

## Box I

### US RECESSIONS: WHAT CAN BE LEARNED FROM THE PAST?

In the current period of heightened uncertainty, it is difficult to predict how deep and prolonged the current recession in the United States is likely to be. Reviewing the stylised facts pertaining to past recession episodes can, however, give some indication as to the average strength and duration of US business cycles. Based on this information, one could attempt to deduce the sequence of events as well as the dynamics leading to a future US recovery. This box reviews the stylised facts of ten post-war US recession episodes (as identified and dated by the National Bureau of Economic Research; see the table<sup>1</sup>) and contrasts them with events in the current cycle. In addition, the box briefly compares these post-war recessions with the Great Depression of 1929-33 as a benchmark.

Looking first at the behaviour of US GDP during these post-war recession episodes, it can be seen that on average US real GDP contracts by 1.4% over two quarters (see Chart A). After reaching the trough, it takes an average of three additional quarters for GDP to return to its pre-recession level. The recessions in the 1950s, that of 1973 and the 1980-82<sup>2</sup> double-dip recession involved particularly steep and prolonged falls, while the mildest recession was that of 2001. By comparison, real GDP declined by about 27% during the Great Depression and it was seven years before GDP returned to its pre-depression annual average level.<sup>3</sup> According to publicly available US projections, the current cycle is likely to be one of the most severe – if not the worst – in post-war US history. US GDP had already declined by 0.8% between the start of the recession at end-2007 and the fourth quarter of 2008, and, according to the IMF's global economic prospects as published in March,<sup>4</sup> US GDP is forecast to contract by an additional 2.6% in 2009.

1 According to the definition of the National Bureau of Economic Research, a recession is not just two consecutive quarters of negative growth but "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales".

2 Of these more severe post-war recessions, that of 1980-82 is shown in the charts.

3 The GDP and personal consumption figures relating to the Great Depression refer to changes in the annual averages of 1929 and 1933.

4 See the document entitled "Group of Twenty, Meeting of the Ministers and Central Bank Governors, March 13-14, 2009, London, U.K., Global Economic Policies and Prospects, Note by the Staff of the International Monetary Fund", <http://www.imf.org/external/np/g20/pdf/031909a.pdf>.

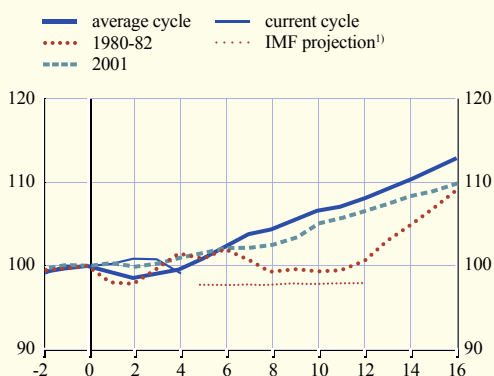
### US business cycle expansions and contractions

Business cycle reference dates		Duration in months	
Peak	Trough	Contraction Peak to trough	Expansion Time elapsed since last recession
August 1929 (Q3)	March 1933 (Q1)	43	21
November 1948 (Q4)	October 1949 (Q4)	11	37
July 1953 (Q3)	May 1954 (Q2)	10	45
August 1957 (Q3)	April 1958 (Q2)	8	39
April 1960 (Q2)	February 1961 (Q1)	10	24
December 1969 (Q4)	November 1970 (Q4)	11	106
November 1973 (Q4)	March 1975 (Q1)	16	36
January 1980 (Q1)	July 1980 (Q3)	6	58
July 1981 (Q3)	November 1982 (Q4)	16	12
July 1990 (Q3)	March 1991 (Q1)	8	92
March 2001 (Q1)	November 2001 (Q4)	8	120
December 2007 (Q4)	-	-	73

Source: National Bureau of Economic Research.

Chart A Real GDP

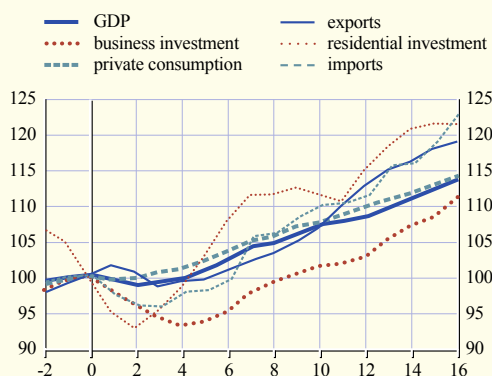
(index; start of the recession = 100)



Sources: Bureau of Economic Analysis, National Bureau of Economic Research, IMF and ECB calculations.  
Note: Timescale refers to quarters before/after the start of the recession (vertical line at zero).  
1) Annual averages.

Chart B Average developments in major national account components in a recession

(index; start of the recession = 100)



Sources: Bureau of Economic Analysis, National Bureau of Economic Research and ECB calculations.  
Note: Timescale refers to quarters before/after the start of the recession (vertical line at zero).

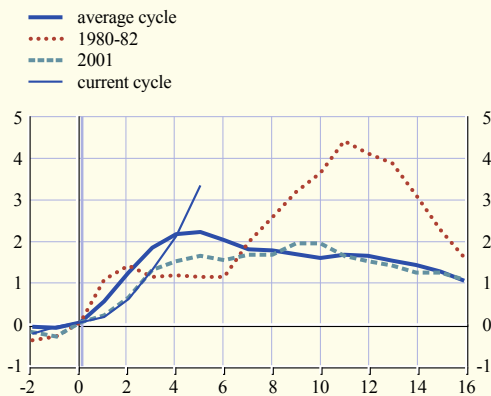
So what have been the drivers in past recessions and recoveries, and what could be different this time? Looking at the components of GDP (see Chart B), the usual trigger variable preceding a recession has been residential investment, which, on average, reached its peak several quarters before the start of the recession. Business investment, imports and private consumption – the most important component of US GDP – began to contract in tandem with GDP, while exports reached their peak one quarter after the start of the recession. A similar sequence of events is also observable in the current recession – albeit lagged by several quarters – although imports had begun to decline earlier than on average in a recession.

As regards the historical path of US private consumption in post-war recession episodes, it has on average recorded only a small (0.4%) one quarter decline, thereafter returning to its pre-recession level in a time span of only two quarters. The largest post-war decrease occurred in the 1980-82 recession, with a peak-to-trough decline of 2.2%. For comparison, by the end of the Great Depression in 1933 consumption was 18% below its 1929 average. While households have been a powerful force in dampening the downturn in past recessions, the same may not be true in the current episode. By the fourth quarter of 2008 consumption had already decreased by 1.6% since the beginning of the recession, and available forecasts suggest that a further fall is likely to be in the pipeline. The larger than average decline and slower recovery may reflect the fact that the current recession is related to a banking crisis and a collapse of the housing market. The consequent need for households to deleverage their balance sheets by increasing their savings is likely, therefore, to dampen private consumption for longer than the experience of past recession episodes would suggest.

As regards the US unemployment rate, in past episodes it has peaked on average at 2.2 percentage points above its level at the start of the recession (see Chart C). The unemployment rate is a lagging indicator and typically continues to increase for several quarters after real GDP has returned to a growth path. While GDP has typically returned to positive growth after two quarters, in the post-war episodes unemployment has peaked more than five quarters after the start of the recession. In the current cycle, the unemployment rate had already increased by 3.3 percentage points, to 8.1%, in the period between December 2007 and February 2009, and it is expected to increase further.

**Chart C Unemployment**

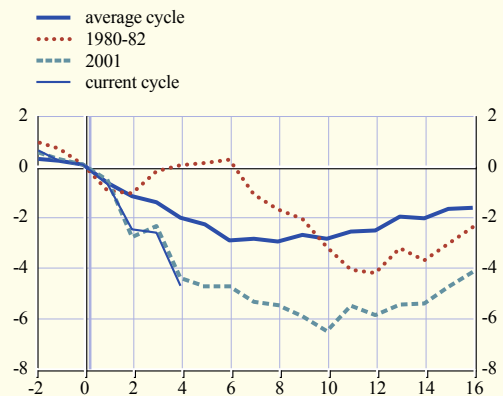
(percentages; cumulative changes; start of the recession = 0)



Sources: Bureau of Labor Statistics, National Bureau of Economic Research and ECB calculations.  
 Note: Timescale refers to quarters before/after the start of recession (vertical line at zero).

**Chart D Budget deficit (as a percentage of GDP)**

(percentages; cumulative changes; start of the recession = 0)



Sources: Bureau of Economic Analysis, National Bureau of Economic Research and ECB calculations.  
 Note: Timescale refers to quarters before/after the start of recession (vertical line at zero).

Finally, the US budget deficit widens during recessions, reflecting a decline in income and/or an increase in expenditure. In previous recessions it has deteriorated on average by 3 percentage points (as a percentage of GDP) over the time span of six quarters (see Chart D). However, this average path may also reflect other factors apart from the impact of the recession per se. For example, during the mildest post-war recession of 2001 the US budget deficit deteriorated far more than past experience would have indicated, reflecting partially tax cuts implemented by the US administration in 2001 and 2003. As regards the current recession, the budget deficit<sup>5</sup> had already deteriorated by 4.8 percentage points by the fourth quarter of 2008, compared with the same quarter in 2007. Taking into account the severity of the current recession and the fiscal stimulus package of USD 787.2 billion that has been announced, the US administration forecasts that the budget deficit could be as large as 12.3% of GDP in the fiscal year 2009, implying a rise of 9.1 percentage points compared with the previous fiscal year.<sup>6</sup>

While in past cycles households were a powerful force in dampening business cycle volatility and the recessions were driven mainly by residential and business investment, in the current cycle the situation is likely to be somewhat different. First, private consumption has already fallen sharply, and the tremendous fall in financial and housing wealth, rapidly increasing unemployment, as well as the malfunctioning of credit markets are likely to lead to a more pronounced decline in consumer spending than in previous recessions. Second, in this cycle the contraction in residential investment is generally expected to be longer than in the average cycle due to overbuilding. Finally, exports, which were still increasing at a brisk pace recently, are unlikely to support the US recovery in the short term, given the exceptional collapse in world trade. Therefore, the bottoming out of the housing markets, the unblocking of credit market flows and the solving of the financial sector problems – which are all interrelated – are the major prerequisites for a sustained recovery. The more aggressive monetary and fiscal policy that has been implemented should, however, provide support for the US economy before these conditions are achieved.

<sup>5</sup> As measured by general government net lending.

<sup>6</sup> The 2010 Budget, US Office of Management and Budget, 26 February 2009.