing countries. But it is not stable with regard to growth and financial system stability since it is prone to imbalances.

The system provides a number of adverse incentives. For the United States, it tends to flood the economy with capital inflows and leads to an overvaluation of the real exchange rate relative to a moderate current-account deficit or balance. In principle, this flood of inflows could be reduced by capital exports from the United States, which has happened occasionally (mainly to emerging-market economies). However, this is highly unlikely to happen all the time: the  $n$ -th country is a "natural" current-account-deficit country, as it is the main absorber of reserves, offers the largest and deepest capital markets in the world, has a reputation and trust advantage, and involves less currency risks for financial investors. In short, there is a strong systemic pull factor in the reserve-currency country that tends to attract finance (or "over-savings") from the  $n-1$  countries.

If overvaluation of the real effective exchange rate of the  $n$ -th country occurs, it hollows out its real economy and its international competitiveness. The risk of a sudden devaluation of the  $n$ -th currency is limited, the external budget constraint is soft, and interest rates tend to be depressed, at least in periods of soaring inflows, thus weakening the power of a restrictive monetary policy or requiring a higher Federal Funds rate to fight inflation. In case of a strong current-account deficit, private households and/or the government budget tend to be in high deficit, whereas non-financial corporations resort to self-financing.

For the  $n-1$  countries, in principle, the system provides incentives for them to undervalue their currencies and to embark on neo-mercantilist export-led growth, with pegged exchange rates or strongly managed floating or in other ways such as undervalued exchange rates. Since the pegs are mostly soft and vulnerable, due to the volatility of global capital

flows, overly high reserves are built up. Overall, the system tends to result in huge global imbalances in trade and capital flows, especially since there are no rectifying market mechanisms. Not all of the n-1 countries need to be surplus countries, compelled by systemic drivers. Whether a country becomes a surplus country and to what extent, depends very much on the mix of institutions and policies in the particular country. As mentioned above, the reasons for the creation of surpluses in China, Japan, Germany, oil-producing countries and others are quite diverse and appear to be country-specific. But if surpluses occur, they are primarily invested in the n-th country, thus avoiding appreciation of capital-exporting countries' exchange rates.

Moral hazard emerges in the reserve-currency country's financial system as it exploits the inflows of capital through systematic underpricing of risks. The sheer magnitude of the inflowing liquidity fuels asset price bubbles and excessive risk taking by financial institutions. Higher risks are incurred than in the n-1 economies, and the risks are concealed by mass inflows, herd behaviour and exaggerated trust in the leading currency. Moreover, all of this is driven by rational behaviour and policy from a narrow microeconomic or national perspective. Booms are likely to be strong but accompanied by asset price inflation, and severe currency crises can be excluded as there are no other currencies to flee to (Carbaugh and Hedrick 2009). Having the only reserve currency is like a monopoly, whereby the monopolist enjoys certain privileges, though this is not without risks. The n-th currency country has to devote considerable attention to supervision and surveillance of the much expanded financial sector. In conventional understanding, deficit countries are in an inferior position to surplus countries, but the reserve-currency country is a privileged exception. All this does not necessarily lead to a financial crash, but it certainly increases the risks.

In principle, the rebalancing of global trade and capital flows within the "Bretton-Woods II" system can be done either unilaterally by the surplus countries or the deficit country, or through multilateral action. The surplus countries could revalue against the dollar and switch from export-led growth to domestic-demand-led growth. The deficit country could tighten fiscal and monetary policy to contain the current-account deficit, but at the price of a global recession. This is only a likely response in the case

of inflation in the n-th country; in the case of asset price inflation the likely result will be a financial crisis. A multilaterally coordinated preemptive policy for global rebalancing is the better solution, but this is unlikely in the absence of a system of global macroeconomic governance (Helleiner, 2009; Keynes, 1979: 256–295).

The new Triffin dilemma in the “Bretton Woods II” system requires a particular hard currency as the global reserve currency, but exposes the respective country to comparatively soft budget constraints – much softer than in any n-1 country – in its balance of payments, in its government budget, in its private household sector, in its non-financial industries and, last but not least, in its financial sector. This country is prone to asset price inflation and to a type of finance-led capitalism, distorted by “financialization”, which spills over to more and more of the n-1 countries.

#### **4. Finance-led capitalism and unequal income distribution**

Many economists have observed and debated a trend in developed economies, most markedly in the United States, towards financialization and finance-led capitalism (Hein et al., 2008; van Treeck, 2009). Roughly, the central idea is that the traditional managerial and “Fordist” form of capitalism furthered growth of and investment by non-financial firms and productivity-led wage dynamics, but at the expense of shareholders who were unable to discipline managers, often allies of workers. The more bank-based financial system promoted debt financing of enterprises. Now, a more capital-market-based system has emerged which gives greater power of governance to the financial markets and shareholders. This required deregulated financial markets – with stock prices as an efficient guide for corporate development – and the rise of investment banks and other non-banks. It led to increased internal financing of firms, the rise of financial holding structures of corporations, more mergers and acquisitions and less investment in fixed assets, higher cash payouts to shareholders and increased returns to shareholders, lower wage increases (partly due to deregulation of labour markets) and a falling share of wages, stock market dependence on macro performance and higher susceptibility to asset price bubbles – in short, greater financial fragility.

In a Kaldor-Kaleckian framework, in a closed economy, profits (P) can be conceived of as the result of demand for investment (I), and demand from consumption by capitalists ( $I_p$ ) and workers (i.e. low saving of the latter,  $S_w$ ).<sup>15</sup> In an open economy that includes economic activity of the government, high aggregate profits can only be achieved, on the condition that there is low corporate investment ( $I_c$ ) and a negative trade balance ( $X < M$ ) via high consumption by those who receive profits and by workers (i.e. low saving of workers), high residential investment ( $I_R$ ) and high budget deficits ( $G > T$ ):  $P = I_c + I_R + G - T + X - M + C_p - S_w$ . These were precisely the conditions that prevailed in the United States in previous boom phases. In other countries the features of financialization led to different macroeconomic regimes. For example, in Germany they led to wage restraint and an excessive trade surplus but, overall, to lower growth, and in Japan mainly to high budget deficits.

Over the past two to three decades various trends in financial development in the United States and also in other OECD countries seem to have emerged:

- Money and credit are increasingly used for financial transactions rather than for real transactions (i.e. exchange of goods, services and labour).
- Profit maximization is conceived more and more, at least by joint stock companies, as maximization of shareholder value rather than current profit. Accounting rules have been changing (based on such features as mark-to-market and fair value rather than on the lowest value principle); corporate governance is undertaken more by capital markets than by house banks; there are new forms of pay for management based on stock market performance, and lower barriers to mergers and acquisitions.
- The financial sector has experienced above-average growth in many countries, largely driven by financial innovations, deregulation and globalization of financial markets. Indeed, the financial sector has been considered the boom sector, seemingly without a clear distinction from the real (non-financial) economy, and finan-

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<sup>15</sup>This follows Kalecki's famous statement: "Capitalists earn what they spend and workers spend what they earn." It can be expressed as:  $P = I + C_p - S_w$ .



cial service innovations have been seen as a special form of technical progress.

- Returns on equity – as well as management pay – have been rising relative to non-financial sectors, and have become more and more the benchmark for the real economy. The share of aggregate wages in national income has been falling in most OECD countries, and profits have tilted more towards financial industries than to non-financial sectors.<sup>16</sup>
- Security and other asset markets like real estate have become more susceptible to bubbles and speculation. The number of financial crises has increased, seemingly more in emerging-market economies, although these crises were linked to risk and high-yield-seeking external finance originating in OECD economies.

These trends have been the most pronounced in the United Kingdom and the United States, but are also prevalent in almost all other economies where financial markets tend to emulate the Wall Street model, be they in Frankfurt, Paris, Singapore, Beijing or Johannesburg. Stock prices, rather than accumulation of fixed capital and technical progress, have been seen as heart pacemakers for the entire economy. Differences between the financial industry and the real economy seem to have evaporated. Any misgiving that finance may be deadweight for the “productive”, real economy has been increasingly rejected; instead, finance has been praised as growth enhancing (Summers, 2000). Thus, the gradual transformation of the traditional capitalism of the golden age after the Second World War – centred on growth of the real economy – led to the problematic development of the financial sector, which culminated in the subprime crisis.

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<sup>16</sup> The value added of the United States financial sector rose from 4 per cent of GDP to 8 per cent from the mid-1970s to 2007, compared with 2.5 per cent in 1947 (Reinhart and Rogoff, 2009: 210; Greenspan, 2010: exhibit 8). In 2007, 30 per cent of corporate profits accrued to the financial sector, compared with 23 per cent in 1970 (author’s calculations, based on CEA, 2009: table B91). In the United States since the 1990s, net income of commercial banks as a percentage of equity has clearly reached higher levels than before, peaking at 15 per cent in 2005 (see Greenspan, 2010: Exhibit 14).



All this is far beyond the narrow focus on the proximate causes of the financial crisis in section 1 of this paper. These structural, long-standing causes have contributed to the global imbalances, since they are at the root of the absorptive capacity of the United States' financial sector with regard to external capital inflows.

The trend towards financialization has occurred alongside increasing income inequality, arguably the most pronounced in the United States among developed countries. The weak wage increases in low- and middle-income households in the past have led to a falling propensity to save, dissaving and increasing indebtedness, in particular for house purchases. The credit-asset price spiral that was kept in motion basically underpinned macroeconomic growth in the United States since the mid-1990s when house prices started to rise. The background for this development was the widespread delinking of real wage and productivity increases in many OECD countries,<sup>17</sup> with Germany and Japan at the lower end. In Germany, this contributed since the late 1990s to a marked weakness in domestic demand and imports, and, on the flip side, to excessive net exports of goods and high net capital exports. Germany became addicted to wage restraint, in contrast to the majority of the 15 other euro-zone members which followed a different pattern of wage setting. In other countries, the increasingly skewed income distribution is embedded in different macroeconomic patterns, often accompanied by current-account deficits. The common feature in most OECD countries is that growth of the real economy and employment has been weaker than in previous up-swung phases of the business cycle. As a result, unsustainable macroeconomic regimes have evolved which directly (in the United States) or indirectly (e.g. China, Germany, Japan,) contributed to the emergence of the financial and economic crisis.

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<sup>17</sup> To illustrate this, the average real hourly wage in private enterprises outside agriculture rose in the United States by only 5.9 per cent from 1964 to 2007 in total, whereas labour productivity grew by 1.9 per cent per annum (CEA, 2009: tables B47 and B49).

## 6. Conclusions

Opinions about the causes of the financial crisis differ widely. Most of them focus on the financial sector and blame either the bankers or the supervisory authorities, or an excessively lax monetary policy, and, albeit more seldom, policymakers (although they deserve much of the blame in the United States, particularly in 2001–2005). The main message of this paper is that the crisis cannot be fully understood unless the more fundamental causes are taken into consideration.

The first of these causes is the emerging global imbalances in trade and concomitant capital flows over the past two decades that characterized the distorted pattern of globalization under a financial architecture sometimes termed “Bretton Woods II”. The new Triffin dilemma led to the flooding of the United States’ financial sector with both risk-seeking and risk-averse external capital flows, and created an enormous demand for financial products of different kinds that promoted an unsustainable, risky macroeconomic regime in that country, based on asset bubbles.

Secondly, over more than two decades the traditional post-war capitalism in the United States has been transformed by financialization into a fragile finance-led form of capitalism with a vastly overstretched financial sector. Alongside this transformation, income distribution has tended towards greater inequality, and the lack of fixed investment dynamics in non-financial sectors has been offset by debt-financed consumption and government spending.

This analysis leads to three major policy conclusions. First, coordinated financial sector reforms in the leading OECD countries are necessary, which would restore regulation of banks and non-banks and tighten microeconomic prudential supervision. In addition, those reforms need to include some kind of prudential macroeconomic supervision with a countercyclical control of leverage, the setting of higher capital-asset ratios, the use of new tools to prevent asset bubbles without endangering the real economy, and new methods of risk management, to name but a few measures that should be part of a giant project in the years to come.

Furthermore, the global currency system needs fundamental reforms that reduce global imbalances and enable orderly adjustments of exchange rates to bolster the real economy. A true “Bretton Woods II” should be on the agenda, in which the dollar should be replaced as the main reserve currency, at least in part by a basket of currencies or Special Drawing Rights.

Finally, the road to ever more financialization should be left behind; instead priority should be given to revitalization of the real economy, supported by a downsized financial sector that is more geared to serving the needs of non-financial enterprises. This includes a departure from excessive export-led or debt-led macroeconomic regimes, and a greater dependence than in the past on sustainable domestic demand dynamics, based on more equal distribution of income.

These are three enormous tasks for institutional reform which cannot be implemented overnight, require much more global coordination and governance, and, last but not least, need better economics than that of the mainstream economics of the past. All this is clearly uncharted territory.

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