Sub-prime mortgages: Is the worse yet to come?

Andrew Cornford

The fallout from the bursting of the US sub-prime mortgage financing bubble continues. This now includes losses of $900 million at the home lending unit (ResCap) of GMAC, the financial services group in which General Motors has a 49 per cent stake, and losses of more than $100 million at UBS on its investments in sub-prime mortgages, losses which have led to closure of a recently established in-house hedge fund.

The drag on activity in the US housing sector from the end of the bubble may be prolonged. Politicians in Washington have seized on the issue of who bears responsibility for the disastrous situation in which many defaulting low-income mortgagors now find themselves. Proposals for legislating liability in future mis-selling of mortgages to include investors in mortgage-backed securities (investment banks and institutional investors) are now on the table. And attention has, unsurprisingly, been drawn to the contrast between depressed property values in the mortgagors' neighbourhoods and the still buoyant house prices in neighbourhoods inhabited by those who originate and trade sub-prime mortgages.

However, the likelihood of systemic effects on financial markets resulting from the defaults on sub-prime mortgages is increasingly discounted, though further nasty surprises are still expected as losses already incurred by lenders and investors are reported in financial statements. But unease persists. Grounds for this unease were articulated in the April 2007 issue of the *Financial Stability Report* of the Bank of England in a discussion which points to features – and thus, risks -- shared by the markets for sub-prime mortgages and those for securitized assets more generally.

Sub-prime mortgage financing is a feature of the huge shift in US home mortgages away from loans retained on the books of lenders to securitized obligations. The main players here are mortgage banks, investment banks and other institutional investors in mortgage-backed securities such as pension funds and hedge funds.

Of the financial institutions which originate home mortgages in the US, mortgage banks are responsible for the largest share. However, unlike Savings and Loan Associations (thrifts), they hold these mortgages, for the most part, only long enough to check borrowers' creditworthiness and to accumulate sufficient amounts to package and sell on in the form of securitized assets and loan sales. The securitized assets are backed by pools of mortgages and convey specified rights to the cash flows which the mortgages generate. These cash flows may have differing degrees of seniority so that investors in the junior tranches assume greater risks and are compensated by higher returns.

The main income of mortgage banks comes from fees, rather than the spreads between the rates of interest at which they borrow and lend, though they are also beneficiaries of IO (interest only) strips, a residual spread between interest received on securitized mortgages and that paid to investors. Mortgage banks' fees come from originating and servicing mortgages. In normal conditions, the banks also benefit from gains from the difference between what they pay for mortgages and what they receive on their sale or resale. These gains reflect desirable features of pools or packages of mortgages (such as liquidity or cash-flow characteristics), which give them a value to investors greater than that of the individual mortgages at origination or purchase from other institutions. However, these gains can become losses during downturns in the housing market or periods when investor sentiment turns against home mortgages for other reasons.

Home mortgages are classified as prime or sub-prime according to the credit history of the borrower, sub-prime being those advanced to people with recent histories of difficulties. Premia for sub-prime mortgages over the rates of interest on prime mortgages, which range from 1-2% to 5-6%, increase according to a standard scale denoting relative riskiness. Sub-prime mortgages grew very rapidly from the beginning of the 1990s with the development of investment markets for securitized pools of them. However, as a credit enhancement to induce investors to hold such riskier pools, mortgage banks are still prepared to retain, on their own books, residual shares of up to 30 per cent with their rights to cash flows subordinated to those of other investors.

In recent years, there have been widespread purchases of mortgage banks by larger more diversified financial firms. As a result, the major names in mortgage banking include Chase Manhattan Mortgage, Wells Fargo Home Mortgage and Bank of America as well as specialist firms.

Mortgage banking is exposed to risks linked to conditions in the markets in which they sell mortgages. Downturns and the drying-up of liquidity in these markets depress the prices of, and thus returns on, loan sales and securitizations. They also depress income from mortgage servicing and the prices at which the banks can sell servicing rights. In slow markets for mortgages, the banks are thus exposed to 'warehouse' risk and are dependent on lines of credit that offset slower cash inflows.

Adverse conditions in mortgage markets also hit investors in mortgage-backed securities. Income from the securities is likely to go down and, with it, the value of investments, especially those in junior tranches.

An example of what can happen during a period when liquidity dries up was provided by the hedge fund crisis of 1998, following the disruption of financial markets caused by the crisis at Long Term Capital Management and the resulting flight of investors from risky assets. Mortgage-backed securities, especially those backed by sub-prime mortgages, became extremely hard to sell at a time when the financing of increased mortgage inventory also became more difficult and more expensive to raise. Forced to sell loans in an unfavourable wholesale market, many other mortgage banks incurred losses that forced them into bankruptcy.

The problems due to sub-prime mortgages, which became serious last year, reflect, to a greater extent than the crisis of 1998, a boom and bust within the US housing sector itself. During 2005-2006, the determination of mortgage banks to maintain levels of business in a highly competitive market or to increase market shares led to a weakening of credit standards for borrowers and to transactional innovations which were eventually – and inevitably -- a source of heightened risk and of widespread defaulting among mortgagors.

Sales pitches in the sub-prime sector included downplaying or ignoring the credit score of mortgage applicants, lowering normal standards concerning the ratio of the mortgage to the value of the property even to the extent of requiring no down-payment or including home improvements and property-tax liabilities in the loan, and adjustable-rate mortgages (Arms). The initial interest rates on Arms are fixed for a period of typically two years - and in the early years of the decade at low levels reflecting relaxed credit conditions. However, reset rates have recently been increasing owing to the tightening of credit and frequently also to deteriorations in factors affecting borrowers' creditworthiness such as lower house prices in their neighbourhoods and their records in meeting mortgage payments.

By March 2007, delinquency rates on sub-prime mortgages had reached a level of more than 13 per cent (as opposed to less than 2.5 per cent for prime mortgages), and according to some estimates, mortgages worth $ 900 billion will have their rates of interest reset in the next two years. Recent developments have also claimed one high-profile victim among sub-prime lenders. After restatement of its results in February and the opening of a criminal investigation, New Century Financial announced in March that it was ceasing its lending activities and that it faced obstacles in raising new finance. Its creditors, which include a number of large international banks, put pressure on New Century to buy back delinquent mortgages. In early April, New Century filed for bankruptcy.

Investors in mortgage-backed assets have also been affected by the harsher conditions. According to data from the credit rating agency, Standard & Poors, sub-prime mortgages and other mortgages with relatively risky ratings accounted for more than 50 per cent of issues in 2006 of pools of securitized Collateralized Debt Obligations (CDOs) themselves backed by asset-backed securities. These CDOs are recently believed to have suffered substantial losses but losses which will be reported in portfolio valuations only when the CDOs are sold.

What are the broader lessons about the financial risk of securitization which the Bank of England draws from these events? Entities classified by the Bank as Large Complex Financial Institutions (LCFIs), i.e. the world's largest banks, securities house and other financial intermediaries that undertake a diverse and complex range of activities in financial centres across the globe, hold for warehousing purposes or as part of their own investments large amounts of securitized assets which are backed not only by residential mortgages and mortgages on commercial property but also by corporate debt.

In the relatively benign conditions still prevailing in financial markets the Bank is concerned that the 'originate and distribute' model under which a large part of the risks are transferred to other market participants may dilute incentives to carry out effective screening and monitoring of the securitized loans. Screening and monitoring by investors as well as by the institutions which assemble pools of securitized assets is also in danger of falling short owing to the difficulty of understanding the risks of some products of recent financial innovation – products whose robustness is yet to be tested in more unfavourable markets.

The potential risks of these new financial products are in some cases enhanced by their incorporation of substantial leverage. This makes possible large potential profits, but also large potential losses from assets structured to combine large borrowing or other contingent liabilities (due, for example, to payments under derivative contracts) with small equity participation on the part of the investor.

A drying-up of liquidity due to changed perceptions of credit quality or some other external shock could have consequences for financial markets which operate through channels analogous to those applying to sub-prime mortgages in the US. Like mortgage banks, LFCIs and other banks are exposed to risk, much of it due to warehousing, on their holdings of securitized assets. In the present state of the art hedging of the resulting risks is likely to be imperfect – or in more technical terms the investments are likely to entail unavoidable 'basis risk'. Thus, as an executive director and member of Monetary Policy Committee of the Bank of England recently put it, 'the banking system can still find itself 'holding the parcel' when the music stops' [Paul Tucker, speech at Merrill Lynch Conference, London, 26 April 2007].

Despite subsequent improvements in internal controls in the financial sector, the dangers dramatised by the LTCM crisis remain an incubus for central bankers and financial regulators. In unfavourable conditions market and credit risks can become mutually reinforcing. Falls in asset prices can lead to a 'fire sale' in response to needs for cash generated by calls for increased margin payments or collateral. The existence of individual LCFIs is not likely to be threatened thanks to their inherent strength and to the virtual certainty of pre-emptive action by the authorities, if necessary, to prevent insolvencies whose ramifications would be too horrible to contemplate. But LCFIs will none the less be under pressure to dispose of asset holdings which are subject to falls in market values. And specialist institutions may be forced to the wall as markets for their assets turn against them and their access to finance is restricted.

The discussion in the Financial Stability Report does not elaborate on the cross-border dimensions of such a scenario. But the definition of LCFIs as institutions whose activities have global scope means that cross-border spill-over effects - and probably unexpected ones at that - might well be an important feature. Recent history is full of disturbing precedents.

During the unfavourable market conditions following the Russian default and the LTCM crisis in the late summer and early autumn of 1998 traders deployed a strategy called proxy hedging which consisted of shorting (i.e. assuming sold or oversold positions in) assets with deep national markets to offset losses on assets of countries with thin markets. As a result, for example, the deterioration of Russian financial conditions led to selling of the debt of Hungary and Brazil, countries with relatively deep markets but fundamentals different from those of Russia which would not in themselves have motivated such selling [Committee on the Global Financial System, A Review of Financial Market Events in Autumn 1998, October 1999, p. 15].

Spill-over effects on stock prices in emerging markets not linked to these countries' fundamentals have a history of accompanying sharp price falls in the major equity markets of the industrial world. A particularly notable case was Hong Kong in 1987 where a spectacular crash in the stock and stock futures markets was triggered at least in part by across-the-board sales of Hong Kong equities by US securities houses to meet liquidity needs occasioned by withdrawals of funds by investors in their parent country in response to the domestic market break.

The Bank of England is not making a forecast, but identifying features of current conditions which are a potential source of future problems. Moreover, the Bank is careful to qualify the analogies which it sees between the situation in the market for sub-prime mortgages in the US and that in markets for securitized assets more generally. Thus, the greater diversification of risks associated with securitized assets, backed by corporate as opposed to residential mortgage debt, is duly noted. Moreover, the Bank acknowledges that the credit analysis undertaken for the former is likely to be more rigorous than that for the latter, though also sometimes more difficult, owing to the complex and untried character of some of the products involved. Nevertheless, such a full account of the potential dangers of securitization from a body at the cutting edge of thinking about financial stability will inevitably be taken as a toxin concerning new financial risks.

Andrew Cornford is a Research Fellow at the Financial Markets Center.