

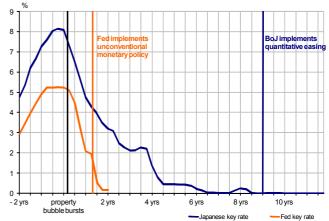
No. 62

TRÉSOR-ECONOMICS

How does today's US crisis compare with the 1990s Japanese crisis?

- Both the American and the Japanese crises originated in the bursting of speculative bubbles, forcing private agents-households in the case of the USA, and nonbanks in the Japanese case-to reduce their debt. In the case of Japan, debt reduction in the midst of a financial crisis triggered a deflationary spiral. A Japanese-style deflationary spiral seems unlikely in the United States, despite similarities regarding the depth of the financial crisis and the scale of the excesses needing to be unwound.
- Japan entered a deflationary spiral in the wake of a protracted depression as a result of a series of specific factors, some internal (such as the length of time taken to bring hidden doubtful assets out into the open), and some external (e.g. the Asian crisis and the appreciation of the yen), at a time when the economy was already extremely fragile.
- A highly aggressive economic policy response could enable the United States to avert a deflationary spiral. The American authorities are concentrating on avoiding repeating the mistakes of their Japanese counterparts. Their management of the crisis appears to have been more responsive *ex ante*, and more ambitious in scope, with a series of rapid, targeted and large-scale stimulus plans, aggressive rate-cutting, unconventional monetary policy measures, and the creation of a defeasance structure to buy-up "toxic assets".
- The drop in consumer prices on a year-on-year basis observed in the United States since March 2009 is mainly attributable to a base effect on energy prices. This is likely to be temporary only.

Monetary policy responses after the bursting of the US and Japanese property bubbles



Source: DGTPE



This study was prepared under the authority of the Treasury and Economic Policy General Directorate and does not necessarily reflect the position of the Ministry for the Economy, Industry and Employment.

1. The origins of the American crisis resemble those of the Japanese crisis in the 1990s

1.1 Japan's deflationary crisis arose from nonbanks' need to reduce their debt

Prior to the Japanese crisis there was an abundance of liquidity caused by the rapid easing of monetary policy as inflationary pressures abated in the 1980s, and by the sharp rise in the supply of bank lending brought on by increased competition among the banks. This led to the formation of stock market assets and property bubbles, which burst following a rise in Japanese and global interest rates. In particular, nonbanks had taken advantage from cheap capital and the steep run-up in their market valuations to raise their bank borrowings, which significantly supported growth via an appreciable rise in investment. These borrowings were facilitated by the special nature of Japan's productive set-up, featuring extremely strong links between the industrial cartels (the Keiretsu) and the financial system.

The property and stock markets fell sharply after the bubble burst, rendering the banking system insolvent. The banks, which have historically been relatively unprofitable, were slow to clean up their balance sheets in order to limit their losses. Bank liquidity and the supply of credit dwindled as a result. A non-optimum allocation of lending to unprofitable firms¹ thus set in, while sound firms found themselves starved of liquidity. In addition, the decline in the price of property and stock market assets led to a slump in company profits and, combined with shrinking credit, pushed more and more firms into bankruptcy. The deterioration in company and bank balance sheets, together with a large number of bankruptcies and the tight links between companies and banks prompted a steep rise in doubtful loans, which squeezed banks' balance sheets and further restricted the supply of credit (see Charts 1 and 2).

Non-banks needed to reduce their debt rapidly, their financial condition having deteriorated severely in the early-1990s². As a result, companies sharply cut their investment spending (see Chart 3), thereby reducing their demand, weakening the Japanese economy, and putting downward pressure on prices. Consequently the roots of Japan's deflationary crisis lie in companies' need to pay down their debt, not in any weakness in household consumption. Indeed, households have drawn down their savings since the early-1990s³, thereby compensating for the fall in corporate sector demand, sustaining domestic demand and countering deflationary pressures.

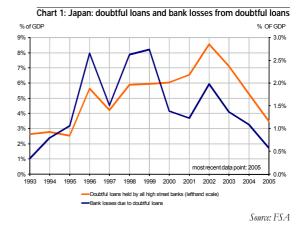
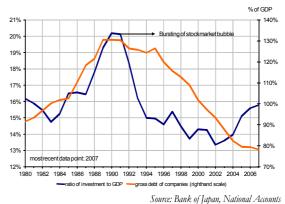


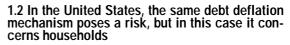
Chart 2: Japan: bank lending to private agents



Source: OECD

Chart 3: Japan: debt and investment by private-sector non-banks





As in Japan in the late-1980s, a similar expansion of liquidity was observed in the United States from around 2000 onwards. Here, though, it was caused by highly accommoda-

⁽³⁾ There are several possible explanations for this downtrend in the saving rate, including population ageing, a "substitution" effect favoured by lower interest rates, and the substitution of consumption for investment in housing.



⁽¹⁾ The banks tended to come to the rescue of defaulting borrowers to enable the latter to pay the interest due on their debt and thus avoid the need for the banks to classify these loans as in default. As a result, bank lending was allocated primarily to the least profitable firms, thus reducing the supply of credit to healthy companies and helping to keep unprofitable firms in business. See "La déflation japonaise: le rôle-clef du besoin d'ajustement des bilans des entreprises" (Japanese deflation: the key role played by firms' need to adjust their balance sheets). *Diagnostics Prévisions Analyses Économiques no. 29 -February 2004.*

⁽²⁾ The massive investment of the late-1980s led to a huge increase in borrowing requirements, characteristic of an economy emerging from an investment bubble.

tive monetary policy, accentuated by the steep rise in global liquidity since the beginning of the 2000s.

The foreign exchange reserves accumulated by the Asian countries as their economies enjoyed rapid growth were indeed absorbed by the United States. As in Japan, abundant liquidity drove up the prices of financial and property assets, thus bolstering borrowers' apparent solvency and encouraging further leverage. This in turn fuelled demand for assets and, ultimately, pushed up their prices still further, leading to high levels of indebtedness and investment.

Box 1: How deflation works

A deflationary spiral, where falling prices and demand become a self-sustaining process, is possible only if at least one of the following three factors is at work:

Falling inflationary expectations

Households tend to postpone consumption if they think prices are going to continue to fall. This kind of wait-and-see attitude ultimately weakens demand for goods and services provided by companies. This will lead firms to cut their output, and hence their demand for labour and/or the wages they pay their employees. Similarly, if companies expect prices to fall, they will expect their profits to fall too; to limit the erosion of their margins, they will reduce their demand for labour and/or cut wages. Unemployment rises and wages fall, amplifying the economic slowdown and the fall in prices. Ultimately, falling prices and domestic demand feed on each other.

· Certain over-indebted agents see their real debt rise as asset prices fall: this is known as debt-deflation

The real cost of debt rises when the price of real or financial assets falls steeply. Faced with the risk of insolvency, agents may be forced to reduce their debt leverage. But falling collateral values leads to a drying up of the supply of credit. Sources of financing and loan repayment dwindle. Borrowers seek to sell off their assets to avoid bankruptcy, further undermining asset prices. But falling prices in turn lead to rising defaults and amplifies the rationing of bank credit. Consequently, domestic demand declines sharply leading to a fall in the general price level.

The economy is in a liquidity trap

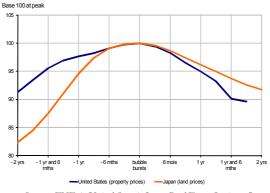
Here, nominal interest rates have reached a floor and can fall no further. Falling prices therefore lead to a rise in real interest rates and monetary policy ceases to be effective as a tool for stimulating the economy. Rising interest rates tend to weaken final demand by raising the cost of borrowing and aggravating the burden on borrowers.

In Japan, over-indebtedness was the main mechanism triggering the deflationary process, which was subsequently sustained by expectations and the liquidity trap.

The residential property bubble in the United States appears to have been comparable in scale to that of Japan. While residential sector property asset prices rose less brutally in the United States, they have fallen slightly faster than in Japan; the decline seems to be similar in the commercial sector, for the moment, even if the United States is currently registering only its first quarters of falling prices. On the other hand, Japan's financial asset price bubble was more than ten times greater than in the United States. Japanese stock market assets lost 35% of their value in the space of a year following the bursting of the bubble. In the United States, meanwhile, 18 months after peaking asset prices lost nearly 40% of their value⁴. This decline reflects the weakness of the financial system, the collapse of major market players having precipitated a steep fall in asset prices and increased volatility.



Chart 5: Residential property asset prices before and after the bursting of the bubble in the United States and Japan (national price indices)



Sources: FHFA (United States), Japan Real Estate Institute (Japan), DGTPE calculations

The speculative excesses needing to be corrected differed between the two countries. In the United States, easier access to credit (fuelled by expectations of rising property prices and the emergence of financial products designed to reduce risk exposure) led to a sharp expansion of the mortgage market. This triggered a massive rise in household debt, without affecting investment by non-banks, which appear to be in sound financial condition.

The US property price bubble burst as a result of slowing demand for mortgage loans. This, together with rising defaults⁵, reversed price expectations, leading finally to a fall in prices. Just as property prices began falling, this loan financing mechanism ground to a halt. The property crisis then fed through to the financial sector via rising defaults on subprime loans in the mortgage market. The rise in house-

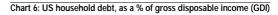
⁽⁵⁾ The rise in default rates in 2006 was partly the result of dearer than expected subprime loan repayments (the interest rate on repayments is low at the start of the loan, then rises subsequently); this was compounded by the rise in the key rate, which fed through into mortgage rates, thus strangling weaker borrowers who had borrowed at variable rates.



⁽⁴⁾ Japan's stockmarket continued its downward course in the 1990s, and had lost 60% of its value eight years after the bursting of the asset bubble.

hold defaults entailed hefty losses for financial institutions, spreading to the entire financial system via structured products and "repackaged" loans; in some ways this was much the same mechanism as the one at work with doubtful loans in Japan. Lack of transparency as to financial institutions' real exposure and losses bred a crisis of confidence in the interbank market. This first materialised in a drying up of liquidity in this market, followed by a spate of failures among financial institutions (most prominently Lehman Brothers). These failures severely destabilised the markets, creating additional difficulties for the banks. A vicious circle then arose in the financial markets leading institutions to deleverage extensively and rein-in their lending. The lack of transparency as to institutions' real balance sheet exposure and losses prompted a wave of distrust that severely impaired the workings of the global financial system, as UŠ mortgage-related risk spread worldwide.

Thus, the roots of the American and Japanese crises were basically the same, so we can imagine them having the same deflationary consequences. However, the deflationary mechanisms at work in the two countries are probably very different, due in particular to the specific modes of adjustment of the labour market (in the United States, depressed final demand is channelled via the adjustment of employment and not via a price-wage loop) and the international environment (the yen's appreciation in particular exerted additional downward pressure on prices).



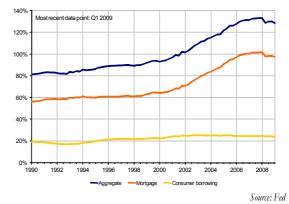
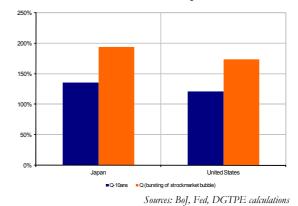


Chart 7: Private non-financial agents' debt, as a % of GDP



2. The main differences in the deflationary mechanisms in Japan and the United States lie in the way their labour markets and the international environment adjust

The deterioration in the international environment, which accentuated the Japanese slowdown, had a cause exogenous to the Japanese crisis, namely the Asian crisis of 1997, which severely hurt Japanese exports (the Japanese economy's main driver). The current collapse in global demand for US goods and services, meanwhile, stems mainly from the contagion of the American crisis to the rest of the world. The United States, which was at the origin of the crisis, has registered a very sharp contraction in imports due to the collapse of domestic demand. This decline in imports has more than offset that of exports caused by weaker global demand. The US trade deficit has shrunk drastically. Overall, foreign trade made a positive contribution to US GDP growth in 2008 and in the first half of 2009. Between 1997 and 1999, on the other hand, because the slowdown in global demand for Japanese goods and services was exogenous to the Japanese economy, exports weakened so severely that foreign trade's contribution to growth was nil.

The yen's successive appreciations in the course of the 1990s had already depressed prices still further (via imports) and hampered exports as a result of reduced competitiveness. This phenomenon was exacerbated by the fall in global demand for Japanese goods and services during the Asian crisis. The United States, on the other hand, is not

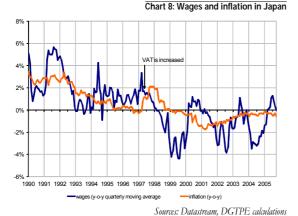
suffering from an adverse currency movement, since the dollar weakened when the US entered recession in the fourth quarter of 2007, helping to sustain activity.

In Japan, the labour market adjustment in response to sharply reduced domestic demand and, ultimately, GDP, occurred via wages, whereas in the United States the burden appears to be falling more on jobs. In Japan, wages are downwardly flexible in times of crisis: Japanese trade unions have an implicit total employment target and hence will agree to wage cuts when the economy slows, to prevent unemployment from rising unduly (unemployment did not exceed 3.5% until the end of the 1990s). Consequently, lower bonuses and reduced overtime working-traditionally very substantial-was one of the main levers activated by employers to adjust wages downwards. Wages had already begun to slow at the beginning of the crisis, but the downturn in activity in 1997 and its impact on domestic demand this time led them to fall significantly.

This exerted negative pressure on prices (see Chart 8); these had already come under deflationary pressure with the opening up of emerging Asian countries⁶ and their falling export prices.

⁽⁶⁾ Deregulation opened up markets to foreign manufactures, whose share of total imports rose from 23% to 59% between 1980 and 1995.





In the United States, on the other hand, wages are barely cyclical at all, and have not really slowed since the onset of the crisis. Employment has been the labour market's adjust-

ment variable, here. Consequently, while a price-wage loop

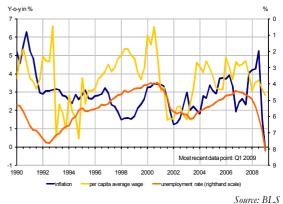
looks less likely in the United States than in Japan, rising

unemployment could nevertheless depress final demand and

weigh on prices indirectly. The main difference is that the deflationary mechanism could be less direct in the United States than in Japan.

There is, moreover, a fundamental deflationary component in Japan that is apparently absent in the United States, namely an economic policy inappropriate to the severity of the crisis.

Chart 9: Inflation and the labour market in the United States



Box 2: Japanese crisis timeline Phase 2: Deflation Phase 3: Deflationary spiral Phase 1: Economy weakens, 1990-1997 takes hold, 1998-1999 2000-2003 04 +8 vr s +2 yrs +1 yr +10 yr s 19.89 +3 yrs (1998)Act ivity slows Re œ ssion Prices slow De flat io n Wave of Bo J pursues zer o 1st fiscal Dual shock: tax cor po rat e interest rate policy st imu lu s shock and Asian bankr up tcie s crisis BoJ implements Financial bubble Property bubble bursts Severe financial crisis Heavy banking unconvention al bu rs ts Key rates cutting banks nationalised; first losses and bank m on eta ry policy measures to rescue failures + rising une mp lo ymen t financial system Source : DGTPE

3. US policy appears better suited than Japanese policy to countering the risk of deflation

The Bank of Japan (BoJ) went on raising its rates after the financial bubble burst, which helped to weaken the banking system. Not until the explosion of the property crisis (one year after that of the stockmarket bubble) did it begin to lower its key rates, and it took more than five years to cut them to 0.5%. Rate cutting proved insufficient to avoid a wave of bankruptcies among financial institutions, already weighed down by heavy losses.

However, this monetary policy proved ineffectual, since the credit channel was blocked (the banks' balance sheets were too weak for a credit-led stimulus. Credit rationing set in from 1998 onwards, while negative inflation drove up real interest rates, creating a liquidity trap that further bolstered the deflationary spiral (see Box 1). This situation stemmed largely from the length of time the banks, the government and the BoJ⁷ took to acknowledge the importance of the question of doubtful loans and address it.

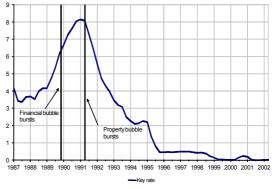
Japanese law lays down three definitions for doubtful loans. The first, and the first associated data, did not come into (7)being until 1993 and after, while the other two definitions were not introduced until 1999, following the "Financial Reconstruction Bill", i.e. nine years after the onset of the crisis (see "Non performing loans and the real economy: Japan experience", Inaba et al, 2005 - Bank for International Settlements 22-07 pages 106-27).



3.1 The Japanese authorities were slow to react

The problem did not come to the fore until Japan was on the brink of systemic crisis. This was symptomatic of the Japanese crisis and is one of the key factors contributing to its extraordinary duration.

The Japanese government unveiled ten stimulus plans between 1992 and 2000, for a cumulative amount representing around 27% of GDP and split roughly evenly between real budgetary spending and financial measures such as lifelines for the banks and credit facilities for SMEs. For a variety of reasons, however, these plans proved ineffectual in view of their official size (see Box 3). Chart 10: Japan's monetary policy response to the bursting of the asset price bubbles



Source: OECD

Box 3: Why Japan's fiscal stimulus was ineffectual despite its scale

Of all of the Japanese government's stimulus plans (amounting to a cumulative 27% of GDP, roughly), growth-boosting measures represented only 1/3^a of the total amount, on average (or a cumulative 10% of GDP, roughly). The macroeconomic effectiveness of these measures was also impaired by lags in implementing them and their overly limited scope-when not counteracted by restrictive countermeasures. That is because one-off fiscal consolidation measures are reckoned to have counterbalanced the positive effects of stimulus plans, plunging Japan into deflation in 1998. The tax shock of 1997 (VAT was raised from 3 to 5%, the income tax reductions in force since 1995 were reversed, the health service patient contribution was increased, and public investment was pruned sharply) contributed to the Japanese recession in 1997/1998. In particular, over and above the temporary positive shock to inflation, the VAT rate hike pushed prices into negative territory as consumption plummeted. Other possible explanations of these plans' ineffectiveness are that the measures were poorly targeted (being aimed at underperforming sectors), and that a liquidity trap emerged.

a. "Fiscal policy works when it is tried", Adam Posen, Institute of International Economics, 1998.

So it looks as if the appropriate economic policy was not applied until too late: *ex post*, the Fed's models⁸ show that a more significant rate cut before 1995 and a more accommodating fiscal policy would have prevented Japan from falling into deflation. It has only been possible to establish the belated nature of the BoJ's action *ex post. Ex ante*, in their ignorance of the banking system's difficulties and companies' frailty, together with over-optimistic forecasts of inflation and activity, analysts considered the monetary policy response to be appropriate.

It was not until 1998 and afterwards, really, that vigorous steps were taken to stem the financial crisis (see Table 1). Taken together with the BoJ's zero interest-rate policy and quantitative measures from 2001 onwards (see Box 4), these steps slowly succeeded in purging the market of bad debts and clearing up the crisis. However, the financial system's supervisory authority failed to pursue the bank stabilisation measures through to their conclusion⁹, and it was not until 2003 that the government proceeded to buy up all doubtful loans (see Chart 1). Zero interest rate policies followed by quantitative easing successfully modified agents' expectations as to the time frame for future short-term rates; this did push down long rates a little, but their ability to revive lending in Japan and shore-up inflationary expectations, on the other hand, was at best very slow to materialise.

Table 1: Japan: economic and monetary policy measures to rescue the financial system from 1998 onwards, in percentage points of 2000 GDP

Public equity injections	2.5
Guarantees to banks	3.7
Creation of defeasance structures to purchase doubtful loans (in 1999 and 2003)	2.0
Granting of loans at differential rates to troubled banks	1.0
Purchase by BoJ of shares from banks	0.4
TOTAL	9.8

Source: DGTPE

Indeed, the strong growth in the monetary base did not produce a sufficient increase in money supply, since the banks did not alter their lending behaviour in consequence (the monetary multiplier being very weak) and expanded their holdings of safe assets. The relative ineffectiveness of monetary policy can also be accounted for by the fact that the BoJ's expansionary policy lacked credibility. Indeed, in 2000, with deflation in full swing, the BoJ first raised its rates, then cut them shortly afterwards, and it was not until 2003 that the BoJ began communicating clearly about how it planned to exit from quantitative easing¹⁰.

⁽¹⁰⁾ The conditions for exiting from quantitative easing were that year-on-year inflation of non fresh-food prices (Core CPI) had to be positive over several months and that forecasts should not be negative. Krugman explains that these conditions were not sufficiently binding and that, for the expansionary monetary policy to be truly credible, the BoJ would have had to adopt a 4% inflation target over 15 years, versus a 0% inflation target during the years of quantitative easing: "It's back: Japan's slump and the return of the liquidity trap", Krugman, *Brookings Papers on Economic Activity, vol. 29 (1998-2) pages 137-206; 1998*).



⁽⁸⁾ Alan Ahearne et al: "Preventing Deflation: Lessons from Japan's Experience in the 1990s," International Finance Discussion Papers no. 729; 2002.

⁽⁹⁾ What is more, the bank stabilisation measures implemented in 1998 and after were sub-optimal: two public liquidity injection programmes were applied in parallel to the public deposit guarantee mechanism, but the counterparts demanded by the authorities were never provided, which created moral hazard and did not encourage the banks to speed the structuring of their assets, declare bankruptcy, or reveal their losses.

3.2.1 A highly aggressive monetary policy

The American authorities appear to have managed the crisis more responsively and more energetically. They began intervening in the monetary sphere straight after the bursting of the property and financial bubble, whereas the BoJ had waited until the bursting of the property bubble, one year after the financial bubble burst. But right from the start of their monetary intervention, the United States and Japan cut their rates at a comparable pace (respectively 500 pb versus 460 pb over the following 21 months (see Chart 7). However, the Fed took less than two years to cut its rate to zero, compared with eight years in Japan, where the key rate had been higher when the bubble burst.

Box 4: Unconventional monetary policies in Japan and the United States

Between 2001 and 2006, more than a decade after the outbreak of the crisis, Japan took unconventional policies measures described as quantitative easing, substituting a balance sheet size objective for an interest rate objective. This policy was liabilities-oriented, using openmarket operations to achieve a quantitative target (revised upwards several times) via the current accounts of the Japanese private-sector banks on the liabilities side of the BoJ balance sheet. The central bank also expanded the *modus operandi* of its interventions to include purchases of treasury bonds and, from 2002 onwards, equities, ABS and commercial paper. In addition, the Finance Ministry intervened heavily in the foreign exchange markets in 2003 and 2004. While this policy did curb the yen's appreciation and provided cheap, abundant funding to the banks, it does not appear to have any major impact on activity^a.

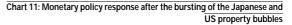
The Fed's policy, described by its Chairman as credit easing, concentrates more on the central bank's assets. The Fed is seeking to act on several segments of the capital markets (commercial paper, MBS, Treasury paper, etc.) by purchasing securities. This is swelling the central bank's assets, the purchases being financed by the creation of money moreover (the central bank credits the accounts of the banks selling these securities). The very large number of loans made against more-or-less high-quality collateral has sharply expanded the Fed's balance sheet.

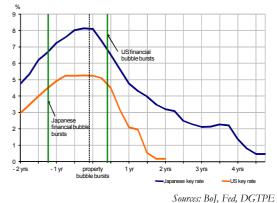
a. See Trésor Economics no. 56: Unconventional monetary policies, an appraisal, and IMF, 2009 Gauging risks for deflation.

As a stop-gap measure to offset any breakdown in financing to the economy, the "financial system stabilisation plan" also provides for more direct measures in the form of loans to banks and recapitalisations. But this plan also provides direct support for lending to households and small businesses, contributing more than \$ 100 billion to the Fed's TALF programme¹¹. The Fed, meanwhile, has come up with an array of new credit instruments to help pursue its monetary easing and keep the primary and secondary markets liquid. This policy is described as credit easing (see Box 4).

Another of the Fed's objectives was to bring down long-term rates. The implementation of "unconventional" measures such as purchases of Mortgage Backed Securities, securities of government-sponsored enterprises (GSE)¹² and US Treasury bonds, brought about a substantial fall in long-term mortgage rates, to some extent holding in check the rise in 10-year government bonds, and a depreciation of the dollar.

Although the situation appears to have improved where liquidity is concerned, the imperative need is to restore the credit channel to normal once more, this being the main instrument of monetary policy and the indispensable means of financing to business and households.





The Fed's introduction of a pure money creation mechanism serves to curb deflationary expectations, since these measures should have an inflationary impact once activity picks up. Agents' expectations could then shift from deflationary to inflationary, unless agents expect interest rates to rise once the crisis is over, in which case the policy of money creation would be ineffective as a means of anchoring expectations.

⁽¹²⁾ Government Sponsored Enterprises are public/private entities specialising in mortgage loans to households generally regarded as risky. The best-known GSEs are Fannie Mae and Freddie Mac.



⁽¹¹⁾ Term Asset Backed Securities Loan Facility: this programme supports the issuance of ABS (Asset Backed Securities) collateralised by student and car loans, etc. and provides for loans to holders of certain triple-A rated ABS assets.

3.2.2 A more effective fiscal policy

As in Japan, America's fiscal policy is heavily skewed towards providing short-term support for final demand (via tax credits for households, private investment grants, public investment, etc.). Contrary to the Japanese experience, however, the American stimulus plans may prove more effective. The \$787 billion American stimulus plan, representing 5.5% of GDP and passed in February 2009, coming on the heels of the February 2008 stimulus plan representing 1.2% of GDP, consists of support for consumption and help for households in difficulty (39% of the plan, representing 2.1% of GDP); 34% of the plan (1.9% of GDP) is intended for investment in public infrastructure investment, R&D (in science and energy), and human capital; the remaining 27% (1.5% of GDP) is mainly earmarked for help to States and local governments, largely to fund Medicaid and Medicare programmes¹³. Aid has also been made available for sectors in difficulty, albeit on a rather lesser scale; as a result, \$55 billion (0.4% of GDP) was drawn from the TARP¹⁴ to come to the aid of the car industry.

3.2.3 Help for the financial sector

Over and above this support for final demand, US monetary policy has displayed great vigour in tackling the financial crisis and avoiding a Japanese-style deflationary spiral.

In autumn 2008, the Treasury intervened massively via the TARP to recapitalise certain banks and nationalise the GSEs. Subsequently, and in view of the inadequacy of the first set of measures, the new Treasury Secretary, Tim Geithner, announced a fresh financial sector rescue plan-more massive, more ambitious, as well as better controlled and designed than its predecessor. The plan to buy up so-called toxic assets was modified slightly (see Box 5). The banks' defeasance structure and the recapitalisation operations that have taken place are comparable to the Japanese measures, but they were implemented far more rapidly.

To avoid the onset of a debt deflation spiral, the American authorities have put in place a debt restructuring plan for households in difficulty, in order to stem the tide of mortgage defaults leading to depreciation of asset values.

Box 5: Tim Geithner's measures to tackle the financial crisis

- \$1,000 billion in public-private investment funds to buy up "toxic" assets; Establishment of a stress test to assess financial institutions' capacity to withstand further losses and their lending capacity in the event of a worsening of the crisis; The bank supervisors, the SEC and the Treasury will persuade the banks to reveal their financial condition (i.e. their losses) in order to improve market transparency; A more realistic and forward-looking evaluation of financial institutions' balance sheets (Fed, FDIC, OCC and OTS).

Sophie RIVAUD, Michaël SICSIC

- (13) Medicaid is a programme that provides sickness insurance to low-income individuals and families. Medicare is also a healthcare insurance programme, for individuals aged over 65.
- (14) The TARP (Troubled Asset Relief Program) is a \$700 billion programme created originally to purchase "toxic assets" from the banks.

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