Box 1

US MORTGAGE MARKETS, MORTGAGE RESETS SCHEDULED IN 2008, AND THE RECENT FED INTEREST RATE CUTS

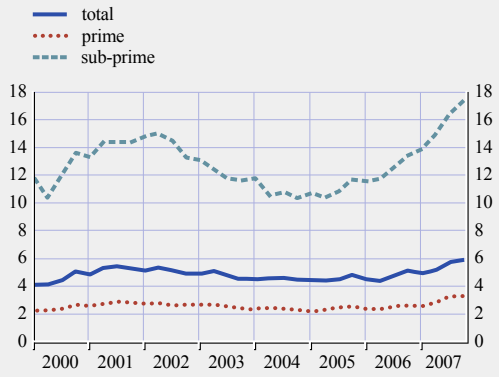
Delinquency and foreclosure rates on US mortgages started to increase in mid-2006, especially for adjustable-rate sub-prime mortgages (see Chart A). Compared to the previous economic downturn in 2001-2002, delinquency rates have not been exceptionally high. However, a new structural feature of the market is the substantial share of sub-prime mortgages, which increased from just over 10% of the total stock of mortgage loans in 2000 to over 20% in 2006. This category of mortgage loan exhibited a much higher incidence of delinquency, with sub-prime adjustable-rate mortgages (ARMs) registering a delinquency rate of 20% in the fourth quarter of 2007, up from 6.6% in the first quarter of 2006.[1] In this sub-category, the US Treasury estimates that approximately 1.8 million adjustable-rate sub-prime mortgages – with an estimated value of between USD 300 and USD 400 billion – will reset in 2008 and 2009.[2] The bulk of these resets are expected to take place during the first three quarters of 2008 and should decline rapidly thereafter. As the fragility of sub-prime ARM mortgages is pivotal to the financial stability outlook at the current juncture, this box explores how the interest rate burden implied by these resets varies with the interest rate.

Typically, adjustable-rate mortgages are tied to short-term market interest rates which are relatively close to the Federal Funds Rate, such as the six-month LIBOR, the Constant Maturity Treasury (CMT) index, and the Cost of Funds Index (COFI) (see Chart B). ARMs typically include a margin, which for the sub-prime category is usually very high – for a typical sub-prime ARM originated in 2006 this margin was around 5.5%. Combined with the LIBOR rate, this would amount to an effective interest rate of 10.8%. Moreover, a typical sub-prime

1 This compares with an increase in sub-prime fixed-rate mortgage delinquencies from 9.6% to 12.5% over the same period, and an increase in prime ARM delinquencies from 2.3% to 5%.
2 As there is no such thing as a typical sub-prime mortgage, it is very difficult to obtain reliable data on them. Quite often the numbers referred to in public are based on estimates computed by investment banks. This box is based on such information.

Chart A US mortgage delinquency rates

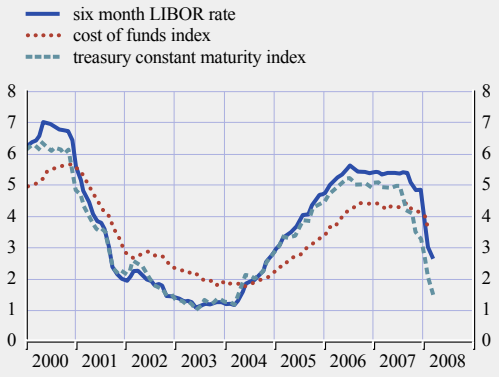
(% of loans past due)



Source: Mortgage Bankers Association.

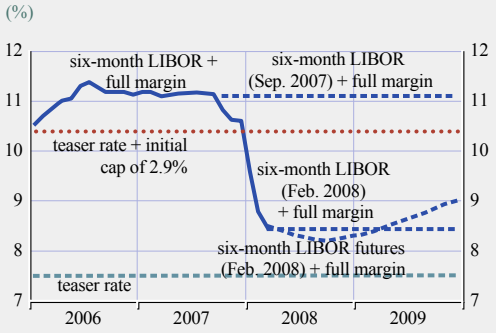
Chart B Adjustable-rate mortgage reference rates in the United States

(%)



Sources: Federal Reserve Board, Federal Home Loan Bank of San Francisco and Global Insight.

Chart C Sub-prime mortgage rate paths with different money market rate assumptions



Sources: Global Insight, Bloomberg, ECB calculations.

ARM also contained a two-year period with a fixed, discounted margin, the so-called "teaser rate", after which it reset upwards, in cycles of generally six months. For a sub-prime ARM originated in 2006 this teaser rate was typically around 7.5%. Finally, sub-prime ARMs typically included an initial cap for the first rate reset, preventing the rate from adjusting by more than 2 to 3% over the teaser rate.

In August 2007, the typical sub-prime effective rate would have reset to above 11 percentage points, more than 3 percentage points above the initial rate (see Chart C). The size of such resets was widely perceived as a serious burden on US households. To gauge how subsequent Federal Reserve interest rate cuts have influenced the additional servicing burden that affected households will face as a result of resets, three different interest rate scenarios are considered: reset to the September 2007 rate, the February 2008 rate (in both cases the rates are assumed to stay constant) and the market expectations rate of February 2008.[3] The scenarios are represented by blue dotted lines (see Chart C). The reset rate declined rapidly as the Federal Reserve implemented rate cuts after August 2007. It would imply that the first reset in 2008 would raise the servicing cost of such mortgages by only around 0.5 to 1 percentage point above the teaser rate.

Although the situation now looks more positive, these scenarios should be interpreted cautiously. In particular, they do not take account of the fact that additional causes for concern are weakening employment which may adversely affect income conditions and the outlook for house prices. The latter is especially relevant since history has shown the loan-to-value ratio, which is dependent on the level of house prices, to be the single-best predictor of US mortgage holders' decision to default on a mortgage. Looking further ahead, it is important to bear in mind that when the US economy eventually strengthens, it can be expected that short-term interest rates will also rise so that sub-prime reset rates will also rise.

3 In February 2008 markets were expecting LIBOR to decline to close to 2¼% by September 2008, and then to start to increase slowly and reach the current level only by the end of 2009.