

Evans, Trevor

Working Paper

The crisis of finance-led capitalism in the United States of America

Working Paper, No. 51/2015

Provided in Cooperation with:

Berlin Institute for International Political Economy (IPE), Berlin School of Economics and Law

Suggested Citation: Evans, Trevor (2015) : The crisis of finance-led capitalism in the United States of America, Working Paper, No. 51/2015, Hochschule für Wirtschaft und Recht Berlin, Institute for International Political Economy (IPE), Berlin

This Version is available at:

<https://hdl.handle.net/10419/111354>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



Hochschule für
Wirtschaft und Recht Berlin
Berlin School of Economics and Law

Institute for International Political Economy Berlin

The crisis of finance-led capitalism in the United States of America

Author: Trevor Evans

Working Paper, No. 51/2015

Editors:

Sigrid Betzelt

Birgit Mahnkopf

Trevor Evans

Christina Teipen

Eckhard Hein

Achim Truger

Hansjörg Herr

Markus Wissen

The crisis of finance-led capitalism in the United States of America

Author

Trevor Evans

Affiliations of author

Institute for International Political Economy, Berlin School of Economics and Law

Abstract

This study examines the development of the US economy since the prolonged recession in the early 1980s. This period was characterised by a serious weakening in the bargaining position of waged workers and a major expansion of the financial sector. Most of the economic gains accrued to top earners and economic growth became increasingly dependent on the expansion of credit. This precarious constellation led to short recessions in 1990 and again in 2001, but then in 2007 and 2008 the failure of highly complex financial securities led to the most serious financial crisis since 1929. The study reviews the development of profitability, income distribution and other key macroeconomic variables in the period leading up to, during and immediately after the crisis. It then identifies the main channels by which the crisis was transmitted from the US to other advanced capitalist economies and concludes with a brief review of the policy measures introduced by the US government in response to the crisis.

Key words

United States, finance-led capitalism, financial crisis

Journal of Economic Literature classification

E25, E32, E44, E58, E65, F44, G01

Contact details

Prof. Trevor Evans, Berlin School of Economics and Law, Badensche Str. 50, 10825 Berlin (evans@hwr-berlin.de)

The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 266800.

Contents

1. Introduction.....	1
2. Finance-led capitalism in the US.....	3
The contours of economic growth	5
Sector financial balances	9
The dynamics of the crisis	12
3. Macroeconomic developments in the age of finance-led capitalism.....	18
Income distribution.....	18
Investment	24
Household consumption.....	27
Unit labour costs and international competitiveness.....	29
International payments.....	31
4. The international transmission of the crisis.....	34
Financial transactions	34
International trade.....	37
5. Economic policy responses.....	38
6. Conclusion	40
References	43

1. Introduction

For some 25 years after the Second World War, the US economy experienced an unprecedented period of growth in which wide swathes of both working and middle class households shared in rising prosperity. Fordist techniques of mass production, which had been pioneered before the war, were widely introduced and facilitated a steady rise in the productivity and intensity of labour. At the same time, following successful struggles to organise unions in the 1930s, workers were able to secure a steady rise in real wages, ensuring – unlike the pre-war period – a strong growth of domestic demand, which rose broadly in line with labour productivity. Industrial and commercial firms sustained a strong growth of fixed investment which was financed to a large extent out of retained earnings. External finance was obtained from a financial sector which was subject to tight constraints, introduced in the aftermath of the 1929 crisis, and which seriously limited the possibilities for financial speculation. These constraints involved a strict separation between commercial and investment banks, and a legal limit on interest rates. The period also witnessed a strong growth of international trade between the US and other developed capitalist states, facilitated by a stable international monetary regime based on the US dollar and fixed exchange rates. Finally, while the US was involved in organising or supporting numerous armed interventions in Africa, Asia and Latin America, developing countries could, for the most part, be relied on to ensure a steady – and cheap – supply of primary commodities.

In the late 1960s, as the US army faced defeat in the jungles of South-East Asia, the virtuous constellation which had underpinned the post-war boom began to unravel. Perhaps most significantly, the Fordist model appeared to be approaching its limit and, despite continued investment, the growth of labour productivity began to slow. Younger workers who had not lived through the mass unemployment of the 1930s were not willing to moderate their demands for rising wages and, as industrial conflicts intensified, profitability began to decline. At the same time, as the business cycle in the US and the other advanced capitalist countries became more closely attuned, a synchronised expansion in the early 1970s led to a strong increase in demand for primary commodities and, as their price was pushed up, this further eroded profitability. Furthermore, firms in the US, which had once been the technological leaders, began to be challenged by competitors in Europe and Japan. Following a steady deterioration in the US trade balance, in 1971 the country experienced its first current account deficit since the beginning of the century and, as foreign central banks accumulated ever larger quantities of dollars, the US government unilaterally announced it would no longer convert these for gold. Shortly after, in

1973, the US abandoned the system of fixed exchange rates in a move designed to allow it to devalue the dollar and so cheapen its exports in relation to those of key competitors. But none of this was sufficient. From 1973 to 1975 the US economy – along with all the other advanced capitalist economies – experienced the deepest recession since the 1930s, thereby marking the end of the post-war boom.

There then followed what might be regarded as a transition to a new regime. In the second half of the 1970s US governments sought to promote domestic demand through the adoption of highly expansive fiscal policies, and to promote exports by allowing the dollar to weaken. This succeeded in reviving economic growth for a time but, as inflation began to rise sharply, it could not be sustained. In the autumn of 1979, foreign investors responded to the steady decline in the value of the dollar by abandoning their holdings on mass. As the value of the dollar threatened to plummet, the Federal Reserve, led by Paul Volcker, seized on the arguments of monetarist economists to justify a dramatic rise in the US lead interest rate. Sharply higher returns successfully attracted short-term capital back to the dollar, which subsequently staged a major recovery in its value. But the unprecedented level of interest rates led to a collapse in investment and provoked a deep and lengthy period of recession between 1980 and 1982. A steep increase in unemployment successfully broke the back of union demands for wage increases. However, the rise in interest rates, together with a sharp fall in commodity prices, resulted in many developing countries being unable to service their debts to big US banks and, with the threat of major bank failures, in the autumn of 1982 the US authorities quietly abandoned their monetarist experiment.

This paper is concerned with the new phase of US capitalism which emerged from the deep recession at the start of the 1980s. This period, sometimes characterised as finance-led capitalism, was marked by a serious weakening in the bargaining position of waged workers. At the same time, innovation and deregulation led to a major expansion of the financial sector, which exercised a remorseless pressure on non-financial companies to raise returns. Non-financial companies, meanwhile, themselves became increasingly involved in generating returns from financial investments and this was associated with a corresponding weakening in investments in fixed capital. Most of the benefits of economic growth accrued to top earners – the famous 1% – who appropriated an increasing share of national income. Wages no longer rose in line with labour productivity, and economic growth became dependent on a continual expansion of credit-financed consumption. This unstable constellation faltered in 1990, and again in 2001, generating short recessions which the authorities sought to combat by pumping yet more money into the economy.

But the expansion was precarious and in 2007 and 2008 the failure of highly complex financial securities based on house mortgages detonated the most serious financial crisis since 1929.

2. Finance-led capitalism in the US

The phase of capitalism which began in the US in the early 1980s was characterised by a significant weakening in the position of labour and a marked strengthening in the position of financial capital. The position of labour was weakened, first, by the monetarist offensive launched at the end of 1979. As interest rates were raised to unprecedented levels, investment collapsed, and unemployment increased from 5.8 per cent in 1979 to 9.8 per cent in 1982.¹ Although high inflation was eroding the value of wages, workers' primary concern was to keep their jobs. Second, in 1981, the newly elected President, Ronald Reagan, responded to a strike of air-traffic controllers by sacking the staff involved, and using supervisors and military personnel until new civilians could be trained.² As intended, other unions reigned in their ambitions. Third, a wave of corporate takeovers, 'downsizing' and the outsourcing of tasks in the 1980s left many workers deeply cautious of risking their jobs by raising demands for better wages or working conditions, a process described by two well-known US economists as 'the frightened worker effect'.³ One indicator of the weakening position of labour is the percentage of non-agricultural employees covered by union contracts. In 1980 this stood at 25.7 per cent but, as the position of unions was weakened, and as non-unionised sectors of the economy expanded, by 2007 it had fallen to 13.3 per cent.⁴

Financial capital had been subjected to strict controls in the 1930s, including the enforced separation of commercial banks and investment banks, and the imposition of a legal ceiling on interest rates. In the 1960s banks began to introduce innovations which enabled them to circumvent these restrictions. A key step was the creation of certificates of deposit, which allowed banks to offer interest rates above the legal ceiling. The growth of off-shore banking in the late 1960s, predominantly in London, also enabled US banks to circumvent tighter restrictions on the export of capital that had been introduced in 1965. Then the end of fixed exchange rates in 1973, and the subsequent growth of the foreign exchange markets, provided the big banks with a major new source of profitable activity. Controls on international capital flows were abolished in 1974, and from the 1980s the process of financial innovation and deregulation gathered pace.

¹ Bureau of Labour Statistics, Historical Data, Table A-1.

² McCartin (2011).

³ Blinder and Yellen (2001),

⁴ Hirsch and Macpherson (2013).

In 1980, as official interest rates were raised to combat rising inflation, the Carter government abolished the legal ceiling on deposit interest rates that had been introduced in 1933.⁵ The process of financial liberalisation then accelerated after the Reagan government took office in 1981. In 1982, a new banking law lifted many of the restrictions on the activities of savings & loans associations (S&Ls), financial institutions which allowed households to save and subsequently obtain financing to purchase a home. This allowed the S&Ls to expand rapidly and many embarked on financing more speculative activities until huge losses led to a serious crisis in the sector in the late 1980s and early 1990s, requiring government support which eventually amounted to some \$150 billion. In 1987, the Reagan government appointed Alan Greenspan as head of the Federal Reserve and in the following years the Fed adopted an increasingly flexible interpretation of the 1933 Banking Act, allowing commercial banks to slowly expand into activities that previously had been prohibited. Finally, in 1999 under the Clinton government, the legal separation between commercial and investment banks introduced in 1933 was entirely lifted, allowing the reemergence of giant financial conglomerates.

The financial sector had grown roughly in line with the rest of the US economy between the 1950s and 1970s, but from the 1980s its growth registered a significant acceleration. Firstly, there was a major expansion of financial institutions, including banks, institutional investors (in particular mutual funds where better-off middle class households could invest their savings) and, somewhat later, smaller but highly speculative hedge funds and private equity funds, which operated to a large extent with borrowed money. Secondly, there was a rapid growth of financial markets, including the foreign exchange market, and the markets in bonds, shares and other securities. Finally, there was a rapid process of innovation which gave rise to the creation of a whole range of new financial instruments, including exotic forms of derivatives and highly complex instruments, such as collateral debt obligations which were designed so as to obscure the risks which they involved.

Developments in the financial sector had a significant impact on non-financial corporations. Institutional investors, which had previously played a relatively passive role, began to exert pressure on non-financial companies to give priority to raising their short-term profitability, so as push up dividends and share prices. Companies that failed to meet profit projections were threatened with the prospect that investors would sell their shares, and that the resulting fall in share prices would leave the top management vulnerable to a hostile takeover. Indeed, non-

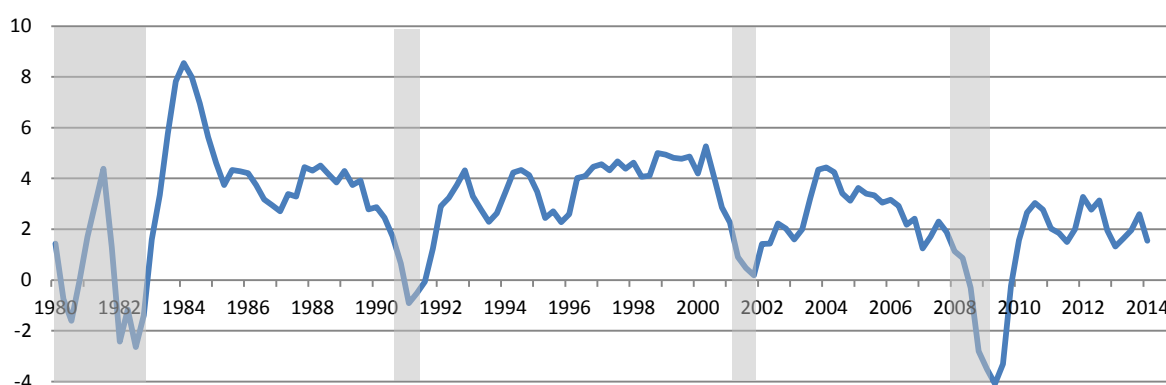
⁵ The following paragraphs are drawn from Evans (2014).

financial firms began to buy back their own shares in order to strengthen their price, in part to guard against the risk of takeovers. In order to meet the profit targets, firms were under constant pressure to rationalize and cut costs, by closing the least profitable units and by outsourcing tasks, either within the US or abroad. Because of the constant pressure to obtain high returns, non-financial firms also began to invest in financial markets themselves when this appeared to offer a higher return than investing in production or commerce.

The contours of economic growth

The broad contours of US economic growth from 1980 to 2014 are shown in Figure 1.⁶ The first phase of expansion, from 1983 to 1989, was dependent on a highly expansionary fiscal policy as the Reagan government increased military spending and cut business taxes. Unusually, this was combined with a restrictive monetary policy that kept interest rates high. The high return attracted foreign capital to the US and this financed an important part of the government's deficit. However, fixed investment by the business sector remained low for a period of expansion. Instead, non-financial corporations embarked on a major round of mergers and takeovers, made possible by greater financial deregulation which enabled firms to raise finance by issuing so-called junk bonds.⁷ Takeovers were followed by a process of rationalisation and plant closures, which left many workers willing to accept real wage cuts if they could keep their jobs. The expansion came to an end in 1989 when, after several years of over-lending, the banking system abruptly curtailed the expansion of credit, leading to a short recession in 1990.

Figure 1. US real GDP, % change over four quarters



Source: BEA, *National Income and Product Accounts*, Table 1.1.3. Shaded areas show NBER designated recessions.⁸

⁶ The following paragraphs are drawn from Evans (2009).

⁷ Junk, or high-yield bonds, refers to bonds that have a higher risk of default, but which also pay a significantly higher return than industrial-grade bonds issued by large, well-known companies which have a very low risk of default.

⁸ The NBER classifies the period from 1980 – 1982 as a double recession with a brief expansion between July 1980 and July 1981.

The next expansion, from 1992-2000, was initially rather weak. The Federal Reserve had responded to the credit crunch and recession by reducing its main interest rate, and it remained low until 1994. As dollar assets became less attractive for international investors, the dollar weakened and US exports began to rise. Because of the large government debt inherited from the Reagan era, the governments of both Bush (senior) and Clinton felt they could not use fiscal policy to boost the economy, but the automatic effect of increased welfare and unemployment payments together with a decline in the tax take did help stimulate the economy. Following a period of weak 'jobless' growth in the early 90s, in the second half of the decade the US experienced its strongest sustained growth since the 1960s as a result of the boom in information technology. During this period, tax payments were so strong that the government, unusually, had a budget surplus. Furthermore, as unemployment fell, real wages began to rise for the first time since the 1970s. But the expansion was highly dependent on borrowing by non-financial corporations. This was partly to finance strong fixed investment; but it was also used by companies to buy-back their own shares. Share buy-backs helped push up share prices, to the benefit of institutional investors and of top managers, who had themselves acquired substantial holdings in the 1990s through the exercise of share option. In the late 1990s, the stock market developed all the signs of a classic bubble, as share prices soared way beyond the rise in company earnings. When the bubble burst in early 2000, companies slashed their fixed investment, and the economy entered a recession in 2001.

The following expansion, which began in 2002, was also weak at first. The Federal Reserve reacted to the recession especially strongly, repeatedly cutting the lead interest rate between 2001 and 2003. In addition, on taking office in 2001, the Bush government introduced a big package of tax cuts. These had been originally proposed before the recession broke and were heavily skewed in favour of the top 20 per cent of earners, but it served to strengthen demand in the economy. The low rate of interest helped promote a new wave of mergers and takeovers, in many cases initiated by private equity firms, which took advantage of so-called leveraged loans to raise much of the capital required. Mortgage lending also increased strongly and, despite a boom in construction, a bubble in house prices developed in large parts of the country. With incomes for most people stagnant in real terms, many households borrowed against the rising value of their homes in order to finance additional consumption. Nevertheless, although economic growth increased from 2004, by US standards it remained relatively weak until 2007, when the expansion ended and US economy was faced with the onset of the deepest financial and economic crisis since the 1930s.

Table 1. Contributions to the growth of US Gross Domestic Product

	1980-1990	1991-2000	2001-2007	2008-2013
GDP, average annual % change	3.0	3.5	2.5	1.0
<i>Contribution to change in GDP</i>				
Personal consumption	2.03	2.43	1.99	0.78
Fixed investment	0.42	1.11	0.31	-0.18
Change in private inventories	0.00	0.07	-0.03	0.07
Net exports of goods and services	-0.07	-0.36	-0.24	0.35
Government consumption and investment	0.66	0.22	0.42	-0.02

Source: BEA, *National Income and Product Accounts*, Table 1.1.2

The average annual growth of GDP in each of the business cycles since 1980 is shown in Table 1. The figure for the period from 1980 to 1990 is depressed due to the long double recession at the start of the decade. Even so, it is notable that average growth in the period from 2001 to 2007 is significantly weaker than in the previous two cycles. In the final cycle, which began in 2008 and had not been completed at the time of writing, growth was a mere 1.0 per cent, reflecting the acute decline in output at the end of 2008 and the start of 2009, and the weakness of growth in the initial years of the subsequent recovery.

An examination of the contribution of the different components of expenditure to GDP growth in Table 1 shows that, in every cycle, economic growth was driven predominantly by personal consumption expenditure. Over the whole period from 1980 to 2007, when GDP growth averaged 3.0 per cent, consumption accounted for 2.2 per cent growth. By contrast, private investment made only a modest contribution to the growth of GDP and, although it was somewhat stronger in the 1990s, it was especially weak in the early 2000s. Over the whole period from 1980 to 2007, government spending contributed slightly less than private investment to overall growth while, due to the persistent trade deficit, the contribution of net exports to growth was negative.

The evolution of the different components of GDP over time is shown in Figures 2a – 2d. Figure 2a shows that, as a result of the strong growth of consumer spending, its share in GDP increased steadily, rising from around 61 per cent in the early 1980s to just over 67 per cent in the years leading up to 2007. Somewhat surprisingly, it then increased yet again, to around 71 per cent of GDP in 2014.

Figure 2a. US consumption spending, % GDP

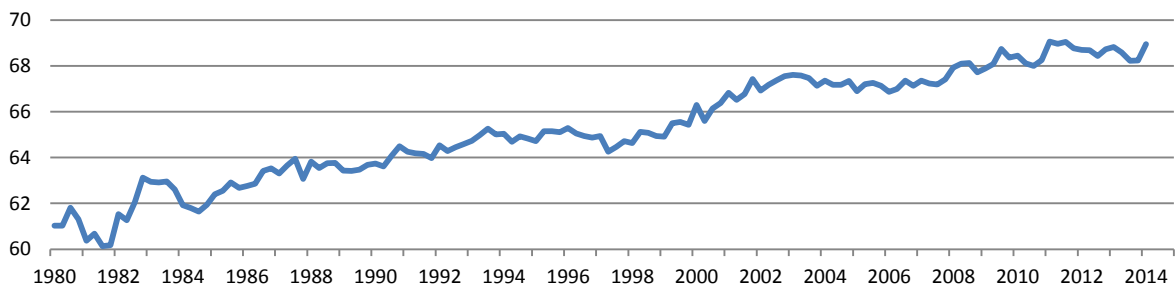


Figure 2b. US private fixed investment, % GDP

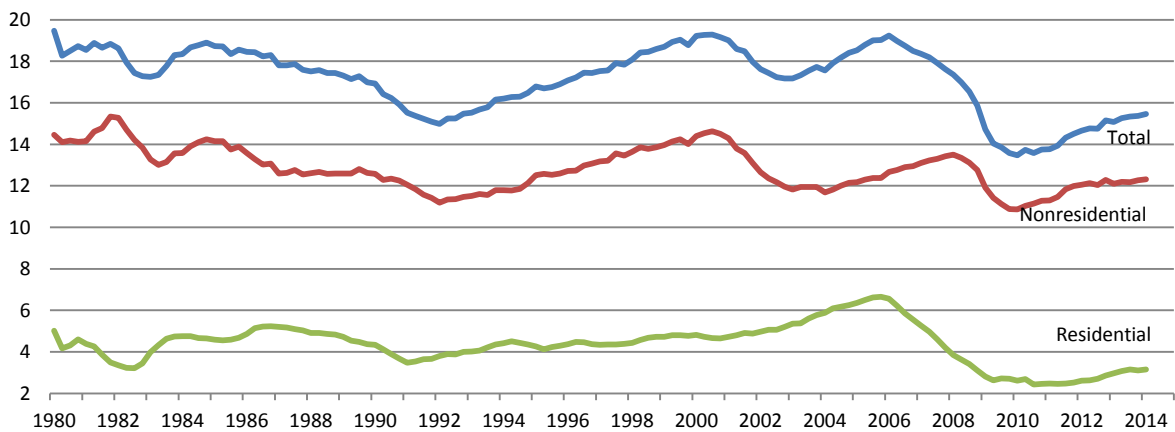


Figure 2c. US net exports, % GDP

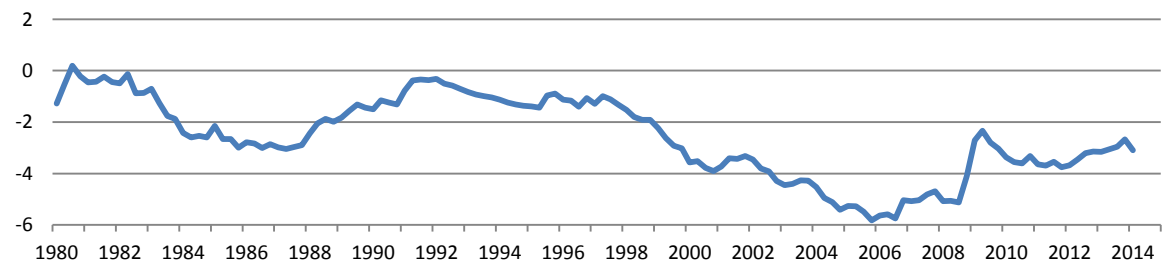
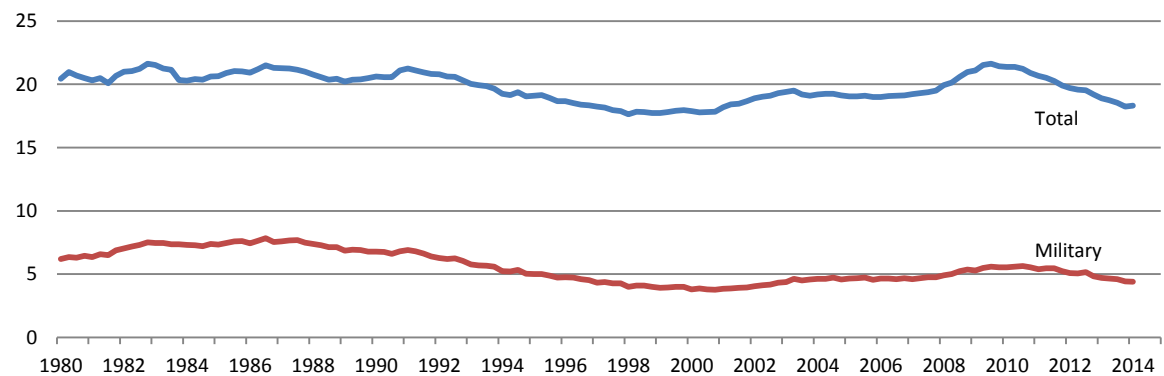


Figure 2d. US government spending, % GDP



Source: BEA, *National Income and Product Accounts*, Table 1.1.5.

The evolution of fixed investment, shown in Figure 2b, displays a far more cyclical character. Most unusually, nonresidential investment actually declined as a share of GDP during the economic expansion in the 1980s (when corporations were involved in a widespread takeover boom); but it then increased during the business expansions in the 1990s and, following a downturn due to the recession in 2001, it expanded again until early 2008. Residential investment, however, followed a somewhat different path. Having fluctuated at around 4 per cent of GDP between 1980 and the mid-1990s, it then began to rise, and especially strongly so after 2002, reaching a peak of 6.6 per cent in 2005 and the start of 2006. But residential investment then collapsed, falling to 2.6 per cent of GDP by 2008. As a result, the share of total fixed investment in GDP also registered a dramatic decline, falling from 19.2 per cent in early 2006 to just 13.6 per cent by the end of 2008.

Net exports, shown in Figure 2c, became increasingly negative during the business expansion in the 1980s and, following an improvement during the recession at the start of the 1990s, continued to become increasingly negative during the business expansions in the later 1990s and in the early 2000s. The deficit in net exports reached a peak of almost 6 per cent of GDP at the end of 2005 and the start of 2006, after which it declined.

Government spending, shown in Figure 2d, declined as a share of GDP in the 1990s, but then registered a moderate increase in the early 2000s. It can be seen that this pattern was strongly influenced by the decline in military spending in the 1990s, and the subsequent increase initiated in the early 2000s by the government of George W. Bush. Following the onset of the financial crisis, government spending registered a rise equal to some 2 per cent of GDP between 2007 and 2009.

Sector financial balances

The financial balances of the principal economic sectors are shown in Figures 3a – 3e. US households had for many years been a major source of net lending to other sectors of the economy. However, as can be seen in Figure 3a, between 1980 and 2000, as households steadily increased their consumption spending, their acquisition of financial assets steadily declined and, as borrowing also began to rise as a share of GDP in the 1990, the sector's net lending steadily declined, falling from around 9 per cent of GDP in the early 1980s to reach a negative 2.3 per cent of GDP in 2000. Between 2001 and 2007, the acquisition of both assets and liabilities increased, and the household sector's net lending fluctuated around zero. Then, following the end of the house-price boom in 2006 and the onset of the crisis there was a dramatic change as households in effect ceased to take out new loans and, as a result, net lending by households rose to around 6 per cent of GDP between 2008 and 2013.

Figure 3a. US household financial balances, % GDP

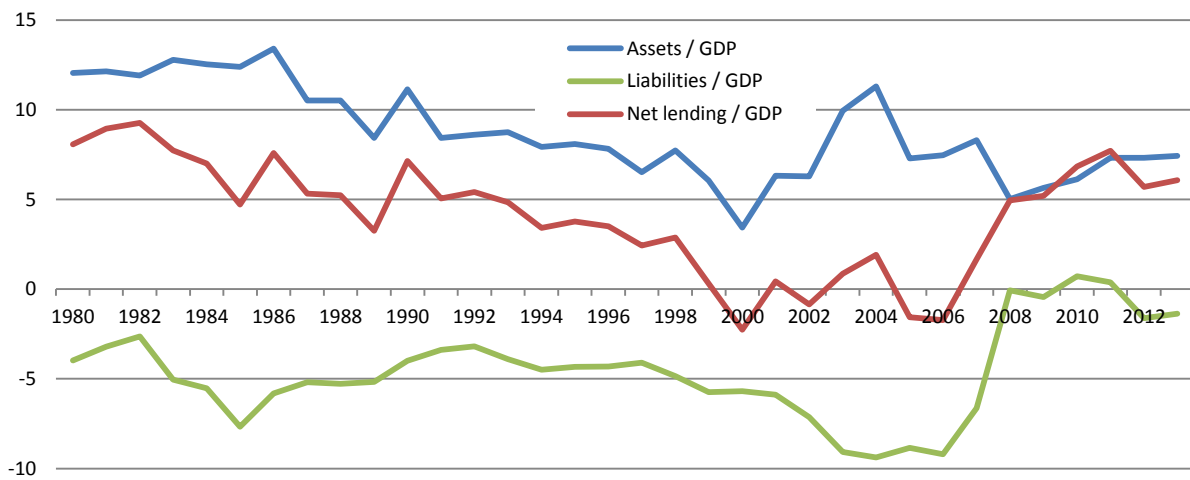


Figure 3b. US non-financial business financial balances, % GDP

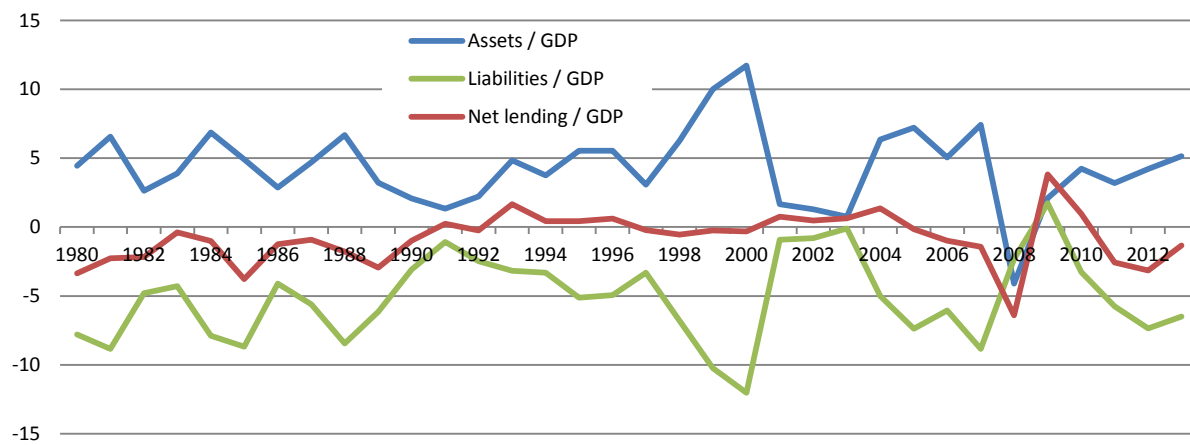


Figure 3c. US financial sector financial balances, % GDP

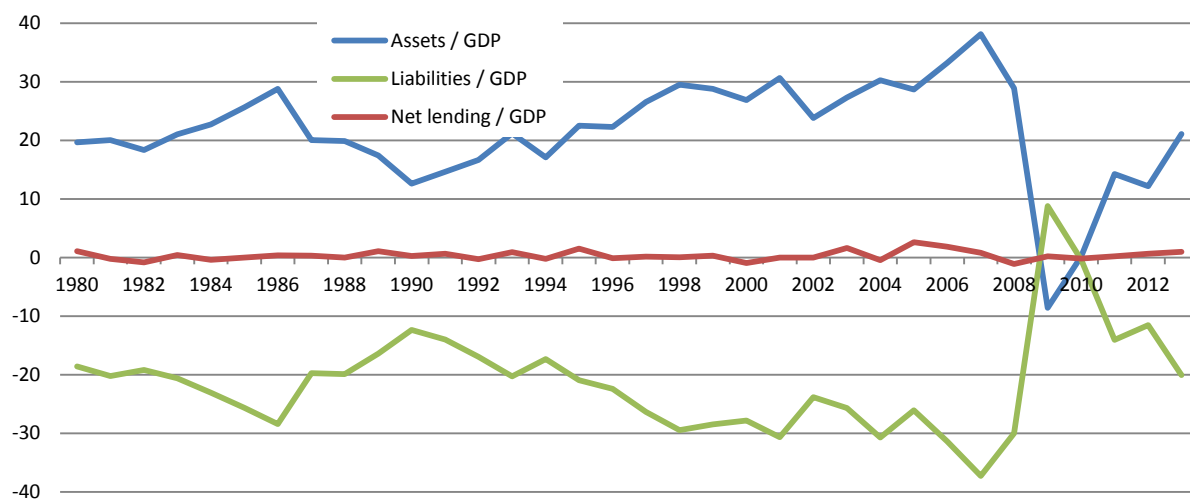


Figure 3d. US government financial balances, % GDP

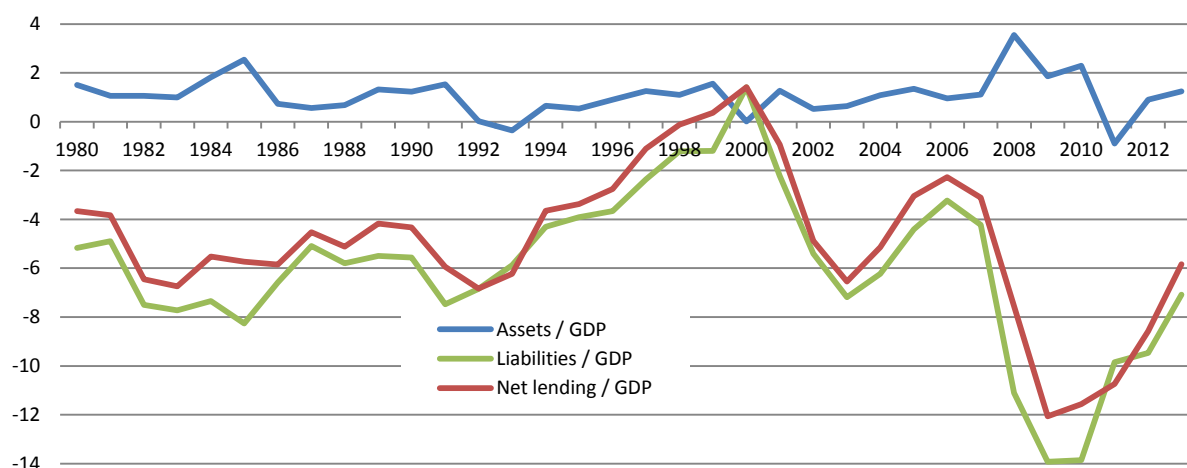
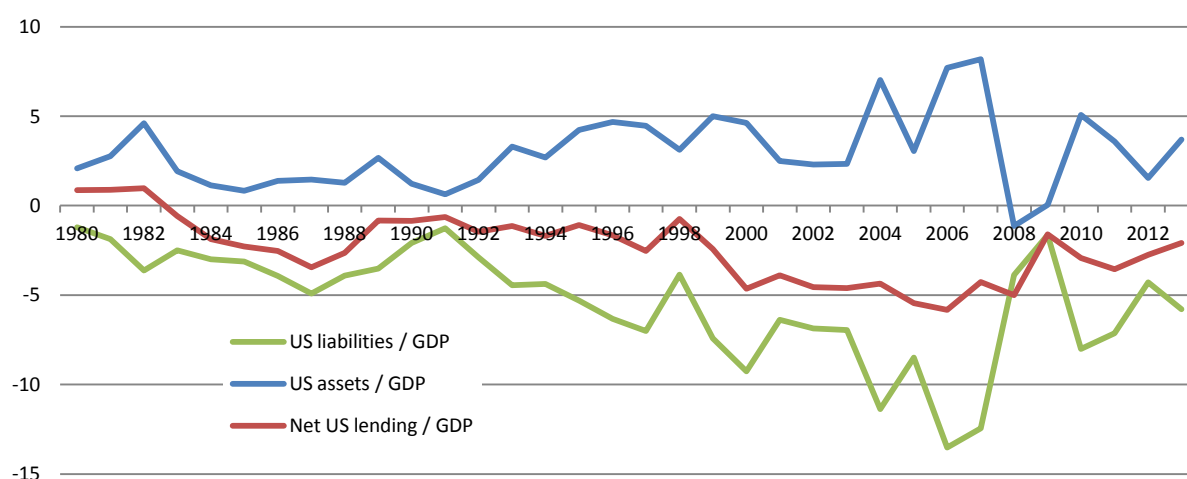


Figure 3e. US external financial balances, % GDP



Source: Federal Reserve System, Flow of Funds Accounts.

Figure 3b brings out how nonfinancial corporations have become major financial players, acquiring both financial assets and financial liabilities greatly in excess of that required to finance their net borrowing. The scale of these activities increased especially strongly in the years immediately prior to the business cycle peaks in 2000 and in 2007, and has increased again since the end of the recession in 2009. There was also a significant shift in the sector's net position. In the 1980s, nonfinancial corporations were net borrowers; in the 1990s, the position was broadly balanced, with a slight shift from net lenders to net borrowers over the course of the expansion; in the 2000s there was a similar, but more marked pattern, with the nonfinancial corporate sector first serving as a net lender, and then in 2006 and 2007 – when fixed investment strengthened – as a net borrower. The onset of the crisis then led to large swings in net lending as acquisitions of both assets and liabilities were cut sharply.

The scale of the financial sector's acquisition of both financial assets and financial liabilities, shown in Figure 3c, increased from around 20 per cent of GDP in the early 1980s to almost 40 per cent in 2007. These were scaled back for a time in the aftermath of a significant stock market crash in 1987 but it can be seen that the onset of the crisis in 2007 led to a massive unwinding of both assets and liabilities in 2008 and 2009. Nevertheless, throughout the whole period since 1980 the financial sector's net position has been roughly balanced.

The financial balances of the government sector, shown in Figure 3d, are principally determined by the pattern of borrowing, and this has registered several marked shifts in the period under consideration. In the 1980s, the government balance was persistently negative, reflecting the rise in military spending at the same time that businesses taxes were being cut. From 1992, as a result of cuts in spending, especially military spending, and a strong rise in tax revenues, the scale of government borrowing steadily declined until in 1999 and 2000 the government actually registered a surplus. Following the onset of the recession in 2001 the government once again became a net borrower, although the scale of the borrowing fell somewhat from 2003 to 2006. However, the following the onset of the most recent crisis in 2007 and 2008, there was an unprecedented increase in net borrowing, which rose to 12 per cent of GDP in 2009 and 2010, and although it subsequently declined somewhat it remained very large.

The US's external financial position is shown in Figure 3e. Although the scale of the US's acquisition of foreign assets tended to rise through from the early 1980s until 2007, its acquisition of liabilities increased even more strongly. The exact pattern was influenced by the US business cycle but, broadly, the net acquisition of financial liabilities increased from less than 1 per cent of GDP in 1983 (the first year in which it was a net borrower) to almost 6 per cent of GDP at in 2006. Following the onset of the crisis, the US acquisition of both external assets and external liabilities virtually collapsed, and net borrowing declined from its previous peak.

The dynamics of the crisis

The onset of the crisis, as is widely known, was triggered by the failure of complex securities based on so-called subprime mortgages.⁹ The standard or 'prime' mortgage in the US was introduced by the Roosevelt government in the 1930s in order to enable middle-class households to acquire a home. In the post-war period this generally involved a mortgage that would cover 70 – 80 per cent of the price of a home, repayable over a period of up to 30 years at a fixed rate of interest which

⁹ This section draws substantially on Evans (2009). For more detailed accounts see Financial Crisis Enquiry Commission (2011) and Blinder (2013).

was set when the mortgage was granted, usually at a around 1 per cent above the central bank's lending rate. For home owners it was a good deal. From the 1990s, banks increasingly used a system of credit scoring based on applicants' income and previous credit record to simplify the process of granting mortgages.

With the end of the legal limit on interest rates, it became possible for banks and other financial institutions to offer mortgages to households that did not meet the credit scores required to obtain a prime mortgages but the interest rate they charged for these 'subprime' mortgages was some 5 or 6 per cent above the central bank's lending rate.¹⁰ There was an especially strong expansion of subprime mortgages in the early 2000s as banks sent sales personal into low income neighbourhood, encouraging households to buy their home, and by the peak in 2006 subprime mortgages accounted for 23 per cent of US mortgage lending.¹¹ Most subprime mortgages had adjustable interest rates which would be reset periodically in line with changes in the central bank interest rate and, in order to make such mortgages attractive, 'teaser rates' were offered for the first one or two years, in which repayments did not even cover interest payments, although the cost was added to the outstanding debt.

Banks did not have a strong incentive to check the credit record of applicants for subprime mortgages because they did not plan to keep the loans on their own books. As a result of the Basel Accords, introduced in 1988, banks were required to hold a certain minimum amount of capital against assets, such as mortgages, to provide a safety cushion against bankruptcy in the event that the assets declined in value. In order to avoid tying up their capital in this way, banks would package several thousand mortgages and create a security which they could sell on the capital market to a financial investor. By this process of securitisation, banks could generate fees from selling mortgages, but then remove them from their balance sheets and so free up their capital for further loans. In order to place the securities, the originators had to pay a rating agency to assess the security, which employed a system of grading to indicate the risk that debt service payments on the security might fail.

Securities based on subprime mortgages were awarded relatively low ratings as many of the mortgages had been extended to households with low incomes and precarious employment who were seen as being at risk of defaulting on their repayments. This meant that institutions such as pension funds could not buy the securities, since they were legally required to invest their funds in

¹⁰ There was also an intermediary category between prime and subprime mortgages known as Alt-A mortgages.

¹¹ Financial Crisis Enquiry Commission, Figure 5.2, p. 70.

securities with the very highest ratings. In this situation the big New York investment banks intervened, transforming mortgage backed securities into extraordinarily complex securities known as collateralised debt obligations (CDOs). These involved combining a number of riskier securities, including mortgage backed securities, and breaking down the right to the repayment streams into a series of slices or *tranches*. It was assumed that not everyone would default on their repayments and that the holders of the rights to the first tranches would therefore be sure to receive their payments; those with the right to repayments in the intermediary or *mezzanine* tranche would be at slightly greater risk, and accordingly were offered a higher return; the greatest risk would be borne by those holding the lowest tranche, who were therefore paid the highest returns. The investment banks negotiated with the ratings agencies to ensure that their constructions would obtain the very highest rating – AAA – for the senior tranches of a CDO. Because these paid higher returns than other AAA rated securities, they were considered attractive investments, including by institutions that were legally required to invest only in top rated instruments. The construction of CDOs proved highly profitable, generating huge fees for investment banks and a strong rise in the income of the big ratings agencies.¹²

Because the returns on CDOs proved so attractive, major banks actually maintained significant holdings themselves. These were generally held in off-balance sheet entities known as structured investment vehicles (SIVs), where minimum capital requirements did not apply. The holdings of CDOs were financed by issuing shorter-term commercial paper which, before the onset of the crisis, could readily be refinanced at maturity. After the crisis broke and the commercial paper market collapsed, banks were obliged to dramatically reduce their holdings of CDOs. This provoked a major decline in their value and, as SIVs failed, was a major source of financial losses for the banks.

A massive expansion of mortgage lending in the early 2000s fuelled a major rise in house prices and a boom in house construction. However, the construction boom came to an end in 2005 and, according to official figures, house prices peaked in April 2006 at 201 per cent of their value in January 2000.¹³ At almost the same time, the number of households facing problems in servicing subprime mortgages began to rise sharply as interest rates were adjusted in line with increases in the central bank rate and as initially low ‘teaser rates’ expired. The serious delinquency rate

¹² Investment banks also engaged in yet further engineering, constructing what were known as CDO², in which the repayments on the lowest and riskiest tranches of a number of CDOs would be combined and subjected to a further process of tranching.

¹³ Financial Crisis Enquiry Commission (2011), Figure 6.2, p. 87. According to the the Case-Shiller index of house prices, based on 20 major US cities, the peak was in May 2006; a broader index maintained by the Federal Housing Finance Agency dates the peak one year later (Blinder, 2014, pp. 17-18).

(mortgages that are more than 90 days in arrears) on adjustable rate subprime mortgages, which had fluctuated around 5 per cent, began to increase in early 2006; by 2007 the rate had risen to 20 per cent and it eventually rose to just over 40 per cent in 2009.¹⁴ The first signal of the forthcoming financial crisis occurred in July 2007, when Bear Stearns, a Wall Street investment bank, announced that due to losses it was closing a mortgage fund.

The onset of the crisis can be dated to 9 August 2007 when BNP Paribas announced that it was halting withdrawals on three investment funds which had large holdings of subprime based securities. Since major banks were unsure which other banks might also have made large losses, lending on the unsecured inter-bank money market abruptly declined. This led to a sharp rise in the inter-bank interest rate and, in order to prevent a breakdown of the market, the Federal Reserve was obliged to inject reserves into the banking system. Over the next twelve months the situation steadily deteriorated.

Between September and December 2007 the Federal Reserve lowered its main interest rate in three steps, from 5.25 per cent to 4.25 per cent. Then, in December, it arranged currency swaps with several foreign central banks – reflecting the fact that other developed capitalist countries, most notably in Europe, were also being affected by the financial turmoil. In addition, the Fed introduced the Term Lending Facility, a new type of loan which enabled banks to gain access to reserves without going through the normal prime dealers, a channel which had ceased to function effectively. In January 2008, the pace accelerated, as the Fed cut its lead interest rate by 0.75 per cent and then again by 0.5 per cent. In March it introduced yet another new facility, the Term Securities Lending Facility, by which the Fed lent highly liquid treasury securities to banks against the collateral of less liquid securities.

In mid-March the crisis registered a further important stage with the failure of Bear Stearns, the smallest of the big five New York investment banks. Because the bank was an investment bank not a commercial bank, the Fed was not legally permitted to support it and it therefore arranged for Bear Stearns to be taken over by J P Morgan, with the Fed agreeing to carry \$29 billion of the estimated \$30 billion of losses on dubious mortgage based securities faced by the bank. In July, the two large semi-official mortgage institutions, Fannie Mae which had been set up in the 1930s by the Roosevelt government, and Freddie Mac which had been set up in the 1960s to provide

¹⁴ Financial Crisis Enquiry Report (2011), Figure 11.2, p. 217. Serious delinquencies for fixed rate subprime mortgages, and for adjustable prime mortgages began to rise in 2007 and reached a peak of around 20 per cent in 2009. Traditional fixed rate prime mortgage delinquencies increased, but only slightly, from 2008 following the onset on the deep recession and the sharp rise in unemployment.

competition, began to report rising losses. Although private institutions, these were widely considered to be guaranteed by the government, and the Congress approved an increase in the credit line extended to them by the Treasury. However, this proved insufficient, and on 7 September the government was obliged to effectively nationalise the two institutions by placing them in conservatorship.

The next, and most dramatic, deepening of the crisis began in mid-September 2008. On Monday, 15 September the fourth biggest Wall Street investment bank, Lehman Brothers, failed after a frantic weekend attempt by the authorities to find another bank willing to take it over proved unsuccessful. The Fed argued that, as Lehman was an investment bank, not a commercial bank, it was not permitted to intervene directly itself. This proved to be a major error of judgement, as the failure of Lehman Brothers set off a cascade of failures over the following weeks. The next day, on Tuesday 16 September, the largest insurance company in the US, the American International Group (AIG) was faced with failure, and effectively nationalised when the Fed purchased most of its stock at a cost of \$85 billion (the final cost rose to \$182 billion). AIG had made huge losses from its holdings of Credit Default Swaps (CDSs). These were technically derivatives but in practice they functioned as a form of insurance against the failure of securities, including the complex mortgage backed securities that had begun to fail ever more widely since the first problems emerged in 2007. At the time it was possible to purchase a CDS even if you were not the owner of the underlying security, providing the basis for extensive speculation that complex mortgage backed securities would fail. Then, on Friday, 19 September, as money market mutual funds were faced with massive withdrawals they were obliged to sell commercial paper – one of the key short term credit instruments used extensively by companies in the US – and the commercial paper market came close to closing. In the words of the Fed's chairman, Ben Bernanke to a later enquiry: 'We came very close to a total financial meltdown'.¹⁵ A meltdown was only avoided because, with considerable creativity, the Treasury drew on the Exchange Stabilisation Fund – established in the 1930s to stabilise the *foreign* exchange market – to guarantee existing money market fund deposits. The Fed also contributed to stabilising the market by creating a further new facility to lend to banks willing to buy commercial paper.¹⁶

On Sunday, 21 September, following runs on the two remaining Wall Street investment banks, Morgan Stanley and Goldman Sachs, these successfully applied to become bank holding companies, i.e. commercial banks that are supervised by the Fed and, consequently, eligible for its

¹⁵ Quoted in Blinder (2013), p. 145.

¹⁶ The Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF).

financial support. In the course of the following week there also followed two major bank failures. On 25 September the Washington Mutual, the largest savings and loan bank in the US and the sixth largest bank in the country, was closed by the Fed, making it the largest bank failure in US history. Shortly after, on 29 September, it was announced that another major bank, the Wachovia, would be taken over by Citibank, although a few days later, on 2 October, following further negotiations it was actually taken over by Wells Fargo.

In response to the increasingly alarming financial situation, the Treasury Secretary, Hank Paulson, announced plans for a \$700 billion Troubled Assets Relief Programme which would relieve pressure on financial institutions by buying bad assets. The initial proposal, which was only three pages long, gave the Treasury Secretary sole discretion over how the funds would be deployed, and, despite the gravity of the situation, was rejected by Congress. The programme was eventually approved on 2 October after it had been expanded to 451 detailed pages, but even this was not sufficient to stem the crisis. In the course of the following week, the value of shares on the US stock market fell by some 30 per cent (large declines were also recorded in the other major capitalist states) and on Friday, 10 October, the IMF's Managing Director informed the international press corps, gathered in Washington for the organisation's annual conference, that the world was facing the danger of a financial collapse. Over the weekend the Treasury let it be known that it was working on proposals to use part of the Troubled Asset Relief Programme for capital injections into banks – a little advertised provision in the longer text approved by Congress. The following Monday, the heads of nine of the largest US banks were summoned to a meeting at the US Treasury where they were requested to sign a one-sheet document giving their approval for the government to take shares in their institutions – in effect, a partial nationalisation.¹⁷ Intervention amounted to \$125 billion and it was announced that a further \$125 billion would be used to intervene in smaller banks. The government also announced that it would guarantee up to \$1.5 trillion of banks' senior debt for a period of three years, a move intended to encourage the resumption of lending in the interbank money market, and that the Federal Deposit Insurance Corporation would extend its guarantee to all non-interest-bearing accounts, a measure designed to safeguard company deposits, which often exceeded the previous limit.

On Monday 13 October 2008, when financial markets opened for the first time since the collapse of Lehman Brothers, the financial crisis did not deepen. The decision to partly nationalise the banking

¹⁷ The intention of obliging all the banks to accept an infusion of capital was to avoid any stigma attaching to those banks that did need it. Immediately after the meeting, however, three of the participating banks let it be known that they neither needed nor wanted the infusion of capital (Blinder, 2013, p. 202).

system appeared to have broken the spiral of financial collapse; the acute level of interest rates in the money market began to decline and share prices even recovered somewhat.¹⁸ The Fed had cut its lead interest rates from 4.24 per cent to 2.25 per cent in the first three months of 2008; in October it cut rates twice and in December the lead rate was reduced to an unprecedentedly low target range of 0 – 0.25 per cent. However, faced with a major contraction of bank lending, even to the best known firms, the US economy registered a major slump in output, which fell at an annual rate of 8.2 per cent in the final quarter of 2008 and a further 5.4 per cent in the first quarter of 2009. The situation in the financial system, meanwhile, continued to be viewed as highly precarious. According to Alan Blinder it was not until May 2009, when the results of bank stress tests proved largely positive and most banks' share prices began to rise, that a turning point was reached and the acute stage of the financial crisis came to an end.¹⁹

3. Macroeconomic developments in the age of finance-led capitalism

Income distribution

The US national income accounts show that the share of employees' compensation in net national income exhibited a cyclical pattern, with an increase in the later stages of each business cycle (Figure 4a), but also with a tendency for the value at each peak (1992, 2001 and 2008) to slowly decline. Nevertheless, the average in the 1980s, which stood at 65.5 per cent, was virtually the same in the 1990s, when it registered 65.3 per cent. It then fell slightly, to 64.1 per cent in the cycle leading up to the crisis, and to 62.6 per cent in the period following the crisis (Table 2).

Table 2. US distribution of income by business cycle, % national income

	1980-1990	1991-2000	2001-2007	2008-2013
Compensation of employees	65.9	65.3	64.1	62.6
Property income	25.5	25.8	27.3	28.9
Proprietors income	6.7	7.8	8.9	8.5
Rental income	0.7	1.8	2.1	3.3
Corporate profits	9.0	9.9	11.4	13.0
Taxes	2.9	3.1	3.0	2.8
Net dividends	2.8	4.0	5.1	5.6
Undistributed profits	3.2	2.8	3.3	4.6
Net interest	9.1	6.3	4.9	4.1
Taxes less subsidies	7.8	7.9	7.7	7.8
<i>Rentier income (Rent + Net dividends + Net interest)</i>	<i>12.7</i>	<i>12.1</i>	<i>12.2</i>	<i>13.0</i>

Source: BEA, *National Income and Product Accounts*, Table 1.14

¹⁸ BEA, *National Income and Product Accounts*, Table 1.1.1.

¹⁹ Blinder, 2013, p. 260.

Figure 4a. US employee compensation, % net national income

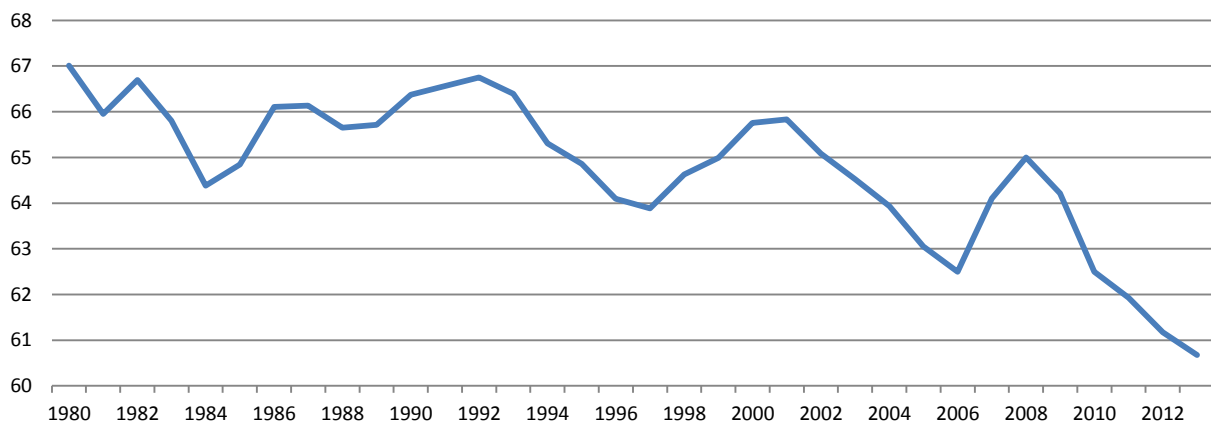


Figure 4b. US corporate profits, % net national income

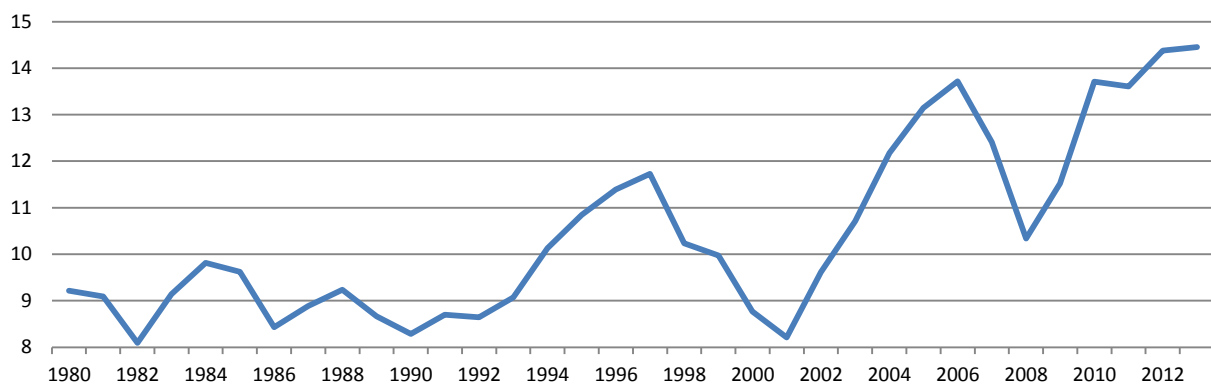
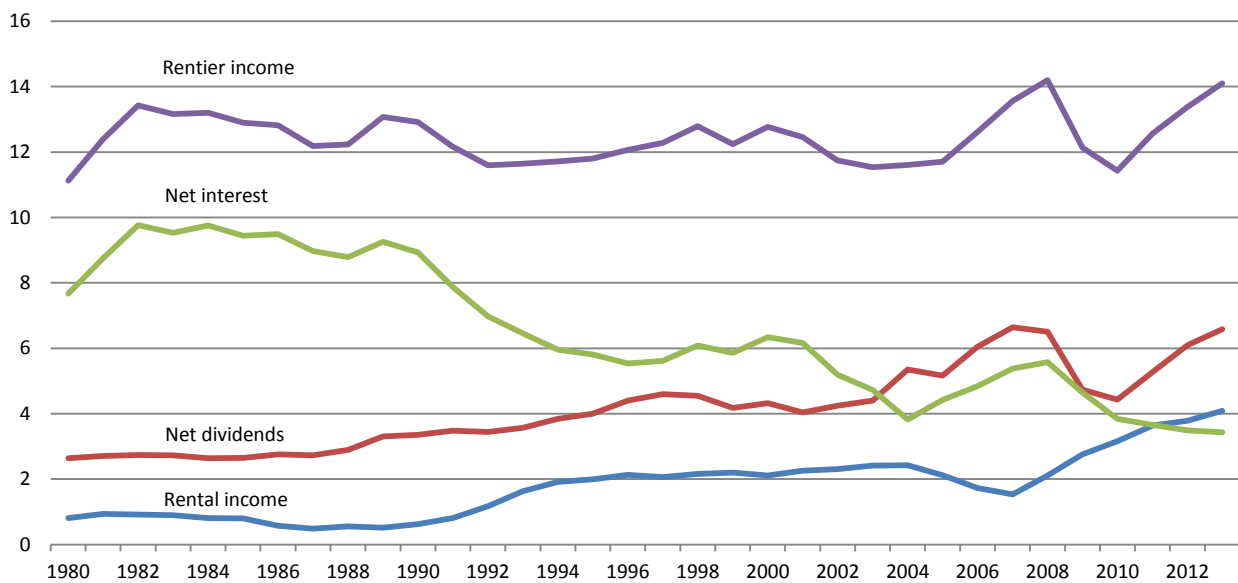


Figure 4c. US rentier income, % net national income



Source: BEA, *National Income and Product Accounts*, Table 1.12.

The share of corporate profits in net national income (Figure 4b) is strongly cyclical. The peaks tend to occur slightly before the onset of the cyclical downturn but each peak is higher than the previous peak. Strikingly, the value in 2013, the last full year for which data is available, is even higher than that in 2006. The average in each cycle increased from 9.0 per cent in the 1980s, to 9.9 per cent in the 1990s and 11.4 per cent in the cycle leading to the crisis. Despite the sharp fall in 2008, the share of corporate profits since the crisis has risen even further, to average 13.0 per cent of national income.

The share of rentier income in net national income (Figure 4c), on the other hand, has remained relatively stable since the 1980s, fluctuating around just over 12 per cent. Nevertheless, this masks important changes in composition. The significance of net interest has declined, reflecting the long-term decline in interest rates, whereas that of dividend payments and rents has increased to fill the gap.

Although the official figures for the share of employees compensation in national income, shown in Figure 4a, do indicate a decline, Gérard Duménil and Dominique Lévy argue that the figures mask a far more serious decline in the share of income for all but the highest paid 5 per cent of employees since the 1980s.²⁰ According to their estimates, which are based on figures for just the corporate sector of the US economy, the share of wages in total income remained relatively constant, fluctuating at around 72 per cent of national income. By contrast, excluding the top 5 per cent, the share of wages of the remaining 95 per cent fell from 62.2 per cent of income in 1980 to 51.5 per cent in 2009, a decline of some 10 per cent. Duménil and Lévy note that drawing the line at 95 per cent of income earners is slightly arbitrary (it corresponded to an annual income of \$143,000 in 2007), but the implication is clear: the incomes of the top 5 per cent are better regarded as a share in profits and, once these are excluded, the share of the income of the mass of waged workers registers a more notable decline between the early 1980s and the crisis.

Duménil and Lévy also note that the share of profits that is paid out, rather than retained by firms, has tended to rise since the 1980s.²¹ If the figure for the payment of dividends is combined with the income of the top 5 per cent of employees, they find this increased from around 18 per cent of net income in the corporate sector in the early 1980s to some 28 per cent in 2007.

²⁰ Duménil and Lévy, 2011, pp. 49-50.

²¹ Duménil and Lévy, 2013, pp. 51-52.

Figure 5a. US real hourly wages of men by wage percentile, 1980 = 100

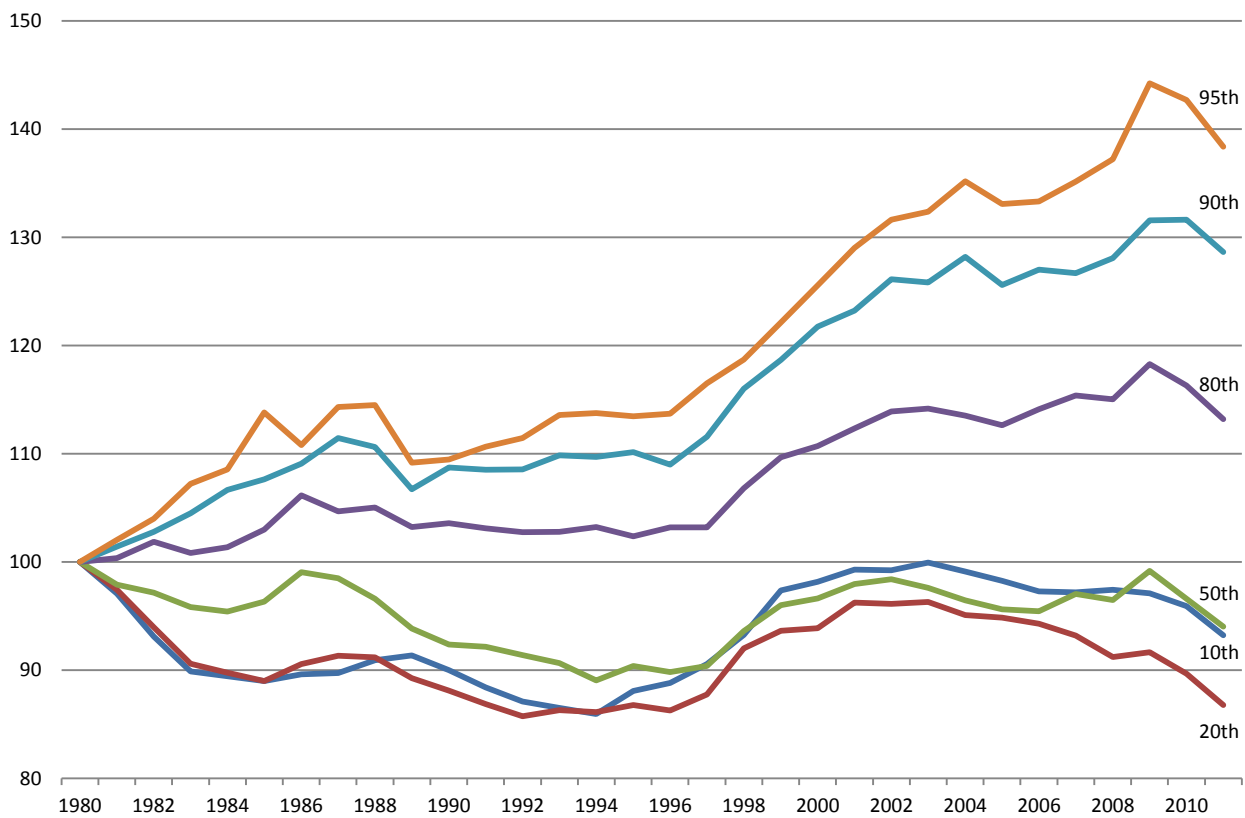
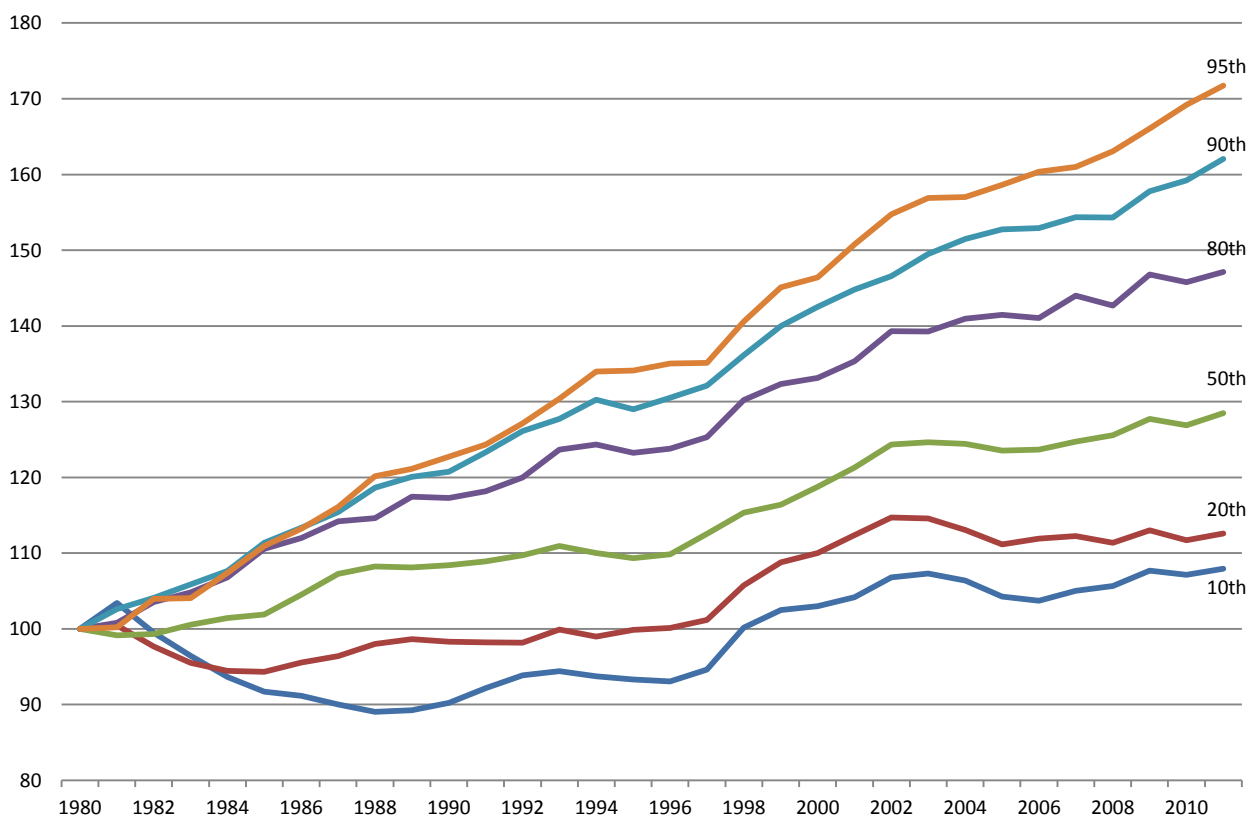


Figure 5b. US real hourly wages of women by wage percentile, 1980 = 100



Source: Mishel et al (2012), data base, Figures 4c and 4d.

The marked divergence in the evolution of real wages at different income levels from the early 1980s onwards is shown for men in Figure 5a. The hourly real wage for workers at the 50th percentile and below all declined in the 1980s and the first half of the 1990s and, despite an increase during the strong business expansion in the late 1990s, it declined again in the early 2000s and at the peak in 2009 remained below the value in 1980. It is only for workers at the 80th percentile and above that real hourly wages registered an increase in the 1980s, the 1990s and the years leading up to the crisis. The largest increase accrued to those at the 95th percentile who registered a rise of 45 per cent between 1980 and 2009.

The development of real wages at different levels of income for women is shown in Figure 5b. Although women at the 10th and 20th percentile registered a decline in real wages in the 1980s, this was recuperated in the late 1990s and by 2009 both groups, together with those at the 50th percentile, had incomes above those in 1980s. The most striking rise however, as with men, was registered by women workers at the 80th, 90th and 95th percentile and at the 95th percentile real wages increased by 70 per cent between 1980 and 2009. Nevertheless, even despite the relatively stronger growth of women's income, by 2009 – the peak for men – men continued to be paid more than women at every level of income, with the gap rising from 12 per cent at the 10th percentile to 38 per cent at the 95th percentile.

The growing divergence of top incomes from median incomes is also evident in the wage differentials between men at different levels of income, shown in Figure 6a. The ratio of incomes at the 50th percentile to those at the 10th percentile increased slightly in the early 1980s, when the lowest wages fell most, but then remained relatively constant. By contrast, the ration of those at the 90th to those at the 50th percentile increased steadily, from 1.8 in 1980 to 2.3 in 2007, while the ratio of those at the 95th to the 50th percentile increased from 2.1 to 3.0.

The wage differential for women at different levels of income, shown in Figure 6b, followed a similar path. The ratio of incomes at the 50th percentile to those at the 10th percentile increased in the early 1980s, when the lowest incomes fell, but then remained relatively stable. Similarly to the figures for men, the ratio for women at the 90th percentile to those at the 50th percentile increased from 1.8 in 1980 to 2.3 in 2007, while the ratio for those at the 95th percentile to those at the 50th percentile increased from 2.2 to 2.8.

Figure 6a. US wage differentials among men

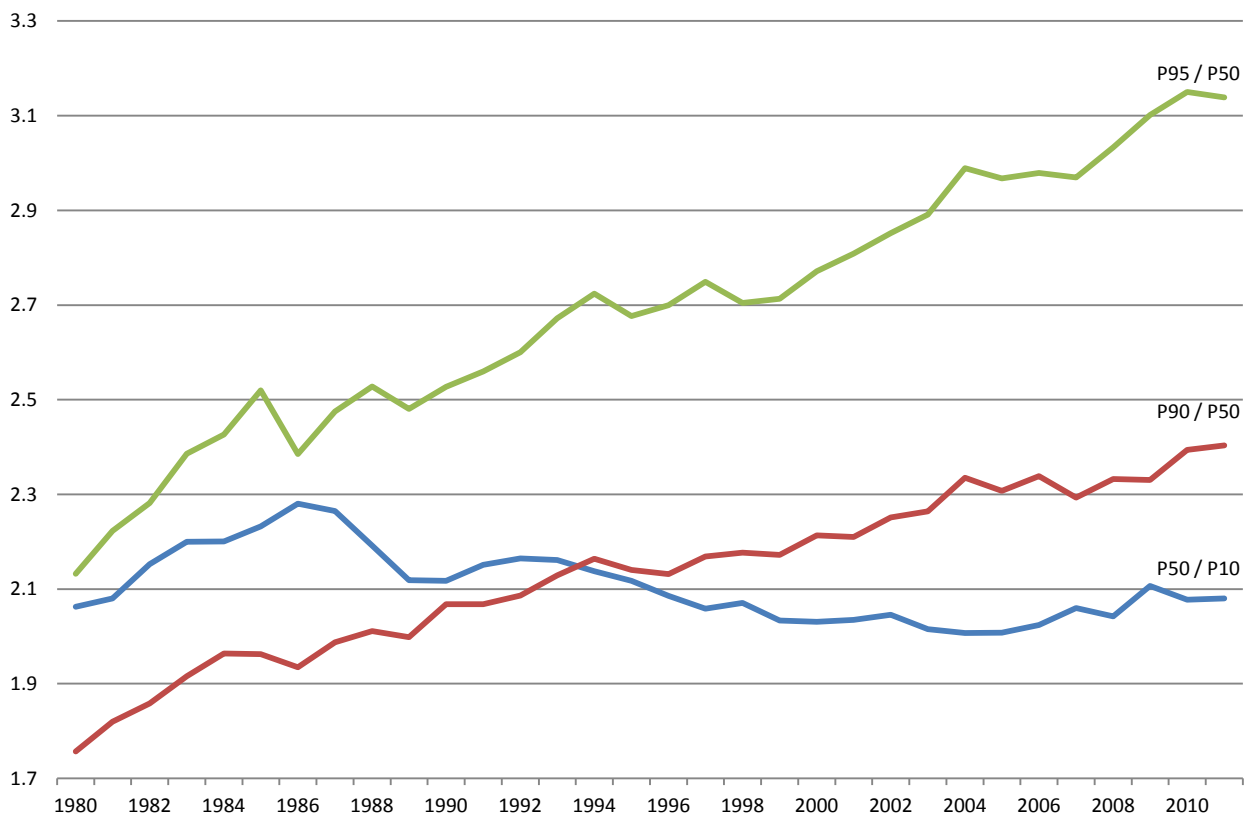
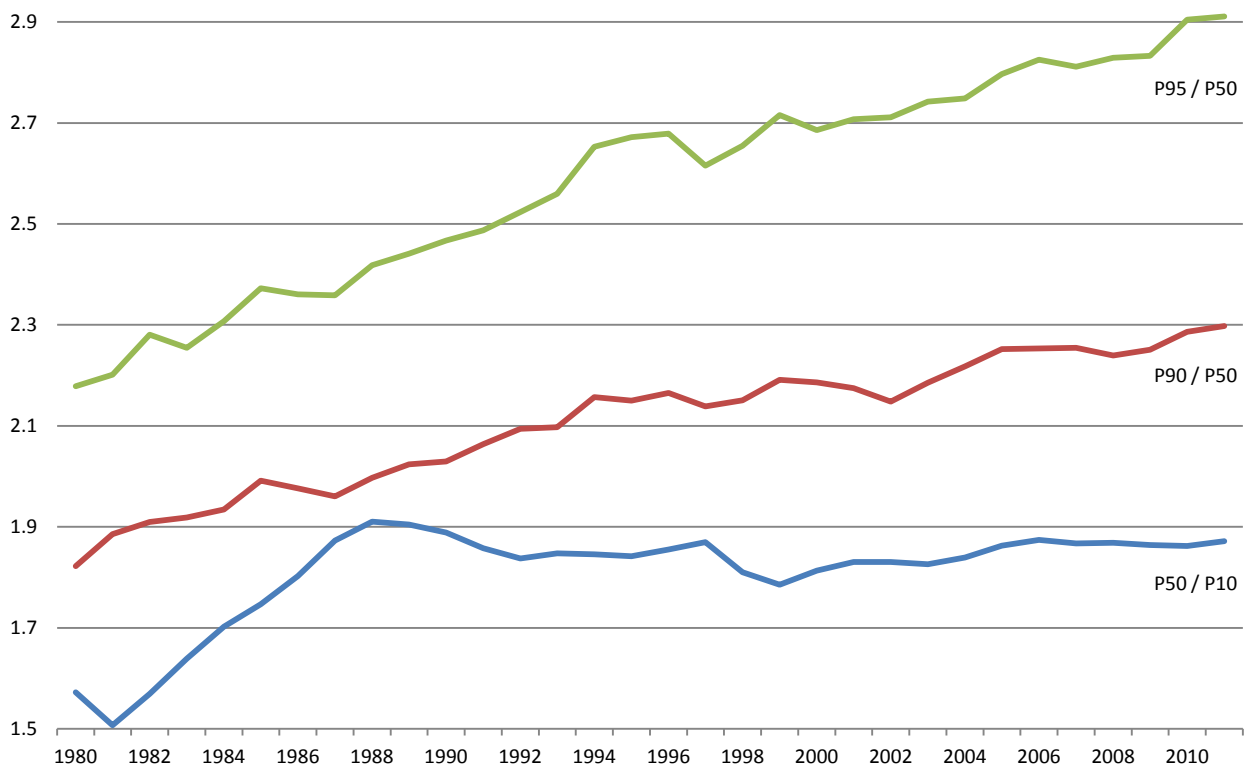


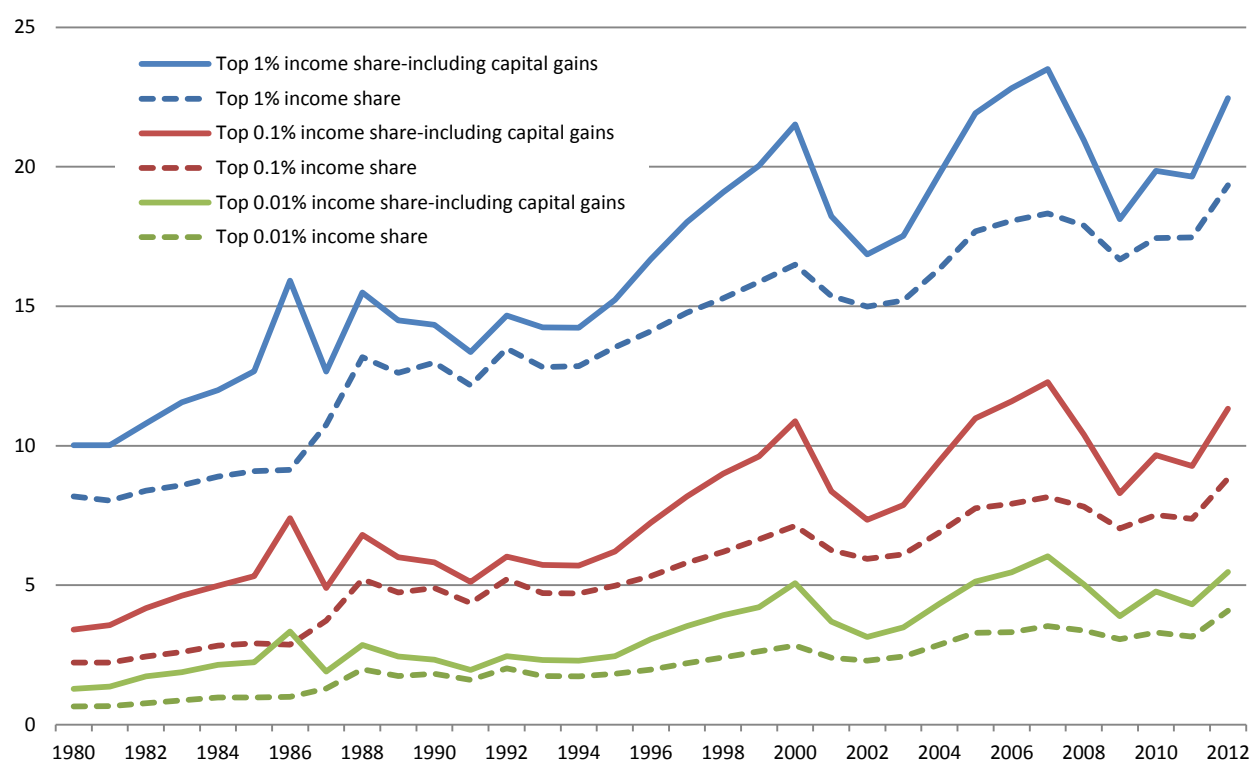
Figure 6b. US wage differentials among women



Source: Mishel et al (2012), data base, Figures 4k and 4l.

The significance of the strong rise of top incomes in the US has been highlighted by the much cited research initiated by Thomas Piketty and Emmanuel Saez (2003). This shows how the share of top incomes declined in the 1930s and 40s and then remained comparatively low until the 1970s, when it began to rise again, returning to levels last seen in the 1920s. According to updated data, shown in Figure 7, the share of the top 1 per cent roughly doubled between 1980 and 2007, rising from 8.2 to 18.3 per cent of income; if capital gains are included it increased from 10.0 per cent to 23.5 per cent. Including capital gains, the share of the top 0.1 per cent increased more, roughly trebling, from 3.4 per cent to 11.3 per cent, while that of the top 0.01 per cent increased yet more markedly, roughly quadrupling from 1.4 per cent to 5.5 per cent.

Figure 7. US income share of top earners, % total income

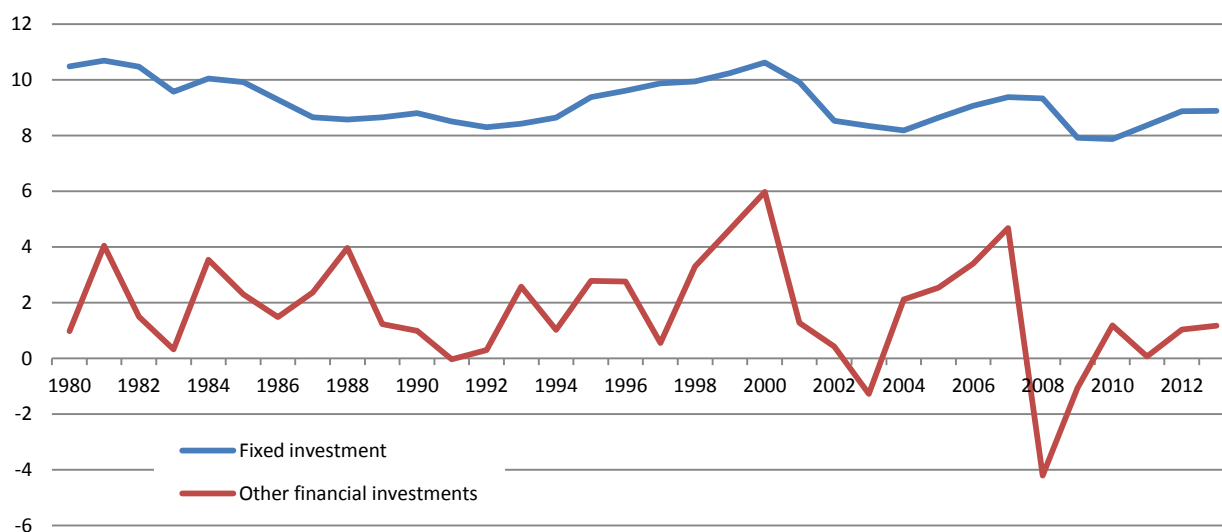


Source: Alvarez et al, Top Income Data Base

Investment

Fixed investment in the US economy is also strongly cyclical, principally due to the pattern of nonresidential investment. As was shown in Figure 2b (see page 10), somewhat unusually, nonresidential investment tended to decline as a share of GDP during the business expansion in the 1980s – principally because corporations were involved in a major wave of mergers and takeovers. In the business expansions in the 1990s and in the early 2000s the share of nonresidential investment in GDP did register a cyclical increase, but against a declining overall trend, and this decline is even more marked in the cycle which began in 2008.

Figure 8. US nonfinancial corporations' fixed and 'other financial' investment, % GDP



Source: Federal Reserve, *Financial Accounts*, Table F102.

Annual data for fixed investment by nonfinancial corporations is shown in Figure 8. This is somewhat lower than the quarterly data for total fixed investment shown in Figure 2b (which includes the whole of the private sector, and not just nonfinancial corporations), but it demonstrates the same cycle pattern with peaks in 2000 and in 2007. Figure 8 also shows the spending by nonfinancial corporations on what is categorised as 'other financial investments'. This tended to fluctuate quite strongly from quarter to quarter, but the annual figures – shown here – also demonstrate a notable cyclical pattern, with peaks in 2000 and 2007 which reached values equal to 50 per cent or more of fixed investment. According to the statistical authorities at the Federal Reserve, this is a residual category, but it is considered to reflect the importance which financial investments have come to play for nonfinancial corporations.

The significant pressure which has come to bear on nonfinancial companies to reward shareholders is indicated by the figures in Table 3, which show how the sector's operating surplus was distributed. The share of interest payments declined between the 1980s and the cycle leading up to the crisis.²² By contrast, the share of the operating surplus paid out as dividends increased steadily, from some 20 per cent in the 1980s, to around 30 per cent in the 1990s, and almost 40 per cent in the years immediately prior to 2007. Over the same period, the share of taxes and even more markedly, that of retained earnings declined correspondingly. Significantly, the annual figures indicate that even during cyclical downturns, nonfinancial corporations maintained dividend payments and absorbed the decline in income in their retained earnings.

²² This was despite a rise in the level of the nonfinancial corporate sector's debt, which is discussed below, and reflects the steady decline in interest rates from the high levels obtaining in the early 1980s.

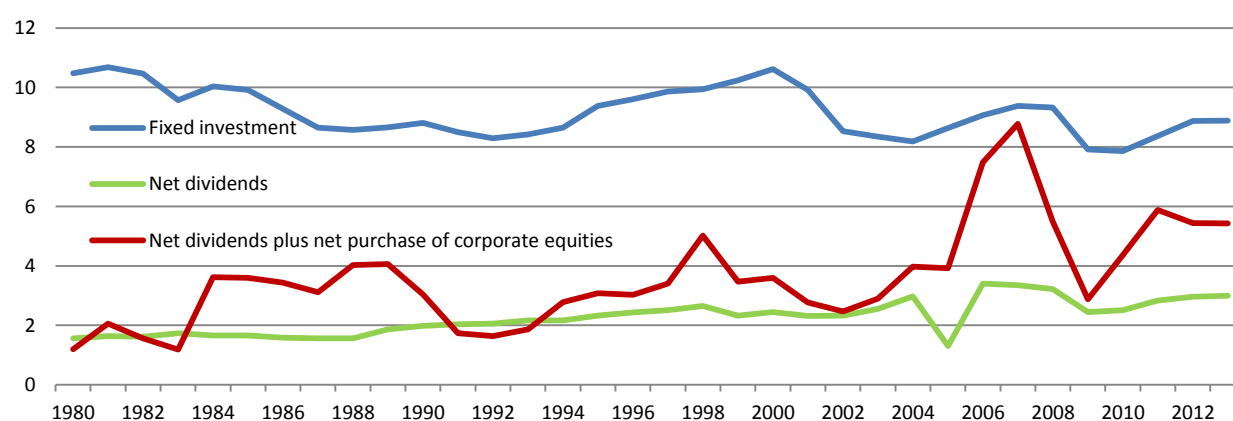
Table 3. US nonfinancial corporations' interest payments, dividends and retained earnings, % operating surplus

	1980-1990	1991-2000	2001-2007	2008-2013
Net interest	29.2	23.1	21.2	22.0
Corporate profits	66.0	71.2	72.0	72.2
Taxes on corporate income	22.1	21.9	19.8	17.7
Profits after tax	43.9	49.4	52.2	54.5
Net dividends	20.3	29.8	34.1	33.2
Undistributed profits	23.6	19.6	18.2	21.3

Source: BEA, *National Income and Product Accounts*, Table 1.14

The figures from the National Income Accounts shown in Table 3 actually understate the pressure on nonfinancial corporations to reward shareholders. Partly for tax reasons, and partly so as not to establish expectations of continued high dividend payments, nonfinancial corporations have since the 1980s also rewarded shareholders through the use of share buybacks on an ever increasing scale. Figure 9 draws on data from the Federal Reserve's Financial Accounts which show how dividend payments steadily increased, from some 1.8 per cent of GDP in the early 1980s to 3.6 per cent by the peak in 2006. However, the net amount returned to shareholders as a result of share buy backs increased even more strongly, most notably during the expansion leading up to the crisis, and by 2007 the sum of dividends share buy-backs was equal to 8.8 per cent of GDP – only just short of spending on fixed investment, which stood at 9.4 per cent of GDP.

Figure 9. US nonfinancial corporations' spending on fixed capital, dividends and net share buybacks, % GDP



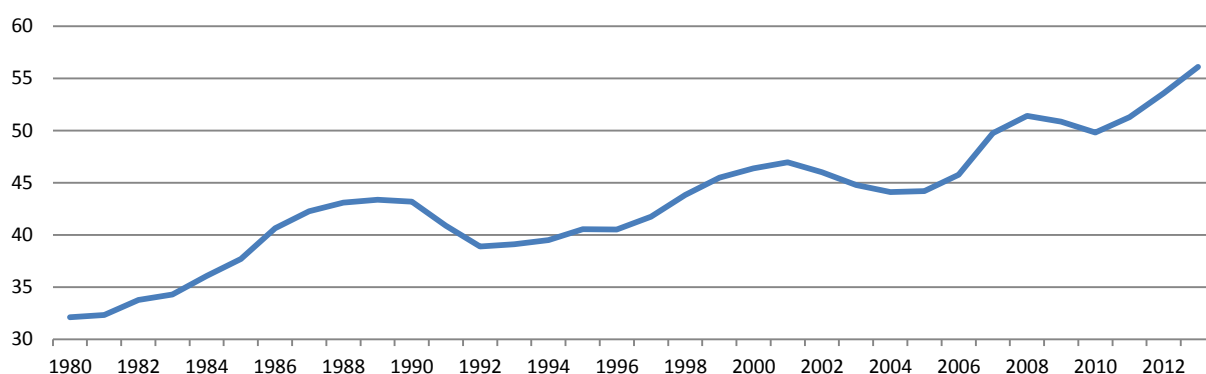
Source: Federal Reserve, *Financial Accounts*, Table F102

For most of the period since 1980, nonfinancial corporations' internal funds have been sufficient to finance the sector's fixed investment.²³ In fact, from 2002 to 2006 and again from 2009 to 2013, fixed investment was actually below the value of internal funds. However, because of the takeover boom in the 1980s, and the increasing importance since then of financial investments and the large

²³ The only exception was the period between 1998 and 2000, when fixed investment rose to 20 per cent above internal funds.

programmes of share buy backs, it was necessary for the sector to raise funds in the credit markets, something which it realised predominantly through selling bonds. Consequently, nonfinancial corporations' credit market debt, shown in Figure 10, increased in each business cycle expansion, rising from 32 per cent of GDP in the early 1980s to 51.4 per cent in 2008. After declining slightly in the next two years it then increased yet again, and had reached 56.1 per cent of GDP by 2013.

Figure 10. US nonfinancial corporations' credit market debt, % GDP



Source: Federal Reserve, *Financial Accounts*, Table L102

Household consumption

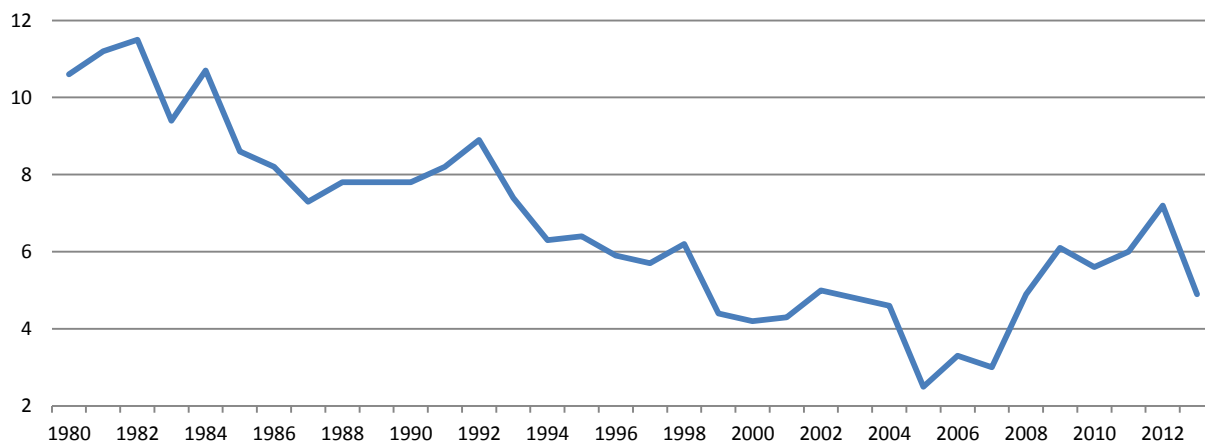
Economic growth in the US since the 1980s has been driven primarily by household consumption spending, as shown in Table 1 (page 6). Since median incomes have scarcely risen during this time, various explanations have been put forward to explain this growth of consumer spending. In the 1990s, when the US stock market registered a strong increase in values, it was argued that the growth of consumption could be explained by a wealth effect. At the time, a paper by the Federal Reserve estimated that a rise in stock values of one dollar led to a rise in consumption of some 4 cents.²⁴ However, as is well known, share ownership in the US is extremely concentrated. In the late 1990s, when the significance of the wealth effect was most emphasised, the top one per cent of households owned some 50 per cent of shares while the bottom 80 per cent owned just 4.1 per cent.²⁵ While a wealth effect might help to explain the very strong rise in luxury consumption spending of top income groups, for the majority of households who own very few shares it is unlikely to have played a very significant role.

²⁴ Ludvigson and Steindel (1999).

²⁵ Poterba (2000). If indirect holdings through pension funds were excluded, the figure for the bottom 80 per cent fell to 1.7 per cent. More recent figures, including the years 2007 and 2010, are available in Bricker et al. (2012).

One important factor which accounted for the steady rise in consumer spending despite the stagnation of median incomes was a decline in the savings rate. As can be seen in Figure 11, the personal savings rate in the US declined steadily, from around 11 per cent at the start of the 1980s to a mere 3 per cent in 2007.

Figure 11. US personal savings as percentage of personal disposable income



Source: BEA, *National Income and Product Accounts*, Table 2.1

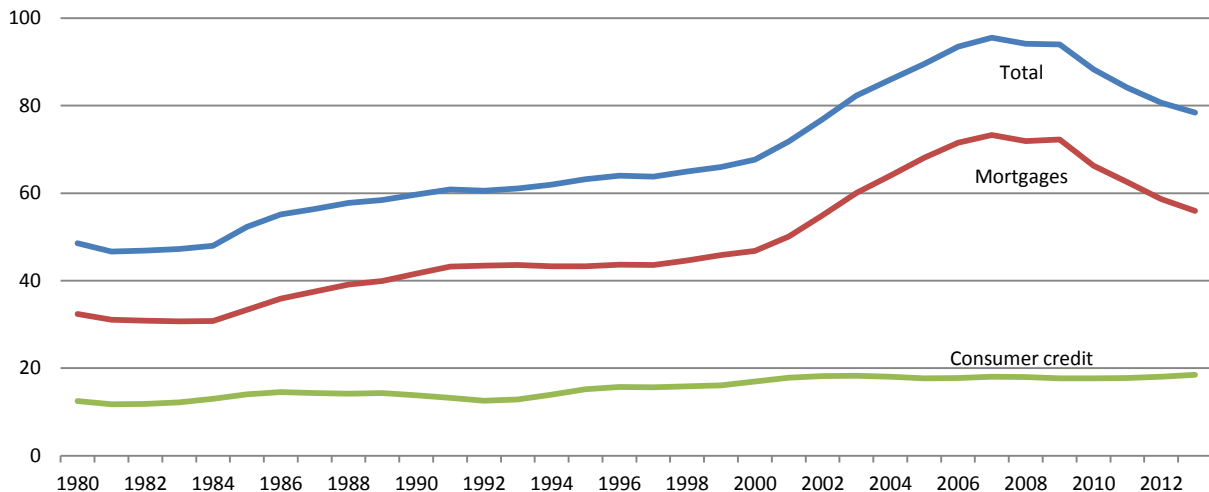
The other significant factor which explains the growth of consumption spending was a steady rise in borrowing – a development which Raghuram Rajan (2010) presents as being, in effect, a policy choice by successive governments in the face of stagnant incomes. One important form of borrowing, particularly in the final phase of expansion, was for households to borrow against the rising value of their homes. Some households took advantage of lower interest rates to refinance their mortgages – a procedure that is permissible at relatively little cost in the US – and borrowed more than was required to pay off their existing mortgages; others simply took out a new loan against the increased value of their home. According to estimates published by the Federal Reserve, this form of borrowing rose from \$157 billion in 2000 to \$485 billion at its peak in 2005 – sufficient to finance some 65 per cent of the increase in consumption spending that year.²⁶

The scale of the borrowing led to a marked rise in the scale of outstanding debt of the household sector. As can be seen in Figure 12, outstanding household debt at the start of the 1980 was equal to around 47 per cent of GDP. This then began to rise in the course of the 1980s and the 1990s, but it registered an especially marked rise from the start of the 2000s and, at its peak in 2007, it reached a level equal to 95.5 per cent of GDP. Figure 12 also shows that the marked rise in the

²⁶ Figures from Greenspan and Kennedy (2005) and updated figures kindly provided by Jim Kennedy.

weight of household debt was principally due to increased mortgage borrowing, rather than consumer credit.

Figure 12. US households debt, % GDP



Source: Federal Reserve, *Financial Accounts*, Table l100

Unit labour costs and international competitiveness

In the late 1970s, as inflation increased, workers had had some success in defending the value of their wages. However, the monetarist offensive in the early 1980s led to a sharp rise in unemployment and succeeded in breaking the ability of workers to raise wages in line with inflation. This was reflected in the development of unit labour costs, as shown in Figure 13a. The growth rate of unit labour costs fell sharply between 1980 and 1984 and then fluctuated around 4 per cent in the second half of the 1980s; following a renewed rise in unemployment due to the recession in 1990, the growth rate of unit labour costs declined again and from the early 1990s until 2008 it fluctuated around 2 per cent; after 2008 there were then several years in which unit labour costs did not increase at all. From 1980 onwards, the growth of unit wage costs was generally slightly below the rate of inflation and, as can be seen in Figure 13b, the evolution of unit labour costs fell steadily behind the rise in the consumer price index.

Figure 13a. US unit labour costs and consumer prices, annual change (%)

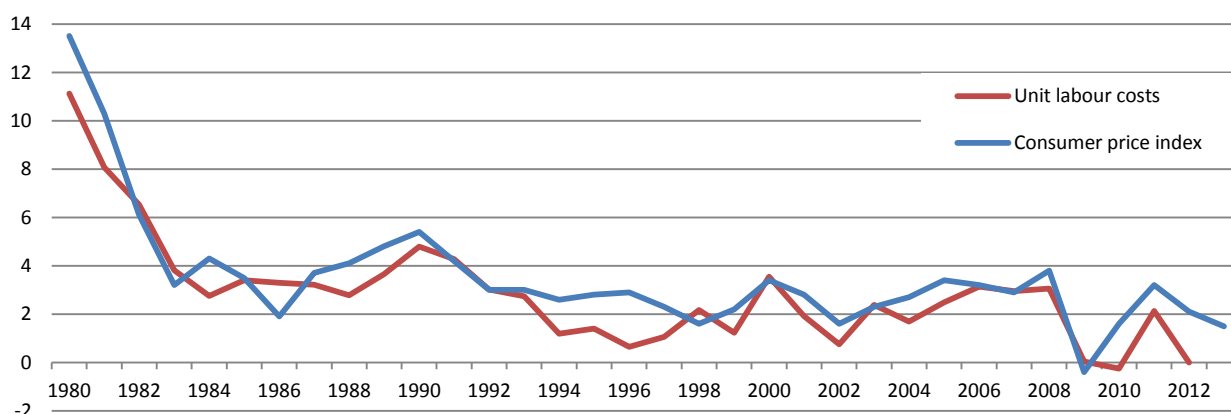
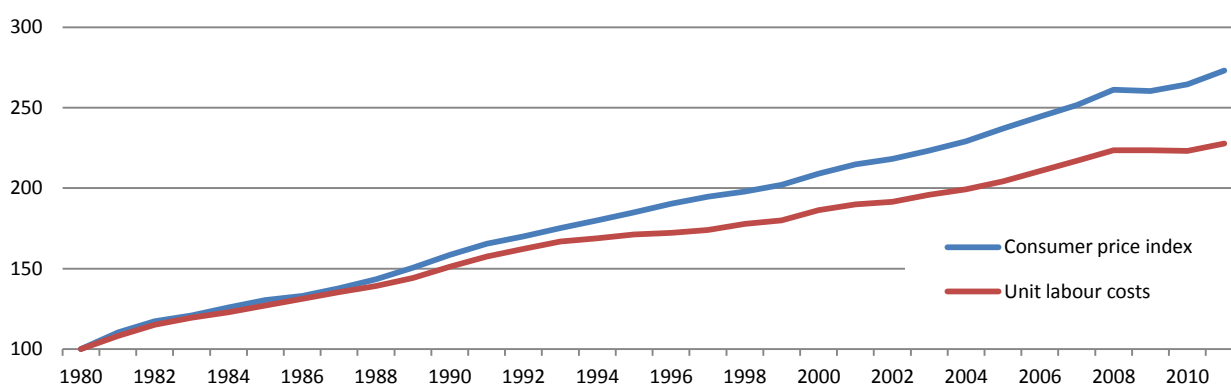


Figure 13b. US unit labour costs and consumer prices, 1980 = 100 (rebased)



Source: OECD, *Unit labour costs and consumer price index*, 2010 = 100.

The US dollar's nominal exchange rate has registered significant swings since the early 1980s, as shown in Figure 14a. In the early 1980s exceptionally high interest rates in the US succeeded – as intended – in attracting short-term capital back to the US, and the value of the dollar soared to unsustainable levels. In order to avoid the disruption which an uncontrolled fall in the dollar might have caused, the other major capitalist states collaborated in facilitating a so-called ‘soft landing’, and the dollar registered a rapid decline in value between 1985 and 1987.²⁷ There then followed a lengthy period when, thanks to low interest rates in the US, the dollar tended to weaken against other currencies. In the late 1990s, when the US experienced its strongest phase of expansion in some 20 years, higher interest rates attracted capital to the US and the value of the dollar again increased strongly. However, following the onset of the recession in 2001 and the adoption of low interest rates in the US, the dollar again tended to weaken through until 2008. Since 2008 the dollar has begun to strengthen somewhat, reflecting the irony that – although the crisis began in that country – the US authorities have not been quite as incompetent as their European counterparts in overcoming the deleterious impact of the crisis.

²⁷ The so-called Plaza Accord of 1985, and the Louvre Accord of 1987.

Figure 14a. Nominal effective exchange rates, 2010 = 100

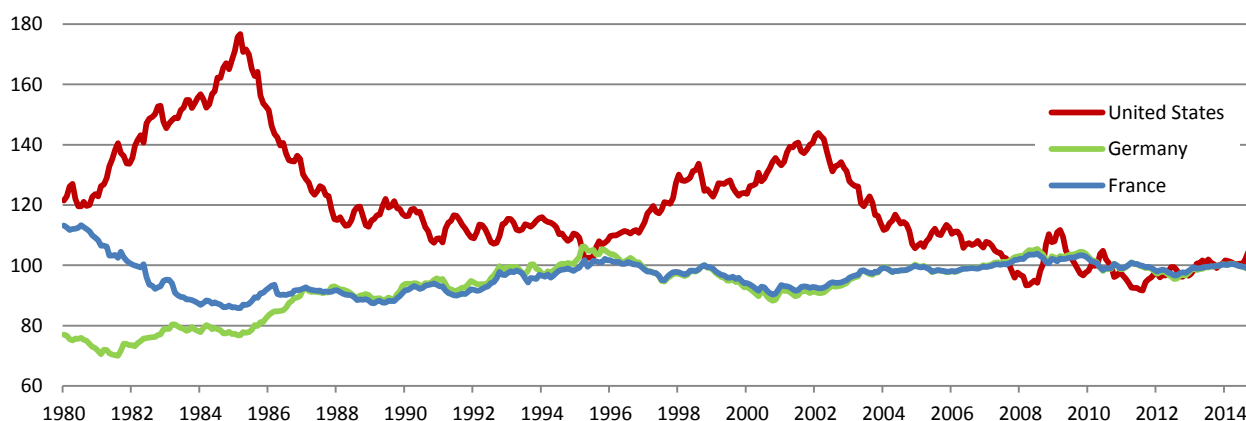
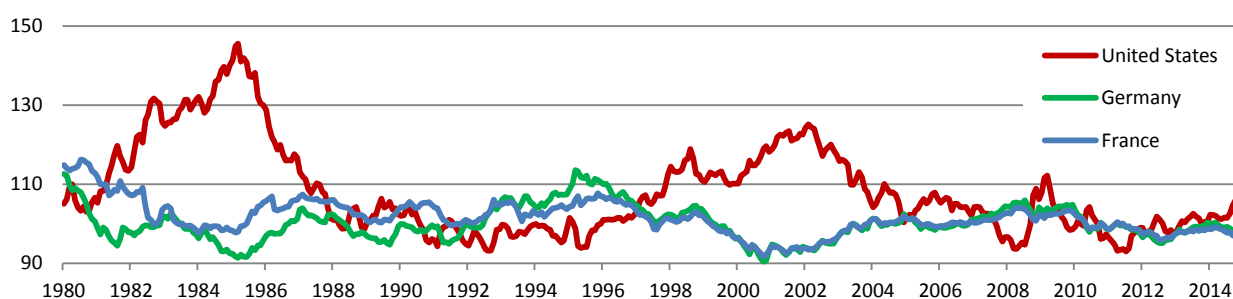


Figure 14b. Real effective exchange rates, 2010 = 100



Source: Bank for International Settlements, Effective exchange rate indices.

The so-called real effective exchange rate for the US dollar has also shown large shifts since 1980, as shown in Figure 14b. Its development reflects the evolution of costs in the US compared with those in other major states but, as can be observed, the large fluctuations have been determined primarily by the shifts in the nominal exchange rate, shown in the previous panel.

International payments

US international payments have been characterised since the early 1980s by a deficit on the current account and significant net inflows of capital on the financial account. The country's trade balance, shown in Figure 15a, registered a rising deficit in the first half of the 1980s, principally due to the sharp rise in the value of the dollar and a notable decline in exports. Although the trade deficit declined in the second half of the 1980s as the dollar weakened and exports began to recover, from the early 1990s the deficit steadily increased, reaching a peak of almost 6 per cent of GDP in 2006. Although a weakening of the dollar from 2002 onwards was followed by a strengthening of exports, this was not sufficient to counter the strong rise in the demand for imported goods and services, which only registered a decline with the dramatic deepening of the crisis at the end of 2008.

Figure 15a. US balance of trade in goods and services, % GDP

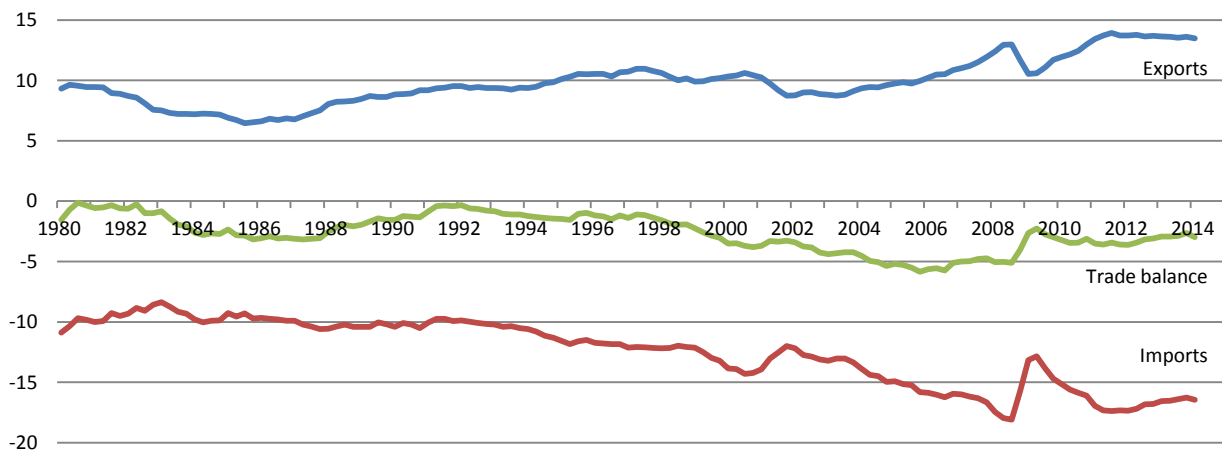


Figure 15b. US balance of receipts and payments of income, % GDP

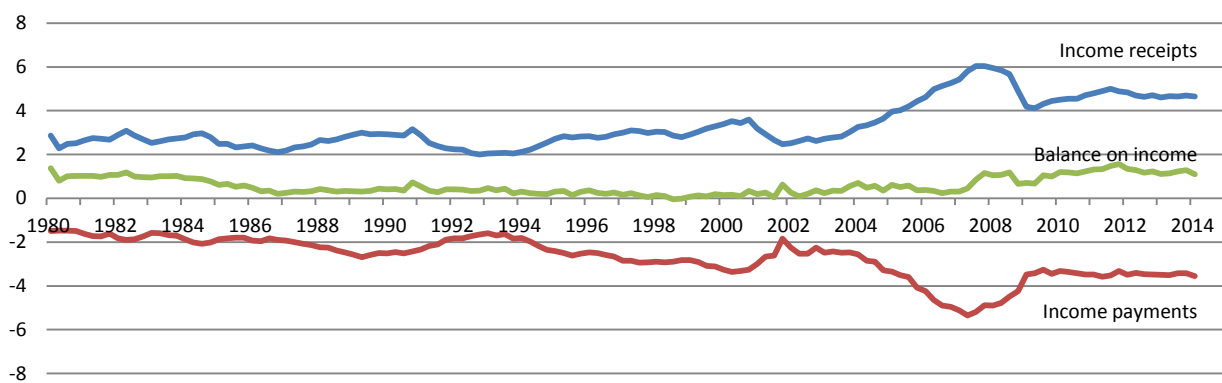
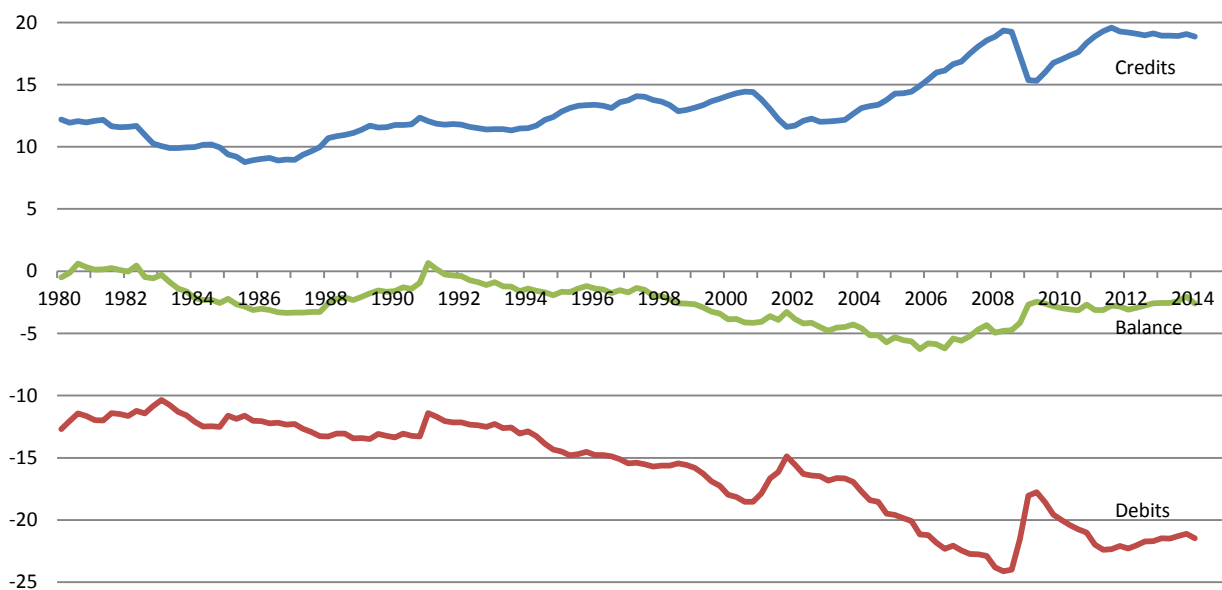


Figure 15c. US current account balance, % GDP

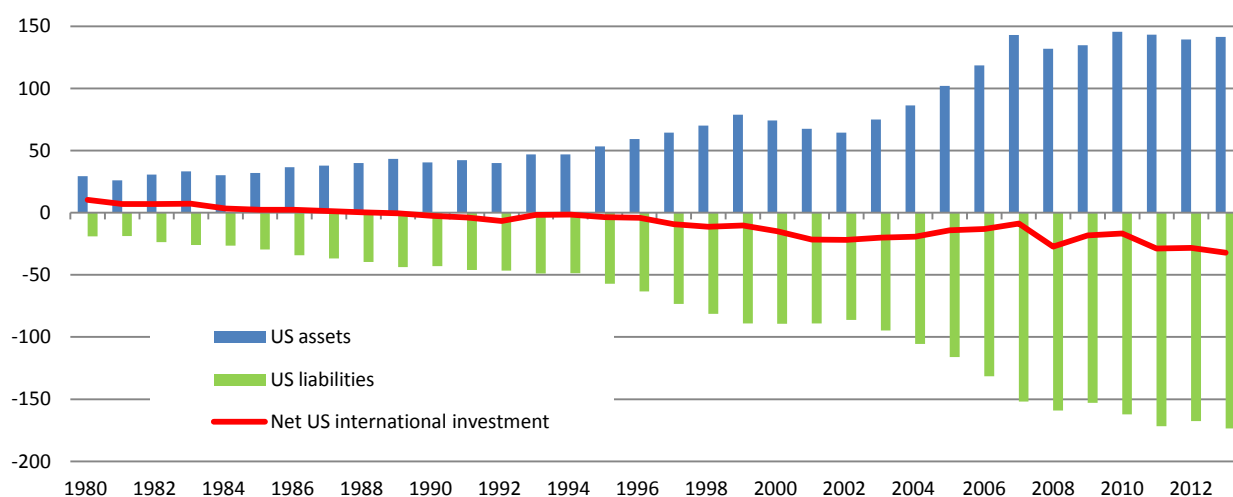


Source: BEA, *International Transactions*, Table 1.1

Although the US has had a trade deficit since the early 1980s, this has been slightly offset by a positive balance on its receipts and payments of income from abroad. These involve payments of interest, where the US has had a deficit as a result of the rising foreign holdings of US bonds, in particular government bonds; but these have been more than offset by the balance of income from foreign direct investment, where the US has consistently generated a surplus. As can be seen in Figure 15b, both receipts and payments of income tended to rise up to 2007, when both registered a marked decline.

The evolution of the US current account, shown in Figure 15c, has been primarily determined by the trade account. The current account deficit increased to over 3 per cent of GDP during the 1980s and, following a decline during the recession at the start of the 1990s, it then increased steadily to reach 6 per cent of GDP in 2006. Following the onset of the crisis, the current account deficit fell quite sharply, and since 2010 it has fluctuated just below 3 per cent of GDP.

Figure 16. US international investment position, % GDP



Source: BEA, *International Economic Accounts*, Table 1.1, US net international investment position at end of period.

The persistent deficit in the US current account balance since the 1980s has been financed by large inflows of capital. As a result, the US's net international investment position, which had for long registered a positive balance, was steadily eroded in the course of the 1980s. As shown in Figure 16, US international assets increased from around 30 per cent of GDP in the early 1980s to 78 per cent in 1999, and then increased especially sharply in the following period to reach 143 per cent of GDP at the peak in 2007. US international liabilities, by contrast, were only 20 per cent of GDP at the start of the 1980s but then increased even more strongly, exceeding assets for the first time in the late 1980s, and rising to 159 per cent of GDP in 2008. The net international investment position consequently shifted from a positive average balance equal to 3.5 per cent of GDP in the

1980s, to a negative average balance equal to 17 per cent of GDP in the period from 2001 to 2007, and to 25 per cent of GDP in the period following the onset of the crisis.

Table 4. US international investment position, period averages as % GDP

	<i>1980-1990</i>	<i>1991-2000</i>	<i>2001-2007</i>	<i>2008-2013</i>
US assets	34.5	57.6	93.8	139.3
US liabilities	-31.0	-64.4	-110.8	-164.5
Net US international investment	3.5	-6.7	-17.0	-25.2

Source: Based on BEA, *International Economic Accounts*, Table 1.1, US net international investment position at end of period.

4. The international transmission of the crisis

Financial transactions

One of the key channels by which the crisis was transmitted from the United States to other countries was through bank transactions. The full picture involves a complex picture involving sudden shifts in both the assets and liabilities of banks. The scale of these shifts is indicated in Figure 17a, which shows changes in US banks' holdings of foreign financial assets through loans and deposits. It can be seen that there was a strong rise in the volume of loans and deposits extended in other countries between 2003 and the first two quarters of 2007, when quarterly increases amounted to almost \$300 billion. However, these transactions virtually ceased in the second half of 2007, and in 2008 there was a very large contraction, particularly of loans, which declined by over \$400 billion in the fourth quarter of 2008 at the height of the crisis. Since the second half of 2009 the pattern of transactions has been less consistent, but there has clearly not been a return to the large increases in foreign loans seen before the crisis.

Figure 17a. US acquisition of foreign assets: loans and deposits, \$ billion

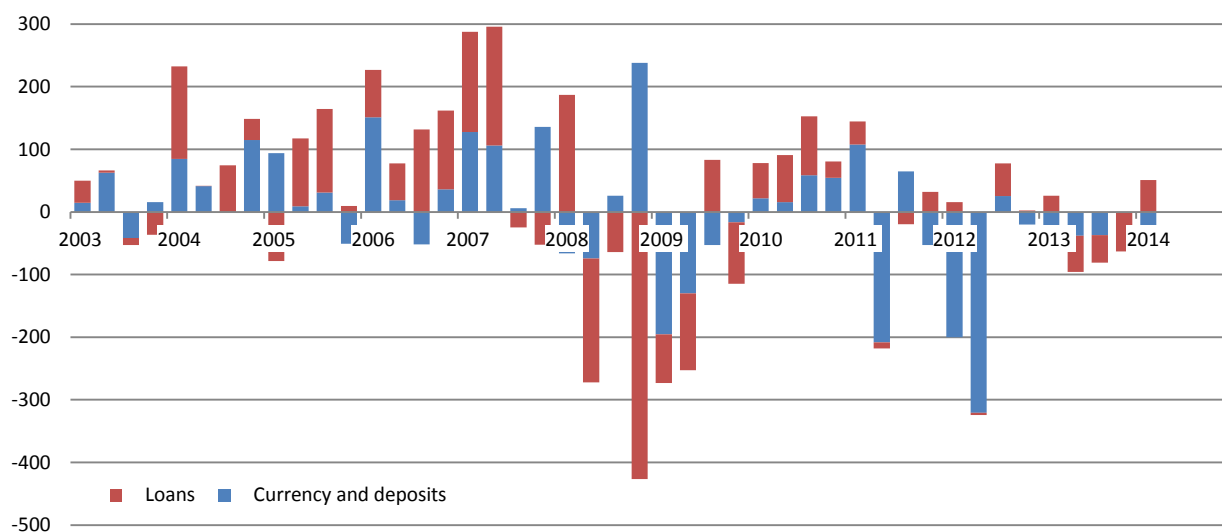
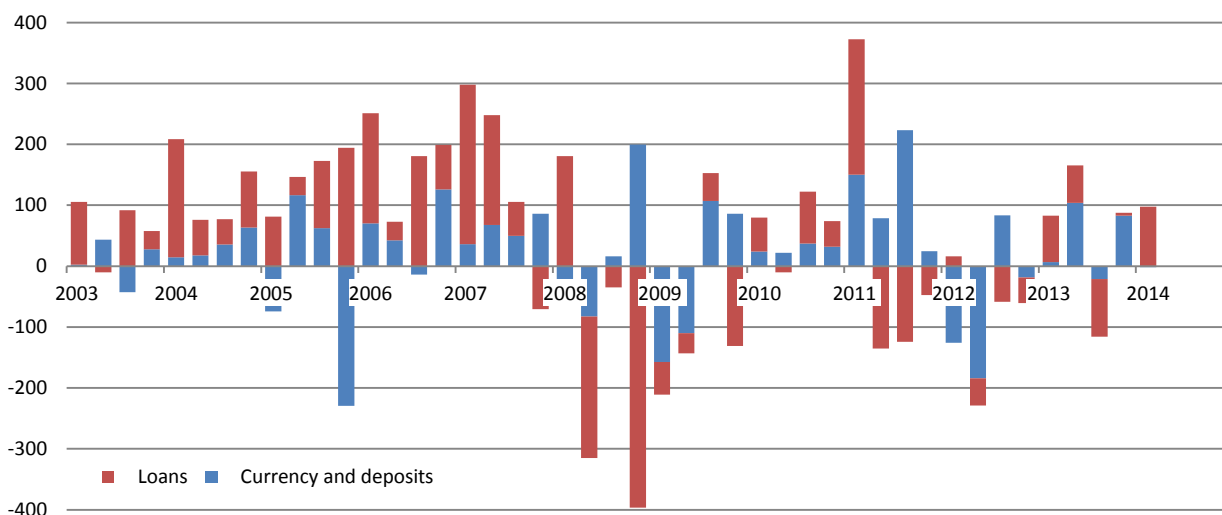


Figure 17b. US acquisition of foreign liabilities: loans and deposits, \$ billion



Source: BEA, *International Economic Accounts*, Table 1.2.

The increasing international financial penetration of the US financial system is also indicated by the strong rise in the international acquisition of liabilities through loans and deposits between 2003 and the first two quarters of 2007 (see Figure 17b). Here too, there was a marked decline in the size of these transactions in the second half of 2007 with wide swings in the first three quarters of 2008 and a massive unwinding of foreign liabilities in the fourth quarter of 2008. In this way, the crisis provoked a major unwinding of the internationalisation of banking that had developed in the previous decade.

Figure 18a. US acquisition of assets in the EU: loans and deposits, \$ billion

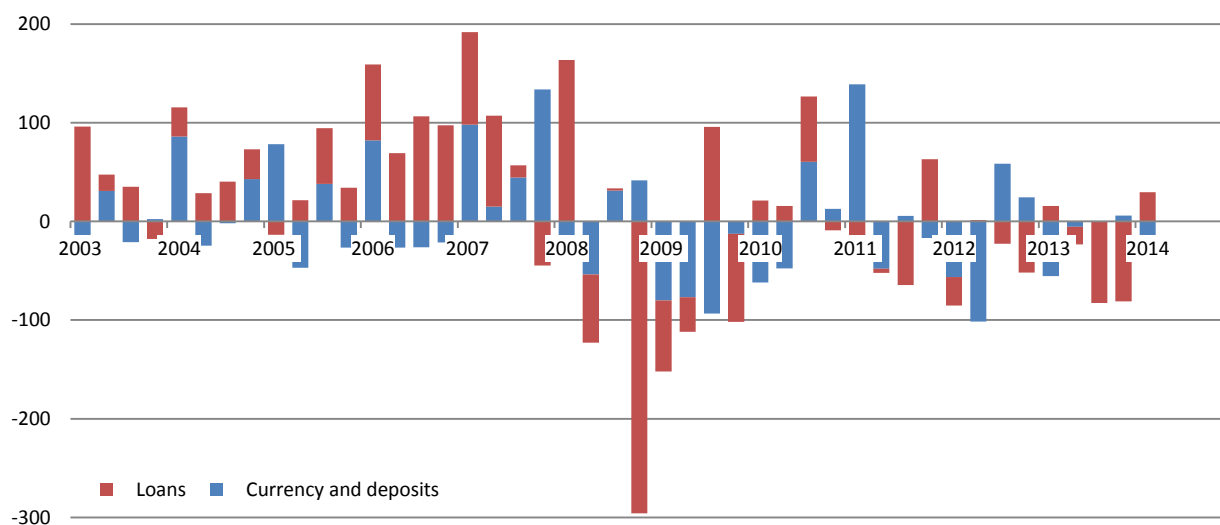
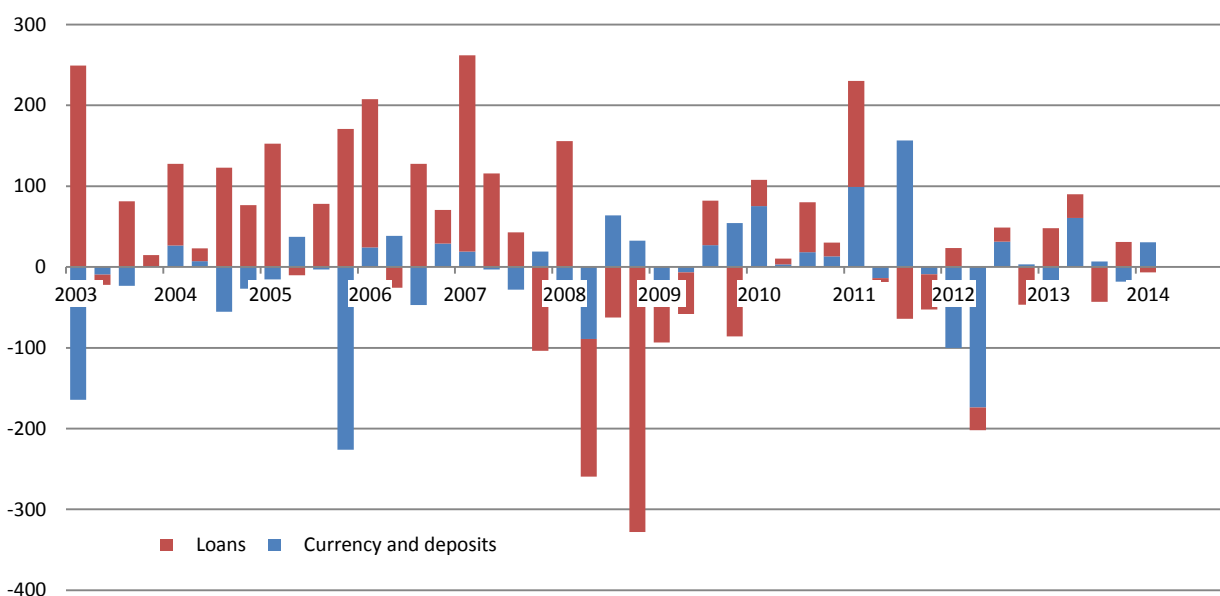


Figure 18b. US acquisition of liabilities in the EU: loans and deposits, \$ billion



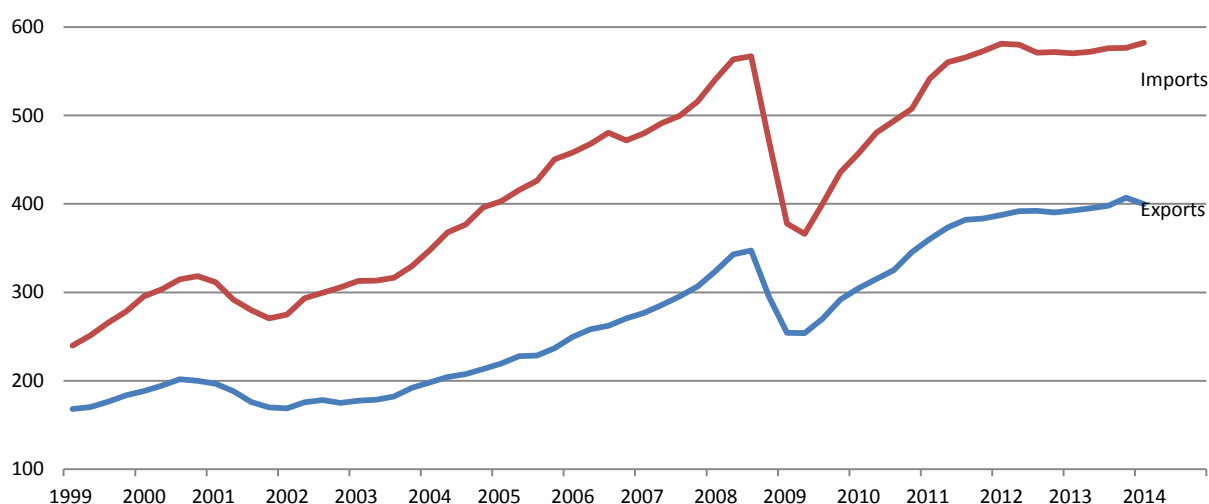
Source: BEA, *International Economic Accounts*, Table 1.3.

A very significant part of the international transactions of US banks involve counterparts in the EU. Figure 18a shows the acquisition of assets by banks in the US in the EU, and it can be seen that these increased strongly between 2002 and 2007. At the peak in the first quarter of 2007 the outflows to the EU accounted for \$243 billion of the roughly \$300 billion total rise (shown in Figure 15a), while in the final quarter of 2007, there was a withdrawal of such assets from the EU amounting to \$296 billion out of a total withdrawal of just over \$400 billion. Figure 18b shows the changes in the liabilities of US banks in the EU account for a large part of the total changes in liabilities, amounting to a decline of \$328 billion out of a total decline of \$397 billion in the fourth quarter of 2008, when the banking crisis was at its height.

International trade

The deep downturn in output in the US at the end of 2008 and the beginning of 2009 was also transmitted to other countries through international trade, particularly trade in goods.²⁸ Figure 19 shows that the value of US imports of goods in current dollars roughly doubled between 2002 and 2008. However, the deepening of the financial crisis in late 2008, and the consequent contraction of the US economy, resulted in an abrupt decline in imports, which fell from a seasonally adjusted figure of \$568.8 billion in the third quarter of 2008 to \$377.7 billion in the first quarter of 2009, a decline of 33.6 per cent. In the same period exports of goods also fell, from \$347.2 billion to \$254.2 billion, a decline of 26.8 per cent.²⁹

Figure 19. US imports and exports of goods, \$ billion



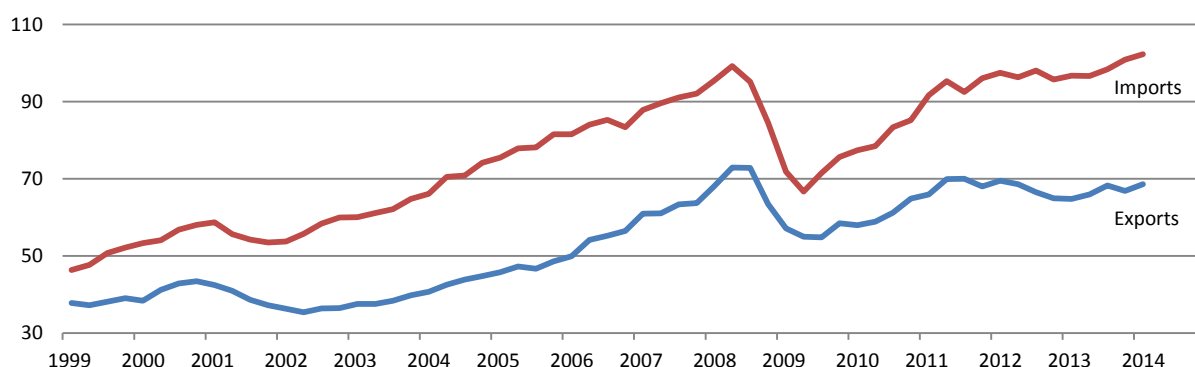
Source: BEA, *International Economic Accounts*, Table 2.2. Seasonally adjusted quarterly data.

The abrupt decline in US international trade was reflected in transactions with the European Union (EU). Figure 20 shows that US imports of goods from the EU actually reached a peak of \$99.2 billion in the second quarter of 2008, i.e. before the acute deepening of the crisis in September and October 2008. US imports from the EU did however decline especially sharply in the fourth quarter of 2008 and the first quarter of 2009, reaching a low point of \$66.7 billion in the second quarter of 2009, by when they had registered a fall of 32.7 per cent. US exports of goods to the EU also declined, from \$72.8 billion in the third quarter of 2008 to \$55.0 in the second quarter of 2009, a fall of 24.4 per cent.

²⁸ For a detailed analysis of the downturn in US trade see Levchenko, Lewis and Tesar (2010). They find that sectors of the US economy with larger reductions in domestic output had larger drops in trade, but that trade credit did not play a major role in the collapse of trade.

²⁹ In relation to US GDP, exports of goods fell from 24.1 per cent in the third quarter of 2008 to 18.0 per cent in the first quarter of 2009, a decline of some 6 per cent of GDP. Exports fell from 9.4 to 7.1 per cent of GDP, a decline equal to 2.3 per cent of GDP.

Figure 20. US imports and exports of goods with European Union, \$ billion



Source: BEA, *International Economic Accounts*, Table 2.2. Seasonally adjusted quarterly data.

5. Economic policy responses

In February 2008, even before the crisis had reached its most acute moment, the government of George W. Bush introduced the Economic Stimulus Act, which involved tax rebates amounting to some \$150 billion (about 1 per cent of GDP). In fact, this measure was part of the government's tax-cutting agenda and had been planned even before the onset of the crisis, but it was now repositioned as a response to the deteriorating economic situation.

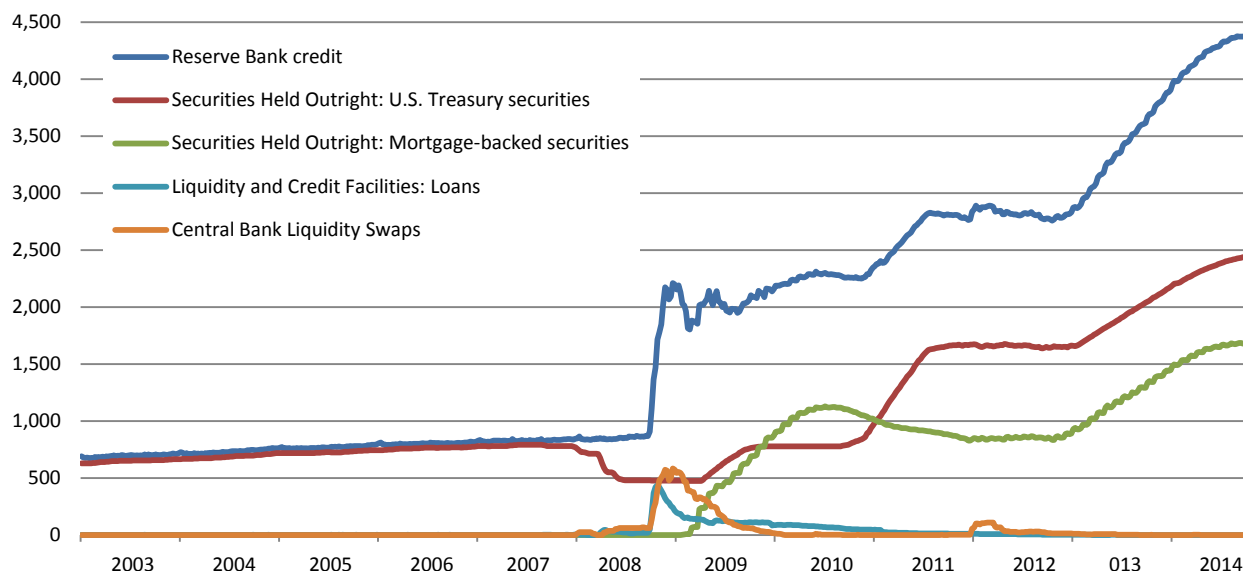
The main fiscal response to the crisis was initiated by the government of Barrack Obama, which assumed office in January 2009 when the danger of financial collapse was still paramount and the level of economic output was plummeting. The American Reinvestment and Recovery Act was approved in February 2009, and was originally intended to provide an expansionary impulse of \$787 billion (5.5 per cent of GDP) although subsequent estimates by the Congressional Budget Office put the actual figure at \$830 billion.³⁰ This involved in roughly equal proportions tax cuts, new spending and aid to state and local governments. While Obama sought to obtain bipartisan support for the measures, this was completely unforthcoming from Republican members of Congress, and led to claims by some Democrats that his attempts to negotiate such support had involved 'serial capitulation'. The impact of the programme is disputed. While, conservative opponents such as John Taylor argue that it had little effect, Alan Blinder points out that the rate of job loss began to decline following the introduction of the measures, even though employment continued to fall until February 2010.³¹ Some relatively mainstream economists such as Bradford de Long and Lawrence Summers (2012) have argued for an investment programme, particularly in infrastructure, that

³⁰ Blinder, 2013, p. 227-235.

³¹ Blinder, 2013, p. 346-355.

could mobilise resources that would otherwise be idle.³² But, in a political context where there was widespread Congressional opposition to further expansionary fiscal measures, subsequent initiatives have stemmed primarily from the Federal Reserve.

Figure 21. US Federal Reserve holdings of assets, total and selected components, \$ billion



Source: Federal Reserve series H.4.1. Average weekly figures.

The Federal Reserve's response to the onset of the recession involved a series of initiatives known by the euphemism of quantitative easing (QE).³³ The first of these, now known as QE1, was implemented between November 2008 and March 2010, and involved purchases of \$600 billion of mortgage backed securities (MBS) issued by other financial institutions. The aim of the intervention was to reduce the spread between such MBS and the rate on Treasury securities. The second programme, QE2, was implemented between December 2010 and June 2011, and involved the Fed in purchases totalling \$600 billion of medium and long-term Treasury securities. It aimed to bring about a reduction in the interest rate on these securities and, with them, the rate on other securities. The final programme, QE3, was initiated in late 2012 and involved the Fed in purchasing \$40 billion of securities a month, a sum which was raised in December 2012 to \$85 billion a month, but which the Fed reduced or 'tapered' in the course of 2014 as economic growth began to strengthen. As shown in Figure 21, these measures led to a major rise in the Fed's holding of treasury securities, which increased from just under \$900 billion in 2008 to some \$2.4 trillion by 2014. At the same time, the Fed's holdings of mortgage-backed securities, first introduced on a small scale in 2009, increased to \$1.7 billion by 2014. In total, the credit provided by the Fed

³² De Long & Summers (2012).

³³ Blinder, 2013, pp. 248–256.

increased from \$866 billion in early September 2008 to \$4.4 trillion in September 2014. There is considerable agreement that the Fed's policies have had some impact on long-term interest rates, but Martin Wolf, a commentator who supported the Fed's initiatives, notes that their impact has, nevertheless, been limited: it brought about only a modest recovery and the extent of the impact is difficult to measure; at the same time it may keep unviable 'zombie' companies alive for too long while the US's aggressive monetary expansion has been particularly destabilising for many developing countries which were confronted with very large inflows of capital.³⁴

The major regulatory response to the crisis in the US was the Dodd-Frank Wall Street Reform and Consumer Protection Act, which was signed into law by President Obama in July 2010, and which introduces the most significant change to financial regulation since the Glass-Steagall Act of 1933.³⁵ One of its key proposals is the introduction of a so-called Volcker rule, intended to impose restrictions on the propriety trading activities of large banks which were a major cause of the financial bubble whose bursting detonated the crisis in 2008-09. Dodd-Frank is extremely wide-ranging and runs to 2,300 pages but, even so, it only lays out the broad framework for new regulations. Implementation will depend on the formulation of detailed regulations, and Wall Street firms are mounting a massive lobbying effort in an attempt to influence how these rules are set.

6. Conclusion

The prolonged economic boom in the US after the Second World War came to an end in the 1970s and, following a period of economic and political malaise, the basis was established for a new phase of capitalism from the 1980s. This new phase was characterised by three key features. First, there was a significant weakening in the bargaining position of labour as a result of the monetarist offensive and higher unemployment at the start of the 1980s; of the harder line in labour disputes initiated by the Reagan government; and of the threat of job losses due to the growth of outsourcing in the following years. Second, the position of financial capital was greatly strengthened as expansion and innovation in the financial sector were met by a process of deregulation culminating in 1999 in the abolition in the legal separation between commercial and investment banking. Third, nonfinancial corporations were subjected to intense pressure to

³⁴ Wolf (2014), pp. 263-64.

³⁵ The name is a tribute to Barney Frank, chair of the House of Representatives Financial Services Committee and Chris Dodd, chair of the Senate Banking Committee, who steered the act through Congress. For a fuller discussion, see Pollin & Heintz (2013) chapter 3.

prioritise so-called 'share-holder value' and raise their rate of return which, in addition to the persistent pressure to cut labour costs, promoted a significant growth in investments in financial assets to the detriment of investments in productive assets.

Since the 1980s the pattern of growth in the US has been highly cyclical, with periods of economic expansion strongly dependent on the growth of credit. As each expansion came to an end, the Federal Reserve adopted highly expansionary policies which ensured that periods of recession were relatively short, but at the expense of accumulating tensions. The first expansion, from 1983-1989, was characterised by a major wave of mergers and takeovers financed by bonds and a major expansion of bank credit; it came to an end in 1989 when the over-extended banking system abruptly curtailed the expansion of credit. The Fed responded to the recession in 1990 with a major reduction of interest rates and, following a period of very low growth, the economy experienced a significant upturn in the second half of the 1990s. Strong investment in information technology, financed by bond issues and a further major expansion of bank lending, was accompanied by a stock market bubble, and when this bubble burst in 2000 investment collapsed and the economy was faced with a further recession. Once again, the Fed reduced interest rates sharply, and following a short recession in 2001, contributed to creating the conditions for a further phase of expansion from 2002 to 2007 characterised by a new wave of mergers and takeovers and a major boom in house prices. When house prices began to falter, and many of the complex instruments created to finance the housing boom began to fail, the US was faced with the prospect of a collapse of the financial system. This was narrowly averted though massive government intervention, but in late 2008 and early 2009 it led to the most serious downturn in output and employment in the US since the 1930s.

The period since the 1980s has been marked by a significant shift in the distribution of income. The share of profit in national income, while highly cyclical, has steadily risen. The share of wages, by contrast has steadily declined. Furthermore, large sectors of the working population have experienced either no, or very little increase in their real incomes, and much of the increase in wages has been appropriated by those with very high incomes, in particular the now infamous top one per cent.

Fixed investment in the US since the 1980s has, as always, been strongly cyclical but it has tended to decline, and the expansion from 2002 to 2007 was particularly dependent on the boom in housing. Economic growth in the US since the 1980s has, consequently, been driven primarily by consumption spending. This was possible despite the stagnation in incomes of large sectors of the

population due to a decline in the savings rate and a very significant rise in household indebtedness. International trade, by contrast, has made a consistently negative contribution to US growth. Since the 1980s, the US has had a trade deficit, and this increased particularly strongly in the years leading up to the crisis. The counterpart of the deficit was large inflows of both private and official capital, and since the late 1980s the net international investment position of the US has registered an increasingly negative balance.

Economic growth in the US resumed in the second half of 2009 but it was not until 2012 that output recovered to the pre-crisis level of 2007. By 2014, the share of profit in national income, which fell very sharply during the crisis, was even higher than before the crisis, while the share of wages, correspondingly, is lower. Fixed investment remains very low for a period of expansion, but after a period in which households sharply reduced their spending, consumption is beginning to expand. The country's trade deficit has been almost halved, but demand remains dependent on a government deficit which, although down from 11 per cent of GDP in 2009, was still equal to almost 5 per cent in early 2014. The Dodd-Frank Act has introduced wide-ranging legal changes to the regulation of the financial sector, but banks have lobbied intensively to ensure that the actual impact of the measures will be limited. And following the failure of numerous financial institutions, the position of the biggest banks is even more dominant than before the onset of the crisis.

References

- Alvaredo, Facundo, Tony Atkinson, Thomas Piketty and Emmanuel Saez (2014), *The World Top Incomes Database*
- Blinder, Alan (2013), *After the Music Stopped. The Financial Crisis, the Respones, and the Work Ahead*, Penguin Press
- Blinder, Alan and Janet Yellen (2001), *The Fabulous Decade: Macroeconomic Lessons from the 1990s*, The Century Foundation
- Bricker, Jesse, Arthur B. Kennickell, Kevin B. Moore and John Sabelhaus (2012), 'Changes in U.S. Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances', *Federal Reserve Bulletin*, vol. 98, no. 2, June
- De Long, Bradford & Lawrence Summers (2012), 'Fiscal Policy in a Depressed Economy', *Brookings Papers on Economic Activity*, Spring, pp. 233-97
- Duménile, Gérard and Dominique Levy (2013), *The Crisis of Neoliberalism*, Harvard University Press
- Evans, Trevor (2009), 'The 2002-2007 US economic expansion and the limits of finance-led capitalism', *Studies in Political Economy*, no. 83, Spring
- Evans, Trevor (2014), 'The impact of financial liberalisation on income inequality', *International Journal of labour Research*, vol. 6, issue 1
- Financial Crisis Enquiry Commission (2011), *The Financial Crisis Enquiry Report*, US Government Printing Office
- Greenspan, Alan and Jim Kennedy (2005), *Estimates of Home Mortgage Originations, Repayments, and Debt on One-to-Four Family Residences*, Federal Reserve Working Paper no. 2005-41
- Hirsch, Barry T., David A. Macpherson and Wayne G. Vroman (2001), 'Estimates of union density by State', *Monthly Labor Review*, Bureau of Labor Statistics, June
- Hirsch, Barry and David Macpherson (2013), Union Membership and Coverage Database from the CPS, US Historical Tables: Union Membership, Coverage, Density and Employment, 1973-2013 www.unionstats.com

Levchenko, Andrei, Logan Lewis and Linda Tesar (2010), 'The collapse of international trade during the 2008-09 crisis: In search of the smoking gun', *IMF Economic Review*, vol. 58, no. 2, pp. 214-253

Ludvigson, Sydney and Charles Steindel (1999), 'How important is the Stock Market Effect on Consumption', *Federal Reserve Bank of New York Policy Review*, July

McCartin, Joseph (2011), *Collision Course: Ronald Reagan, the Air Traffic Controllers, and the Strike that Changed America*, Oxford University Press

Mishel, Lawrence, Josh Bivens, Elise Gould, and Heidi Shierholz (2012), *The State of Working America, 12th Edition*, Cornell University Press, Ithica

Pickerty, Thomas and Emmanuel Saez (2003), 'Income inequality in the US, 1913-1999', *Quarterly Journal of Economics*, vol. 118, no. 1, February

Pollin, Robert and James Heintz (2013), *Study of U.S. Financial System*, FESSUD Studies in Financial Systems No. 10

Poterba, James (2000), 'Stock market wealth and consumption', *Journal of Economic Perspectives*, vol. 14, no. 2, Spring

Rajan, Raguram (2010), *Fault Lines. How Hidden Fractures Still Threaten the World Economy*, Princeton University Press

Wolf, Martin (2014), *The Shifts and the Shocks*, Allan Lane, London

Imprint

Editors:

Sigrid Betzelt
Birgit Mahnkopf

Trevor Evans
Christina Teipen

Eckhard Hein
Achim Truger

Hansjörg Herr
Markus Wissen

ISSN 1869-6406

Printed by
HWR Berlin

Berlin June 2015