

THE PROCESS OF ECONOMIC ADJUSTMENT FOLLOWING FINANCIAL CRISES:
A HISTORICAL PERSPECTIVE

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Introduction

The severe financial imbalances generated in the advanced economies during the preceding upturn are at the root of the current crisis and explain why, since 2008, a large number of developed countries have experienced the deepest recession of recent decades and why the recovery is taking place at such a slow pace. Chart 1 shows the strong contraction in GDP growth and the notable rise in the rate of unemployment in the cases of the United States, the United Kingdom and the euro area,

The economic literature shows that recessions associated with financial crises are especially acute and prolonged.² Studies underline that recessions associated with financial crises are the result of excessively optimistic expectations regarding the growth of income and wealth, which lead to a very pronounced expansion in the borrowing and leverage of private agents. When these expectations fail to materialise there is a sudden correction of private spending, which is all the greater the more extensive the imbalances that have built up in the private sector, and the subsequent economic recovery should preferably be supported by government and foreign demand, while firms and households rebuild their financial position. As seen in Chart 1, following the start of the current crisis, the private sector's saving-investment balance has recovered significantly, while public sector finances have deteriorated, as a result of the operation of automatic stabilisers and the adoption of discretionary fiscal measures designed to reduce the impact of the recession.

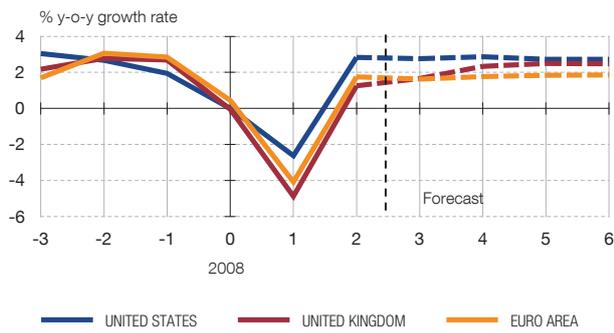
Given the observed similarity of the economic dynamics of different countries in the current episode, this article analyses the extent to which this pattern of adjustment is in line with the historical evidence of previous crises and the foreseeable course of developments in the current recovery. It does this using a database with information on 46 financial crises during the period 1980-2008, and the dynamics of the main macroeconomic variables following the start of a crisis are studied. The characteristics of the phases of recovery of economies following a recessionary period largely depend on the nature of the expansion that preceded the recession (and, therefore, on the imbalances in the economy) and the prevailing macroeconomic policy framework. Consequently, this article explores the differences in the profile of recovery following a financial crisis in terms of the external position of the economy (current-account deficit or surplus) and the exchange rate regime in force at the beginning of the crisis.

The degree of synchronisation of crises is a factor that has a decisive influence on the profile of the recovery. This is an additional obstacle in the current juncture, since the recession has become global and many advanced economies are still handicapped by imbalances. Indeed, the more global the crisis, the smaller the potential role of external demand in the exit phase. The episodes included in the sample of financial crises used in this article did not have the geographic scope of the current one, which has been compared to the Great Depression of 1929-33 (the last great global financial crisis). That crisis led to a prolonged economic stagnation and continues to be an important reference in the design of macroeconomic policies. For this reason, a box is included reviewing the origin and

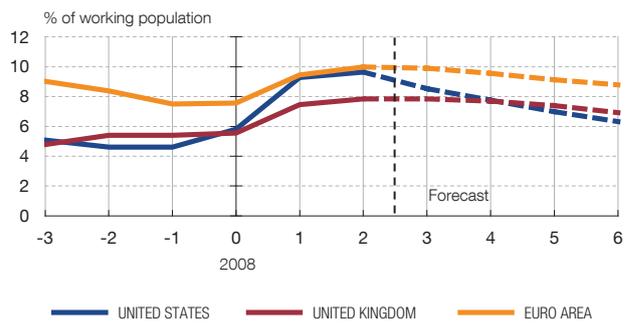
¹ The author would like to thank Gabriel Aparicio, Álvaro Claudio and Richard Doval for technical assistance.

² See, for example, Terrones et al. (2009) and the references cited there.

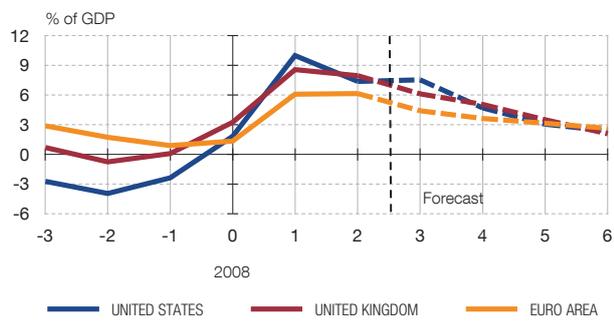
GDP



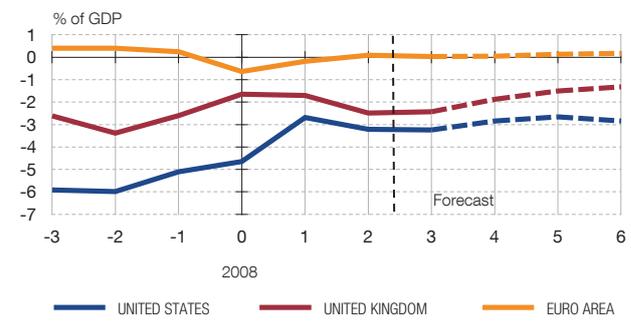
UNEMPLOYMENT



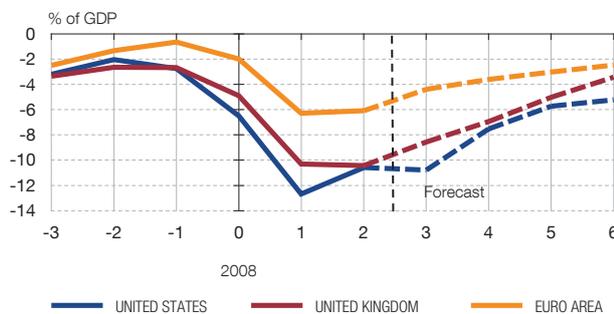
PRIVATE BALANCE (b)



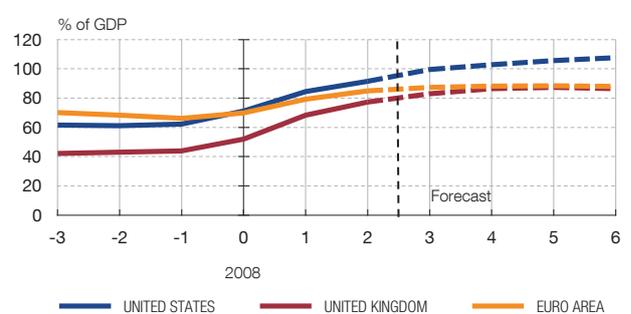
EXTERNAL BALANCE



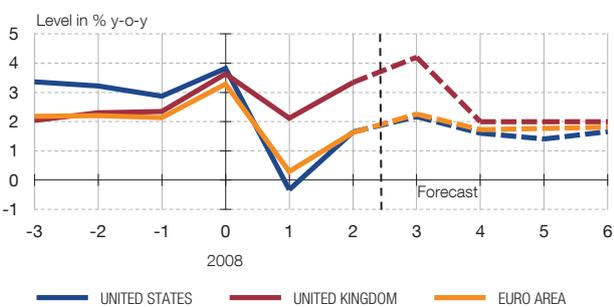
BUDGET BALANCE



PUBLIC DEBT



INFLATION



REAL EFFECTIVE EXCHANGE RATE



SOURCES: World Economic Outlook (WEO), Economist Intelligence Unit, OECD and World Bank.

a Forecast data obtained from the IMF (WEO April 2011). Year 0 = 2008.

b The private balance is calculated as the difference between the current account balance and the budget balance.

evolution of the 1929 crisis, with special emphasis on the United States, then the central axis of the international monetary system, and the role of macroeconomic policies and the gold standard in the genesis and resolution of that crisis.

The comparison of the current recovery with other financial crisis exit phases may allow the short and medium-term growth prospects to be better assessed and the difficulties the advanced economies are having in restoring sustained growth rates similar to the pre-crisis ones to be explained.

Methodological aspects

The analysis of the process of macroeconomic adjustment following the financial crisis presented in this article is based on a database containing information on the main macroeconomic variables in financial crisis episodes in various countries (both advanced and emerging) during the period 1980-2008. The most important methodological aspects of the exercise are as follows: first, the dating of the financial crises is based on the Reinhart and Rogoff (2009) approach. They define a financial crisis as a situation involving the liquidation, merger, acquisition or rescue, with public-sector involvement, of one or more financial institutions, whether or not as a result of a bank run.³ With the data available, 46 financial crises in 29 countries were identified.

Two criteria have been used to divide up the sample of financial crisis episodes: the sign of the current-account balance and the exchange rate regime existing at the moment before the outbreak of the crisis. The sample includes 34 crises in which the country concerned started with a current-account deficit. Of these, 24 occurred in countries with fixed exchange rates and the other ten in economies with flexible ones. The twelve remaining episodes took place in countries with current-account surpluses at the onset of the crisis. In this case, owing to the small number, no sub-division has been made.⁴

The article focuses on the analysis of the evolution of various macroeconomic variables at around the time the financial crisis occurs, in accordance with the dating made.⁵ For this purpose, the charts that show the main results also show the average value of each variable in the different episodes and a band indicating one standard deviation from the mean. To facilitate the comparison between episodes, all the variables are normalised, taking the year before the start of the crisis as zero, with the exception of the GDP growth rate and inflation, which are expressed as deviations from their long-term averages.⁶

Finally, it should be noted that the exercise performed suffers from certain limitations. First, the sample is rather heterogeneous; in particular, the episodes considered include crises in both developed and emerging countries. As is well known, in periods of stress the emerging economies tend to have severe difficulty accessing financing, especially external financing, which tends to increase the magnitude of the adjustment. Second, the weighting and normal-

³ In the terminology of Reinhart and Rogoff (2009), these episodes are called “banking crises”.

⁴ The episodes considered include 15 cases of crisis in developed economies and 31 in emerging economies.

⁵ The variables used and their sources are as follows: real GDP (*World Economic Outlook* (WEO)); inflation: WEO and Economist Intelligence Unit (EIU); external balance (current-account balance): WEO; budget balance: WEO and EIU; gross public debt: WEO; rate of unemployment: World Bank, WEO and EIU; real effective exchange rate: Reinhart and Rogoff (2009).

⁶ The normalisation is carried out in the following way: for series expressed in terms of year-on-year growth rates (GDP growth and inflation), the difference is calculated with respect to an average. For GDP, the average used corresponds to the GDP growth rates during the ten years preceding the crisis. For inflation this average is for the three preceding years. In the case of the other variables the value obtained in the year before the crisis is deducted, so that these variables have a value of zero at that point.

ising criteria used do not take into account the economic weight of each country considered or the magnitude or depth of the different crises, so that the results reflect the dynamics of adjustment in response to an “average financial crisis”, but do not allow the effect of the intensity of the crisis on the path of the macroeconomic variables to be assessed. Both limitations mean that the results of the analysis should be interpreted with some caution.

The dynamics of macroeconomic adjustment following a financial crisis

The current crisis is by no means the first financial crisis of the post-war period, although the severity and degree of synchronisation are unprecedented since the Great Depression. However, the current episode shares some of the characteristics of the recessions that have occurred in recent decades which, albeit more local and not so deep, have also been linked to financial crises. At the end of the last upturn, numerous developed countries (and some emerging ones) were in a situation marked by highly indebted private agents (as a result of a prolonged period of credit expansion) and overvalued assets. These features were also present, to a varying degree, in the financial crises of the last three decades and, for this reason, the pattern of the subsequent adjustment is of great interest.

THE ROLE OF THE EXTERNAL BALANCE: DEFICIT VERSUS SURPLUS COUNTRIES

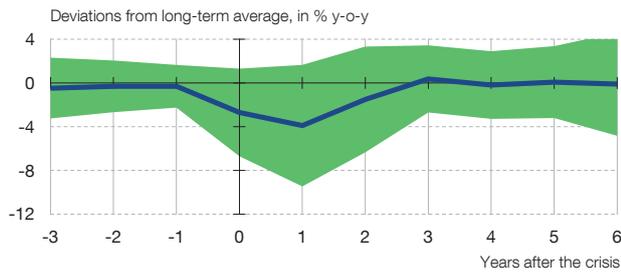
The recovery process following a financial crisis (in comparison with those that take place following a recession caused by some other type of shock) is characterised by marked restructuring of company and household balance sheets, which contributes to the prolonged slackness of domestic demand, and the rebuilding of banks' accounts. However, as mentioned in the introduction, the nature of the imbalances in the economy at the start of the crisis influences the path of the main macroeconomic variables in the recovery phase. In particular, external net borrowing at the start of the crisis (reflected in a current-account deficit) is an important determinant of the dynamics of exit from the recession.

Charts 2 and 3 show the average paths for a set of macroeconomic variables in the period following the outbreak of a financial crisis, distinguishing between countries with a current-account deficit at the start of the crisis and economies with an external surplus. The green bands give an idea of the dispersion of average behaviour and, therefore, of the significance of the results. The main difference between the patterns of adjustment is due to the marked correction of the external deficit in those episodes that took place in deficit countries, while in the surplus economies not only did this correction not occur, but the external balance deteriorates slightly following the start of the crisis.

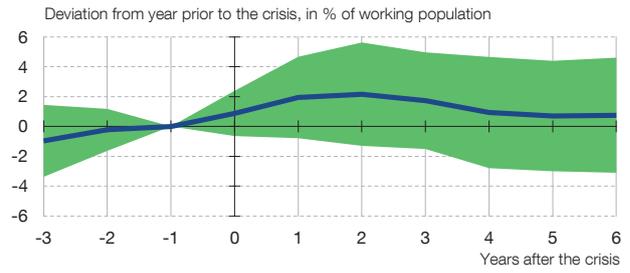
The reason for the difference in behaviour is that in the case of deficit countries, in which the upturn is financed by external capital, financial crises lead to a decline in foreign capital inflows, which reduces the financing of the external deficit, forcing the private sector (households and firms) to reduce their consumption and investment.⁷ As indicated by Kaminsky and Reinhart (1999), when recessions follow a prolonged expansion based on pronounced credit growth and capital inflows it is not uncommon for the banking crisis to end up causing a foreign exchange crisis (a twin crisis) in which foreign investors attempt to rapidly liquidate their domestic positions. As seen in Chart 2, in crises in deficit countries the intensity of the private-sector restructuring allows the deterioration in public finances associated with the crisis to be offset, so that the current-account balance improves relative to the previous situation. The fiscal deterioration observed is the result of the fall in tax revenues, caused by the contraction in activity and, in some cases, the increase in public spending (e.g. on unemployment subsidies). The fiscal stimulus measures adopted to contain the crisis may also contribute to this fiscal deterioration, although funding difficulties

⁷ In some cases, mainly in emerging economies, there may even be a “sudden stop”. See, for example, Aguiar and Gopinath (2007).

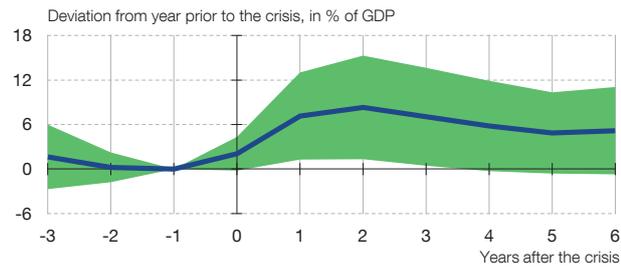
GDP



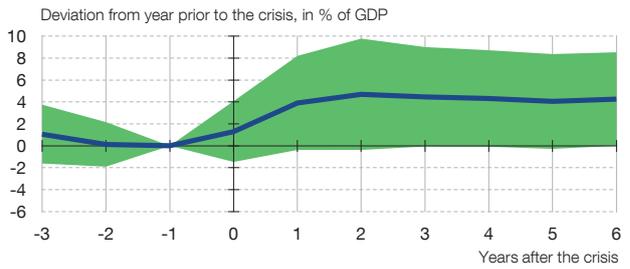
UNEMPLOYMENT



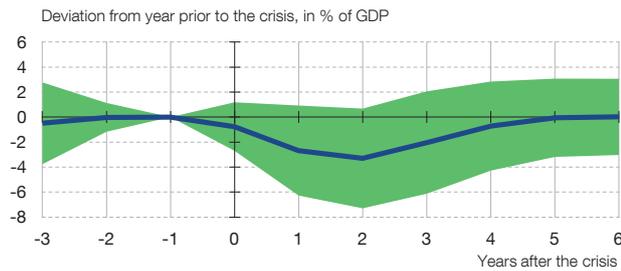
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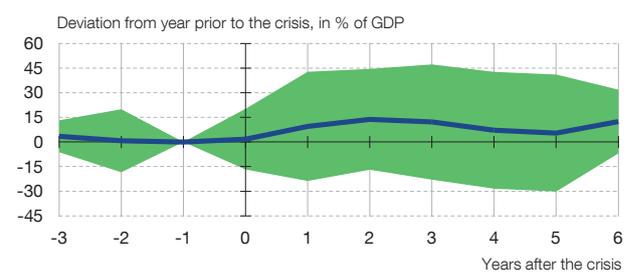
EXTERNAL BALANCE



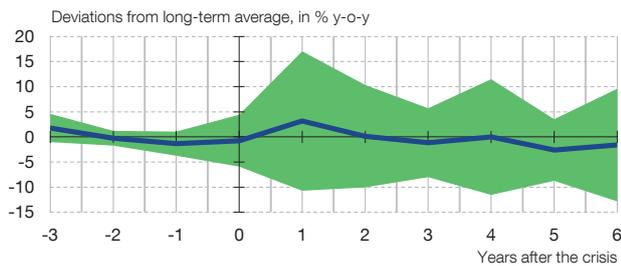
BUDGET BALANCE



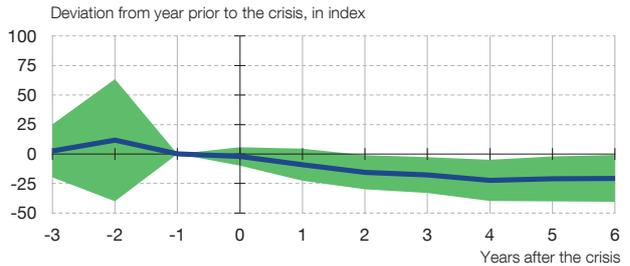
PUBLIC DEBT



INFLATION



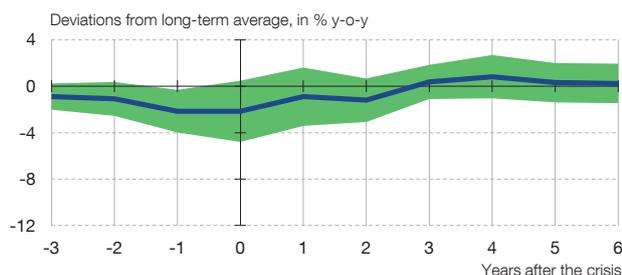
REAL EFFECTIVE EXCHANGE RATE



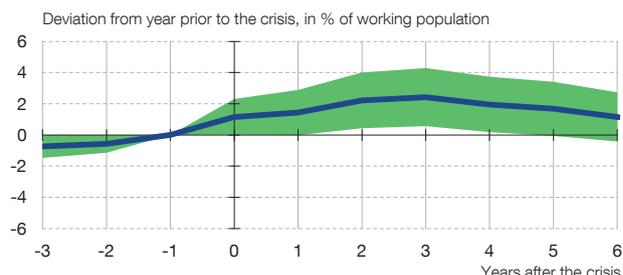
SOURCES: World Economic Outlook (WEO), Economist Intelligence Unit, OECD and World Bank.

a The green area is the area within one standard deviation of the mean (blue line). Both the mean and the standard deviation are calculated using the sample of countries available in each group.

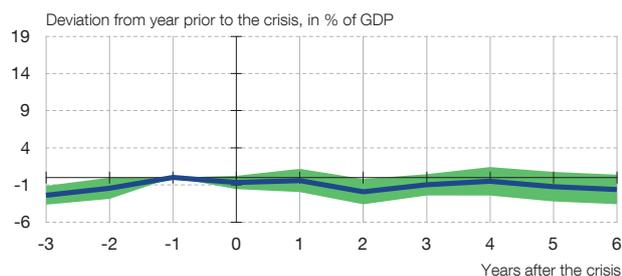
GDP



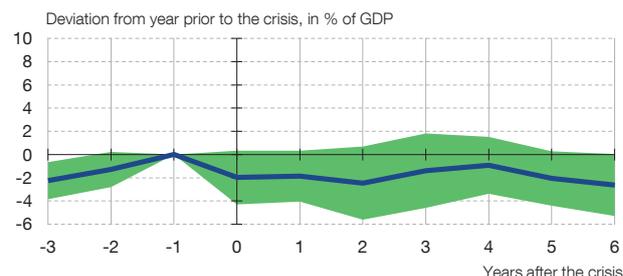
UNEMPLOYMENT



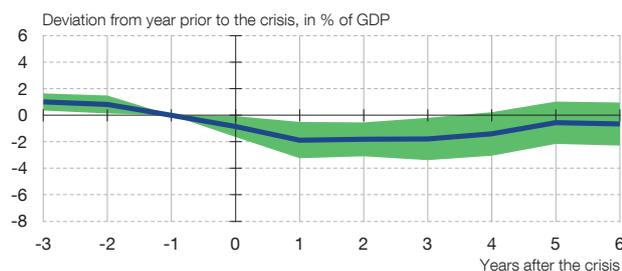
PRIVATE BALANCE



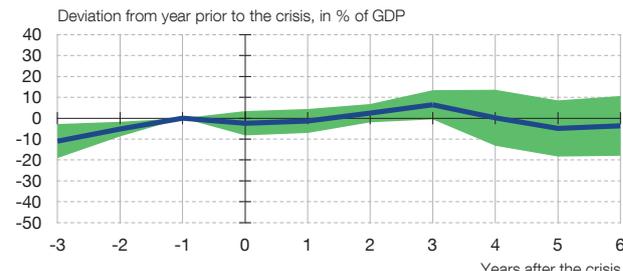
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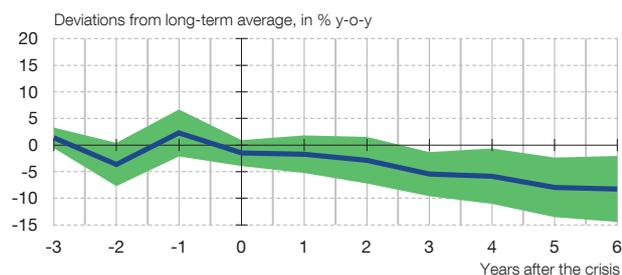
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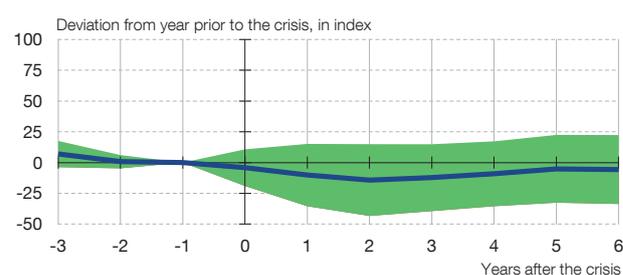
PUBLIC DEBT



INFLATION



REAL EFFECTIVE EXCHANGE RATE



SOURCES: World Economic Outlook (WEO), Economist Intelligence Unit, OECD and World Bank.

a The green area is the area within one standard deviation of the mean (blue line). Both the mean and the standard deviation are calculated using the sample of countries available in each group.

usually lead, especially in emerging economies (and, in particular, in those with high net borrowing), to a contractionary bias in fiscal policy in periods of financial stress.⁸

In crises in surplus countries, the domestic savings available at the start of the crisis provided greater room for manoeuvre during the adjustment. Since they do not depend on external savings, these economies are less vulnerable to external shocks and have a greater capacity to implement stabilisation measures. Chart 3 shows (for the average crisis episode in current-account surplus countries) that the increase in the budget deficit is not offset by an improvement in private saving, so that, unlike in the case of deficit countries, there is no improvement in the external balance. Also notable in crises affecting surplus countries is the smaller contraction in GDP, which is also indicative of this larger scope for implementing policies to stimulate domestic demand.

THE ROLE OF THE EXCHANGE RATE: FIXED VERSUS FLEXIBLE

Along with the dependence on external financing, another factor that influences the pattern of adjustment following a financial crisis is the macroeconomic policy framework and, in particular, the exchange rate regime and the monetary policy strategy. Charts 4 and 5 show the average pattern of adjustment following financial crises in deficit countries, according to the exchange rate regime in force at the time of the crisis. In principle, countries with flexible exchange rates are more exposed to a sharp exchange-rate adjustment. However, economies with fixed exchange rates may also be subject to significant downward pressures on the exchange rate, which may eventually lead to an exchange-rate crisis, if they do not succeed in defending the peg. As a corollary of the greater exchange rate variability, countries with flexible exchange rates have a greater capacity to use monetary policy to combat the effects of the crisis. However, sometimes countries with flexible exchange rates have also had to implement contractionary monetary policies (interest rate increases) in situations of stress, in order to stem capital outflows. In addition, monetary expansion as a means of adjustment, although potentially useful to accommodate the real adjustment, may lead to the unanchoring of inflation expectations and, ultimately, to persistently high inflation rates, which may eventually reduce long-term growth.⁹

The empirical evidence shows that, at the time of the crisis, deficit countries with flexible exchange rates experience a net capital outflow. This contributes to the depreciation of their nominal exchange rate and an improvement in their competitiveness, facilitating correction of the external deficit in the short term. As seen in Chart 4, the improvement in the current-account balance in crisis episodes in deficit countries with flexible exchange rates is on average 4% of GDP. At the same time, the depreciation has an inflationary impact and historical experience shows that central banks tend to accommodate this, leading to easier monetary conditions, either through lower nominal interest rates or by accommodating the reduction in real interest rates caused by the increase in inflation. This expansionary bias to monetary policy helps to mitigate the impact on the financial system and facilitate recovery. In the sample of episodes analysed, the rate of inflation stands on average 5 pp above its long-term average in the first year after the start of the crisis (see Chart 4). This increase in inflation partly offsets the nominal depreciation so that the real exchange rate depreciation is gradually reversed. This pattern of adjustment based on the reduction of real interest rates, basically driven by the increase in inflation, is conducive to a recovery in private demand in countries with flexible exchange rates. Another channel through which higher inflation boosts demand is by reducing the debt burden. However, this reduction depends on the percentage of debt in local currency. If the proportion of

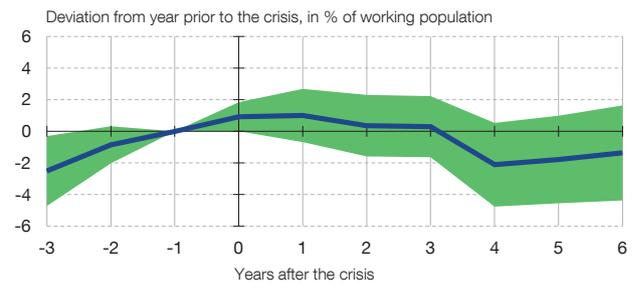
⁸ See Alberola and Montero (2006).

⁹ For a review of the literature on the costs of inflation, see Woodford (2002).

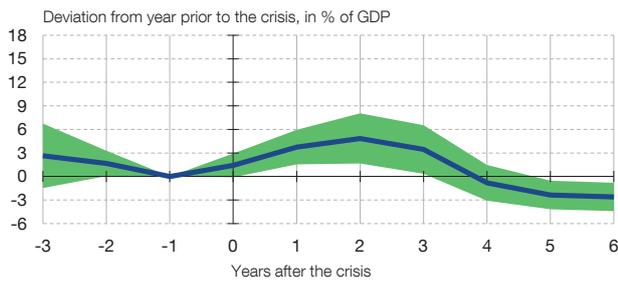
GDP



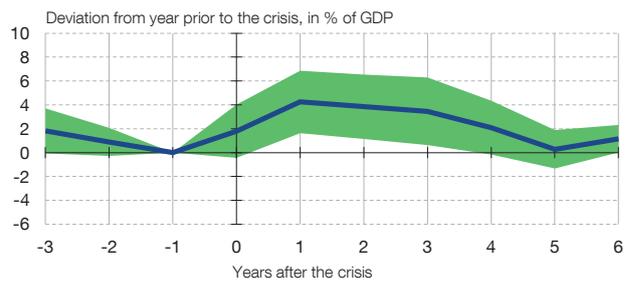
UNEMPLOYMENT



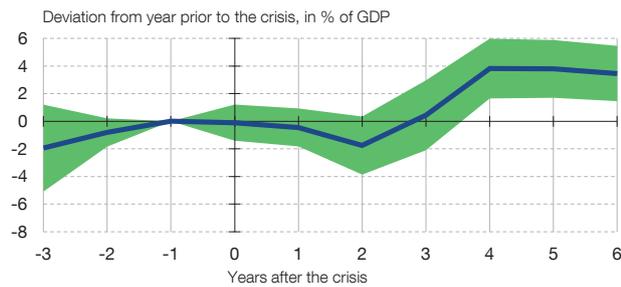
PRIVATE BALANCE



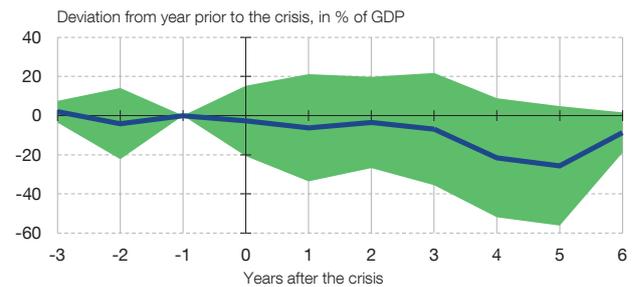
EXTERNAL BALANCE



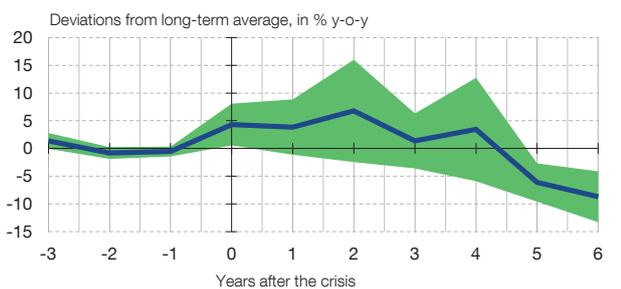
BUDGET BALANCE



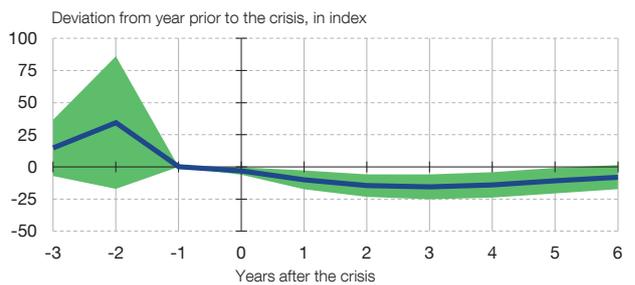
PUBLIC DEBT



INFLATION



REAL EFFECTIVE EXCHANGE RATE



SOURCES: World Economic Outlook (WEO), Economist Intelligence Unit, OECD and World Bank.

a The green area is the area within one standard deviation of the mean (blue line). Both the mean and the standard deviation are calculated using the sample of countries available in each group.

debt denominated in foreign currency is high, the exchange-rate depreciation may offset this impact and could even generate a severe deterioration in indebtedness.

On average, in the crisis episodes analysed in deficit countries with flexible exchange rates, the crisis generates a fall in GDP growth of 2 pp with respect to trend and an increase of 1 pp in the rate of unemployment. For its part, the budget deficit increases by 2 pp in the second year following the crisis. However, this trend is corrected from the third year, in line with the reduction in unemployment and the increase in the GDP growth rate, and the budget balance improves from the fourth year after the crisis. In the sample analysed, the crisis episodes in countries with flexible exchange rates generate less persistent negative effects, which disappear approximately three years after the crisis starts. The public debt-to-GDP ratio does not increase, despite the slight fiscal deterioration, owing to the impact of inflation on the stock of nominal debt, especially if it is predominantly denominated in local currency.

In the case of deficit countries with a fixed exchange rate regime at the start of the crisis, monetary policy should aim to maintain the exchange-rate commitment, and thereby influence the path of macroeconomic adjustment. In some cases (11 out of 24 in the sample) the exchange-rate peg was ultimately abandoned, generally against the initial wishes of the authorities. The exchange-rate anchor and consequent restriction of monetary instruments, have notable advantages in periods of stability, but may hamper the stabilisation of the economy following a crisis, a lesson that has been well known since the Great Depression, as seen in Box 1. Chart 5 shows that, in the analysed sample of crisis episodes in countries with fixed exchange rates, the GDP growth rate falls on average by 4 pp relative to its long-term average, twice the fall with flexible exchange rates, and takes between three and five years to return to its historical level, while unemployment rises by 3 pp and recovers very slowly. However, both maintenance of the peg and the more contractionary monetary policy stance generate a fall in inflation with respect to its long-term average. The combination of a fixed exchange rate and lower inflation translates into a real exchange rate depreciation and, therefore, an improvement in the economy's external competitiveness. This result suggests that the behaviour of the real exchange rate is more favourable than in countries with flexible rates where, as indicated, the nominal depreciation is partially offset by the increase in inflation.

The deterioration in the budget balance as a percentage of GDP has also been more intense in adjustment episodes in countries with fixed exchange rates than in those with flexible rates. This may be due to the fact that in recovery phases in countries with exchange-rate commitments the role of stimulating private demand falls to a greater extent to fiscal policy, as monetary policy has little room for manoeuvre due to the defence of the peg. In addition, the combination of a larger fiscal deterioration with lower inflation entails a larger increase in the debt-to-GDP ratio (25 pp on average), as against what happens with flexible exchange rate regimes, when this ratio is reduced (see Chart 4). Finally, stricter monetary and financial conditions are conducive to a more pronounced increase in private agents' saving, which helps to improve the private balance and the external surplus. On average in the episodes analysed these balances increased by 10 and 5 pp, respectively, in relation to their pre-crisis levels.

The adjustment process in the developed economies in the current crisis in the light of historical experience

The financial crisis has hit a large number of economies, both developed and emerging, although the impact on the latter has generally been less intense and prolonged. The degree of international synchronisation displayed makes it difficult to establish precise parallels with previous episodes, but it is still useful to assess the extent to which economies' recovery profiles following the start of the current crisis correspond with what one might expect from historical experience. The analysis of the patterns of adjustment in the three main developed economies (the United States, the euro area and the United Kingdom)

The current financial crisis has been repeatedly compared with the Great Depression of 1929, not only because of its severity but also because of its financial origin and the ensuing protracted period of adjustment. In recent decades, research into this period of history has led to the emergence of a certain degree of consensus in the academic world about its causes and the effectiveness of the various policies applied to resolve it, although there are divergent opinions and it remains a subject of investigation.¹ It is also important to underline that in the wake of the Great Depression, Keynes developed his theory, the foundation for most of the macroeconomic toolkit. These tools have provided the basis, at different times, for economic policy design and have been effectively applied since the outbreak of the current crisis.

Although the Great Depression began in 1929, its origins date back to the end of the First World War, a decade earlier. During the war, many of the countries involved, had suspended the gold standard, under pressure from the fiscal needs of the war effort and the metal shortage. The gold standard had been in operation since approximately 1874 and guaranteed the convertibility of national currencies into their equivalent in gold, which notably restricted the room for manoeuvre in terms of monetary policies which were subordinated to maintaining such parity. Although the suspension of the gold standard was based on an economic emergency, high inflation and the poor situation of the European economies made it difficult for it to be reintroduced after the war. However, strong fluctuations in prices and exchange rates and the need to discipline fiscal expansion during the period 1919-25, convinced the authorities in most countries of the need to recover a nominal anchor to maintain stable inflation and exchange rates, as had occurred in the pre-war period.² Thus, throughout the 1920s, most European countries reintroduced the convertibility of their currencies into gold.³ The United Kingdom restored the gold standard in 1925, applying the pre-war parity, with the aim of recovering sterling's role as a central currency before the war. The decision to maintain the previous parity meant a substantial revaluation of sterling in real terms which triggered strong deflationary pressure and a recession. This favoured the United Kingdom's main

trade competitor, the United States, which significantly increased its share in international trade and moved from a trade deficit to a trade surplus. The trade surplus, under the prevailing gold standard, involved the inflow of gold into the United States which was reinvested in the form of loans to Germany and Austria. With these loans, the United States facilitated payment by Germany and Austria of the reparations to France and the United Kingdom pursuant to the Treaty of Versailles, and the latter, in turn, were able to repay their war debts to the United States.

This circuit of credit was favoured by the US Federal Reserve's low interest rate policy. This combination of policies made it easier for price convergence between the United Kingdom (downwards) and the United States (upwards) against a backdrop of coordination between the monetary authorities of these two countries. During this phase, the rising trend on the US stock market quickened, bolstered by the positive economic outlook and the inflow of fresh capital. Financial innovation and international market integration also contributed to this process. Thus, for example, the leveraged purchase of shares in the United States became widespread, that is, it was possible to receive loans to buy shares (that in turn were used as collateral). This encouraged a change in the direction of private financial flows from Europe to the United States, which caused financial problems in countries like Germany.

The perception that economic growth was out of control prompted the Federal Reserve's decision to tighten its monetary policy to rein it back in. This stemmed the growth of the speculative market bubble and ultimately triggered the collapse of the US stock market and of other stock markets, leading to the 1929 stock market crash. From that moment, the stock market fall began to feed through to the US and world economies through a "financial accelerator" mechanism.⁴ The decline in asset prices compelled agents to settle positions to get cash and to improve solvency but this simultaneous settlement of positions depressed asset prices even further, reducing the value of the loan collateral. This triggered a rise in bank and business failures, reducing credit and the money stock and amplifying the effect of the recession.

Economic policies did not react suitably and the gold standard contributed to transmitting this process to an international scale, by magnifying it. The monetary contraction forced countries to raise their interest rates to avoid being left without gold reserves which tended to amplify the recessive and deflationary effects of the depression. The United States, which had emerged after the war as the new central country in the monetary system, could have followed the example set by the United Kingdom in the twentieth century, by temporarily halting convertibility to increase liquidity in the system and acting as a "lender of last resort" to commercial banks and other cen-

1 This box does not attempt to review the large volume of existing literature but to provide a brief summary. The view expressed attempts to cover the most widely spread thesis, developed, inter alia, in Friedman and Schwartz (1963), Bernanke (1983), Romer (1992) and Eichengreen (1992). Other authors, such as Cole and Ohanian (2002), offer alternative explanations, underlining aspects such as the cartel system and the increase in trade union negotiating power to explain the persistence of the recession.

2 There has been a dispute about whether the exchange rate instability during the period 1919-1925 was the cause of the economic instability, as held by Ragnar Nurske, or a consequence of it, as maintained by Milton Friedman. See Eichengreen (1996).

3 The first countries to reintroduce the convertibility of their currencies into gold were those which had experienced the effects of hyperinflation: Austria (1923), Germany and Poland (1924) and Hungary (1925). They were followed by the other large nations and their colonies: the United Kingdom and Belgium (1925), Italy (1927) and France (1928)

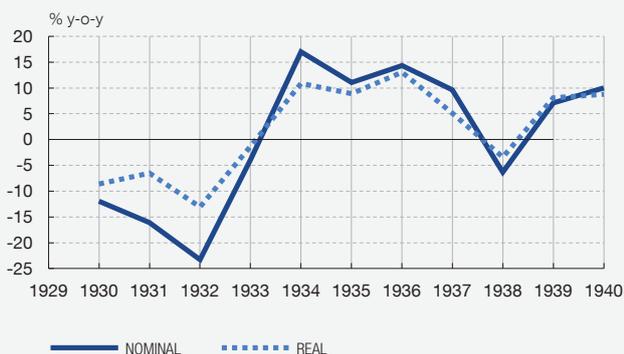
4 See Christiano, Motto and Rostagno (2004).

tral banks. However, the US authorities remained passive until well into the 1930s, which deepened the magnitude of the depression and its duration. The chart in this box includes the main economic indicators of the United States in the period after 1929.

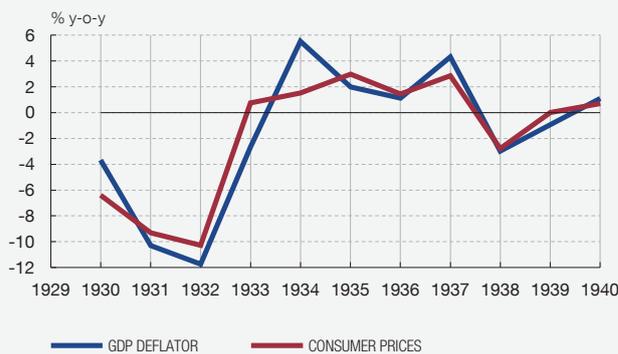
Exit from the crisis and the policies adopted varied greatly. In 1931, countries like Austria and the United Kingdom abandoned the gold standard, which was accompanied by an economic recovery in these countries resulting from the ensuing monetary expansion. Monetary expansion contributed to im-

THE US ECONOMY DURING THE GREAT DEPRESSION

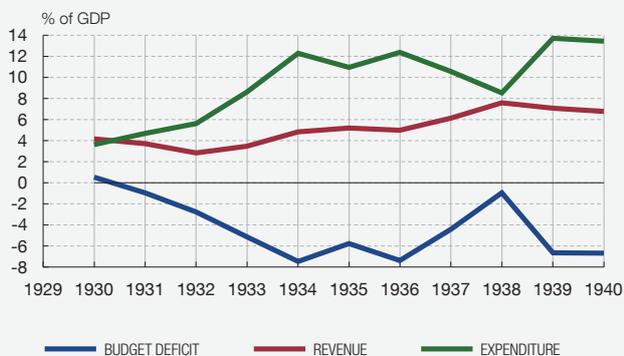
GDP



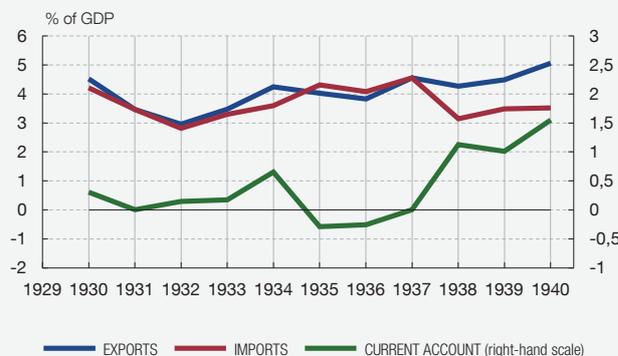
INFLATION



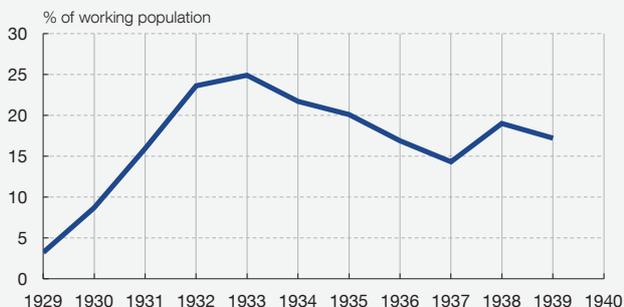
PUBLIC FINANCES



EXTERNAL BALANCE



UNEMPLOYMENT



MONETARY BASE



SOURCES: Federal Reserve of St. Louis and International Historical Statistics.

proving financing conditions and unblocked the credit supply, which facilitated the recovery of investment and consumption; on the other hand, abandoning the gold standard temporarily improved the external balance through the depreciation of the exchange rate; lastly higher inflation reduced the real amount of debt and made deleveraging easier. By contrast, countries like France which maintained convertibility into gold until 1936, saw their fragile economic situation drag on until the beginning of World War II.

In the case of the United States, the situation did not offer any signs of improving until the arrival of the new Roosevelt administration in 1933, which had undertaken to fight deflation. Therefore, it suspended convertibility into gold in 1933, permitting monetary

expansion and the depreciation of the dollar. Secondly, it introduced “bank holidays” by decree in order to rebuild the balance sheets of banks and wind up insolvent ones. Additionally, it announced an inflationary target for prices to rise to their pre-1929 levels⁵ which triggered a strong rise in inflation and the beginning of the economic recovery from 1933. These decisions were ultimately much more transcendent than the fiscal expansion, also introduced further to the New Deal, which was moderate owing to the scale of the recession according to most authors.⁶

5 See Eggertsson (2008).

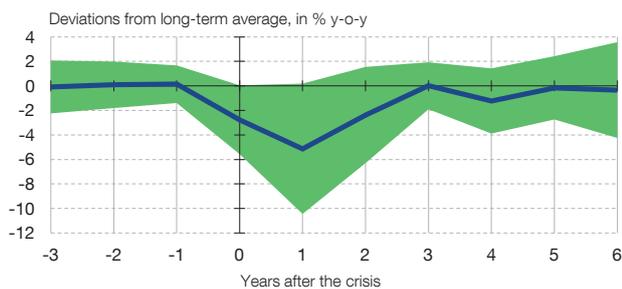
6 See Romer (1992) or Brown (1956). The government deficit never exceeded a maximum of 8% of GDP in 1934. However, when it started to contract again from 1937, it did contribute to the US economy falling back into recession.

shows that although they generally reflect the historical experience described in the previous sections in qualitative terms, there are some notable differences.

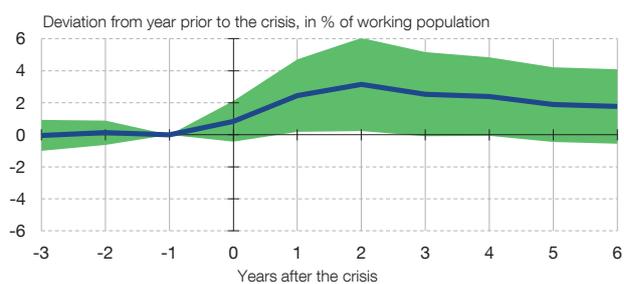
The adjustment in the British economy is perhaps the most similar to that recorded in previous episodes of financial crisis in deficit countries with flexible exchange rates. Following a very deep crisis (involving a GDP contraction of around 8 pp and a moderate increase in unemployment of about 2 pp) there was a sharp depreciation of the pound sterling and inflation rose to stand persistently above 4%. This relatively high inflation entailed, against the background of a relatively stable exchange rate, a real appreciation in the last year considered. Fiscal stimulus measures were reflected in a substantial increase in the budget deficit. This was offset by the sharp adjustment in the private sector, which has become a significant net lender. As a result, the external balance has improved relative to the pre-crisis period.

The US economy, which has posted persistent current-account deficits (based on high levels of private-sector borrowing), has also suffered an intense crisis without any recent precedent: the GDP growth rate has fallen by around 4 pp relative to its historical average and unemployment has increased by some 5 pp with respect to its pre-crisis level. Unlike in the case of the pound sterling, the tendency for the dollar to depreciate has been modest and there have been certain episodes of appreciation, associated with the persistently high level of uncertainty in the post-crisis period. This behaviour is strongly influenced by the central position of the United States in the international monetary system, resulting from the status of its currency as the safe haven instrument par excellence. At the same time, despite the easy monetary policy pursued by the Federal Reserve to boost economic recovery (with official interest rates kept at slightly above zero and non-standard measures), inflation has still not reached its pre-crisis levels, in contrast to the historical experience. This aspect highlights the special nature of this financial crisis: the fragility of the financial system has blocked the monetary transmission mechanisms, causing the large amount of liquidity provided by the monetary authorities (in the United States and in the other advanced economies) to remain largely stuck on the balance sheets of central banks and financial institutions.

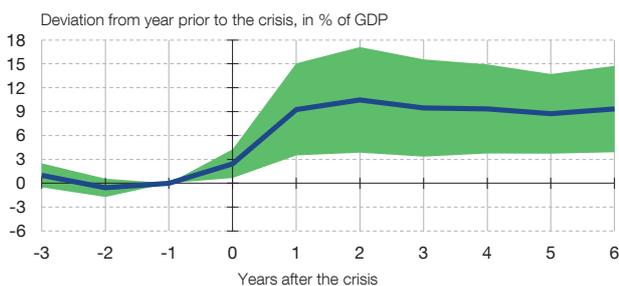
GDP



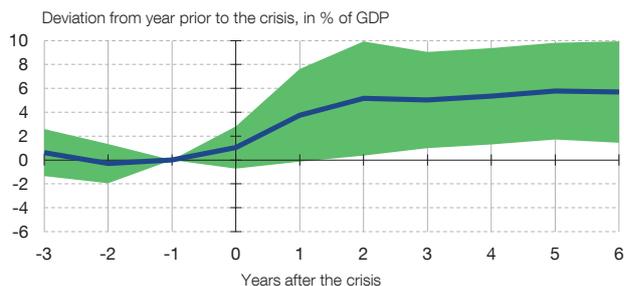
UNEMPLOYMENT



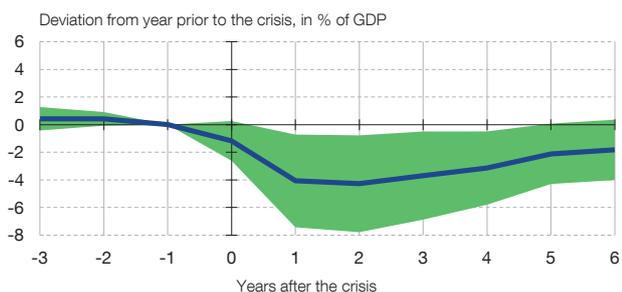
PRIVATE BALANCE



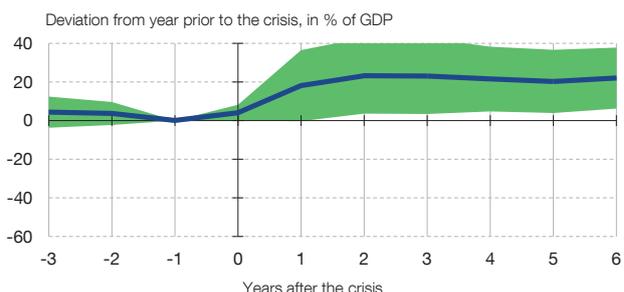
EXTERNAL BALANCE



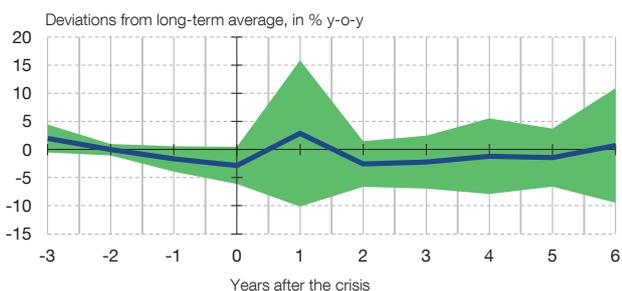
BUDGET BALANCE



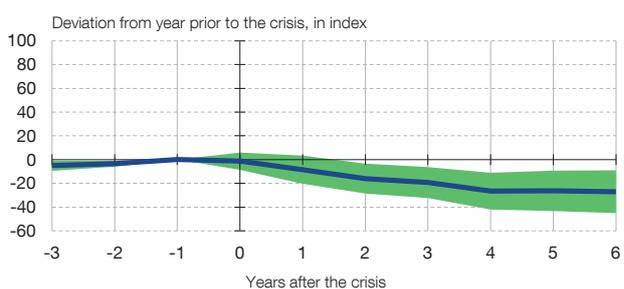
PUBLIC DEBT



INFLATION



REAL EFFECTIVE EXCHANGE RATE



SOURCES: World Economic Outlook (WEO), Economist Intelligence Unit, OECD and World Bank.

a The green area shows the area within one standard deviation of the mean (blue line). Both the mean and the standard deviation are calculated using the sample of countries available in each group.

The strong fiscal expansion has also been notable, with deficits of more than 10% of GDP. As in the British case, these were offset by an improvement in the private sector's net lending, resulting in some correction of the external deficit.

The euro area is a special case. In its entirety the area may be considered to be an economy with a flexible exchange rate and with a current account that has historically been roughly in balance. The recent financial crisis has been accompanied by a recession of similar intensity to the one in the United States in terms of output, although it has been less intense in terms of job destruction. As in the United States inflation has remained below its pre-crisis levels, but the exchange rate has tended to appreciate against the dollar, albeit with a high level of volatility, while in real effective terms it has see-sawed. At the start of the crisis the euro area had a slight surplus, but the pattern of domestic adjustment has been similar to that in the other two economies, which had a substantial external deficit. That is to say, there has been an increase in private saving which has offset the growth in the budget deficit in the period immediately after crisis. However, these movements have been less intense, especially in the case of the budget deficit, which has enabled the increase in overall debt to be smaller than in the other two countries analysed.

Final considerations

In the light of the historical evidence of the last three decades, the immediate impact of a financial crisis is a substantial reduction in the GDP growth rate, an increase in unemployment and a higher budget deficit. Apart from these common responses, the pattern of adjustment to a financial crisis varies in accordance with several factors, among which the external position of the economy and its exchange rate regime stand out. In countries with current-account deficits, the financial crisis is accompanied by a sharp adjustment in the external position. In emerging economies, especially, this adjustment is usually exacerbated by a sudden stop in external financing (that may be more or less intense and prolonged), which forces the private sector to reduce its consumption and investment drastically, amplifying the recessionary effect of the crisis. In surplus countries, no significant external adjustment takes place, so that the increase in the budget deficit can be financed externally without the need for an increase in private saving or a reduction in investment.

The analysis also reveals that the adjustment tends to be briefer and smoother in economies with flexible exchange rates, assisted by the depreciation in the nominal exchange rate which, however, leads to a larger rise in inflation. The risks in this context lie in the possibility of an exchange rate crisis, which is especially damaging in economies with a high volume of foreign currency denominated debt, and in the possible unanchoring of inflation expectations, which may eventually have an impact on longer term growth. Moreover, in the medium term inflation erodes the competitiveness gains obtained. In the case of economies with fixed exchange rates, maintaining the exchange rate commitment limits the nominal adjustment, through lower exchange rates, and also the room for manoeuvre in the area of monetary policy. This tends to prompt a sharper real adjustment and also means that fiscal policy is the main instrument for supporting the recovery. Both these factors lead to greater fiscal deterioration. However, the exchange-rate peg tends to be conducive to a low inflation environment and to greater discipline in the adjustment process which, in the long term, may be beneficial.

In any event, the current crisis displays a number of differences when compared with those analysed in this article. First, it is global and – in the advanced economies – persistent, this being in contrast to previous financial crises, which were predominantly in emerging economies. The global nature of the crisis limits the possibility that external demand will smooth the adjustment. That said, the fact that the crisis has been centred on the developed countries, with their deeper and more internationally integrated financial markets, may have mitigated the intensity of the adjustment. Even so, the pattern of adjustment in the main

advanced economies is largely in line with the experience of previous episodes, which also show that a period of deleveraging by private agents is a prerequisite for exit from the crisis.

The other fundamental difference when comparing with historical experience, is the relatively low level of inflation in the three economies analysed (all of which have flexible exchange rates), despite the notable expansion in liquidity during the crisis. This benign behaviour by inflation is without doubt partly attributable to the credibility of monetary policy. However, the severe shocks that the crisis (and its impact on financial systems) has generated in the transmission of monetary stimuli may also have mitigated the price pressures in some of these economies.

Looking ahead, in addition to the central scenario of gradual recovery in the advanced economies and normalisation of the economic policy stance, there are two contrasting risk scenarios. The first would involve consolidation of the situation of financial paralysis and its negative interaction with the real economy. This could lead to a deflationary environment similar to the one following the Japanese crisis, which continues to prevail after two decades. In the second scenario the authorities would lose control of the normalisation of the financial and economic situation, which would eventually lead to an inflationary process, due to the high levels of liquidity in the system, against a backdrop of large budget deficits. The best way of addressing these risks is for monetary policy to continue to be oriented towards the achievement of medium-term price stability.

REFERENCES

- Aguiar, M. and G. Gopinath (2007). "Emerging Market Business Cycles: The Cycle is the Trend," *Journal of Political Economy*, vol. 115 (1): 69-103.
- Alberola E. and J. M. Montero (2006) "Debt sustainability and procyclical fiscal policies in Latin America" Documento de Trabajo No 0611, Banco de España
- Bernanke, B. S. (1983). "Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression," *American Economic Review*, vol. 73 (4): 257-276.
- Brown, E. C. (1956). "Fiscal Policy in the 'Thirties: A Reappraisal," *American Economic Review*, vol. 46 (1): 857-879.
- Christiano, L. J., R. Motto and M. Rostagno (2004). "The Great Depression and the Friedman-Schwartz Hypothesis," *NBER Working Papers* 10255, National Bureau of Economic Research, Inc.
- Cole, H. L. and L. E. Ohanian (2002). "The U.S. and U.K Great Depressions Through the Lens of Neoclassical Growth Theory," *American Economic Review*, vol. 92 (3): 28-32.
- Eggertsson, G. B. (2008). "Great Expectations and the End of the Depression," *American Economic Review*, vol. 98 (4), (2008): 1476-1516.
- Eichengreen, B. (1992). *Golden Fetters: The Gold Standard and the Great Depression, 1919-1939* (New York: Oxford University Press).
- Eichengreen, B. (1996). *Globalizing Capital* (Princeton University Press, New Jersey).
- Friedman, M. and A. J. Schwartz (1963). *A Monetary History of the United States: 1867-1960* (Princeton: Princeton University Press for NBER).
- Kaminsky, G. L. and C. M. Reinhart (1999). "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems," *American Economic Review*, vol. 89(3): 473-500.
- Reinhart, C. and K. S. Rogoff (2009). *This Time is Different: Eight Centuries of Financial Folly*. (Princeton University Press, New Jersey).
- Romer, C. D. (1992). "What Ended the Great Depression?," *Journal of Economic History* 52 (1992): 757-784.
- Terrones, M., A. Scott and P. Kannan (2009): "From Recession to Recovery: How Soon and How Strong?," Chapter 3 in *World Economic Outlook*, April, Washington, D.C.: International Monetary Fund.
- Woodford, M. (2002). *Interests and Prices*, Princeton University Press, New Jersey.