III – Assessing the economic impact of the credit crunch

Since last summer we have witnessed considerable turmoil in international financial markets, as growing losses on portfolios linked to the troubled US sub-prime mortgages market have triggered a series of investment write-offs and a general loss of confidence and increased uncertainty in the financial services sector. Deteriorating bank balance sheets, reduced access to credit, higher lending rates, falling asset prices and a weakening of economic growth rates have all been linked to the so-called 'credit crunch'.[1]

A great deal has already been written on this topic, but this article aims to provide a clear and concise explanation of the origins and magnitude of the credit crunch and highlights the transmission mechanisms from financial instability to weaker economic growth in the UK. We also assess prospects for the year ahead, including leading indicators that will provide some degree of foresight regarding the direction in which the economy is headed. This analysis provides further support for our assessment of UK economics prospects and risks set out in the previous section of this report.

The discussion is structured as follows:

- Section III.1 gives an explanation of the origins of the current global credit crunch;
- Section III.2 looks at the magnitude of losses caused by the credit crunch to date;
- Section III.3 reviews the main transmission mechanisms through which the credit crunch has impacted the UK economy;
- Section III.4 builds upon this to assess potential developments in the year ahead;
- Section III.5 discusses possible leading indicators to watch; and
- Section III.6 summarises and concludes.

III.1 – Origins of the credit crunch

Although the crisis in the US sub-prime market is regarded as the trigger of the current financial climate, the roots of the credit crunch lie in the aftermath of the last global financial crisis in 2001, which was precipitated by the dot-com stock market crash of 2000. In the US, the Federal Reserve slashed the Fed funds target rate from 6.5% at the end of 2000 to a 50 year low of 1% in 2003. From 2003 onwards, an environment of recovering economic growth, low interest rates, low inflation (due in particular to a flood of cheap goods from China) and plentiful global liquidity prevailed, so boosting consumption, investment and asset prices (both in the US and globally).

One market that benefited greatly from this environment was the US real estate market. As house prices rose, a scramble for cheap finance and ever more creative ways of funding house purchases led to an escalation of sub-prime lending, where loans and mortgages were granted to people with poor credit histories or employment status. Growing in tandem with the rapid development of the sub-prime market was the escalation of collateralised debt obligations (CDOs). These financial products are a collection of securities of different risk grades, including sub-prime mortgage debt, which were sold onto various international financial institutions, thus spreading the risk of any default worldwide.

Once the introductory interest rate offers that were use to attract sub-prime borrowers expired, and households found themselves with a debt servicing burden they could ill afford, default rates began to soar. This had a knock-on effect on the value of sub-prime backed assets such as CDOs, ultimately leading international financial institutions to write-off their investments. A string of high profile write-offs were announced starting in August 2007, triggering the current environment of global financial market instability.

The lack of transparency on CDOs and related assets made it difficult to asses which financial institutions were exposed to potentially significant write-offs and resultant balance sheet problems, causing banks to re-evaluate their risk premia and to restrict the amount of lending to one another. The hit on the balance sheets of major international banks was quickly translated into tighter terms and availability of credit on international capital markets, which ultimately affects the ability of firms and households to raise finance for investments and consumption.

III.2 – The magnitude of losses

The scale of sub-prime related investment write-offs varies greatly from bank to bank. One of the most high profile victims of the credit crunch was Citigroup, which had to write down US$18bn of bad debt in 2007. UBS wrote off US$14bn of bad debt in 2007, while Morgan Stanley wrote off US$9.4bn of loans and sold a 9.9% stake in the company to the Chinese state investment company, CIC, for $5bn to replace some of the capital it had written off. In the fourth quarter of 2007, as the credit crunch took its toll, Merrill Lynch announced a US$11.5bn write-off in sub-prime-related assets and a US$2.6bn credit valuation adjustment to hedges with guarantors on CDOs.

Despite the magnitude of losses recorded in various international financial institutions, the scale of bank losses announced to date still does not tally with market estimates of likely total losses on sub-prime related assets and other risky asset classes. There is therefore a likelihood of further write-offs in 2008 and the potential for financial markets to come under even greater pressure. Indeed, a US Congressional report by the Joint Economic Committee in October 2007 estimated that over two million homes

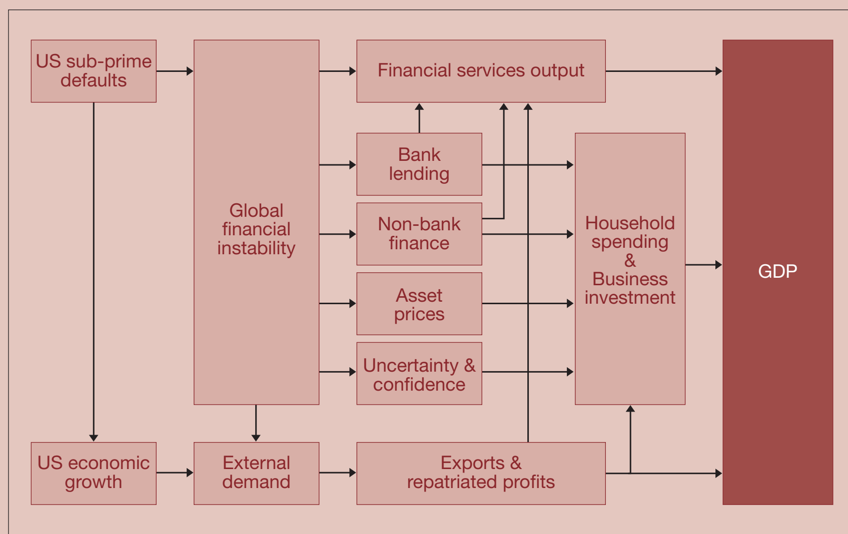
[1] A credit crunch is a sudden fall in the supply of credit from banks and capital markets for given interest rates. That is to say, institutions are no longer so willing or are unable to lend at an interest rate at which they have previously lent. This may be because of the imposition of credit controls, a sharp contraction in the money supply, or because the lenders no longer think that this interest rate is sufficient to cover the risk to which they are exposing themselves.

financed by sub-prime loans in the US will come off low fixed rates and go into foreclosure in 2008. Any additional credit squeeze could have important implications for UK banks, businesses and households.

III.3 – Transmission mechanisms

Financial market turbulence affects UK economic activity through a number of channels. Perhaps the most obvious is the price and availability of credit, but other factors such as increased uncertainty and reduced business and consumer confidence, falls in asset prices, lower financial services sector output and decreased external demand could all have important implications for UK economic growth. We discuss in turn below the main transmission channels through which the credit crunch could affect the level of economic activity in the UK, as summarised in Figure 3.1.

Figure 3.1 – How the credit crunch affects UK economic activity



Source: PricewaterhouseCoopers (impacts relate to the UK unless stated otherwise)

Bank lending

The availability and price of bank lending are important contributors to the smooth running of the UK economy. Under conditions of financial market instability banks may become unwilling or unable to lend, leaving other banks, firms or households facing tighter terms and availability of credit that can hinder investment or spending plans. The amount and price of bank lending can be adversely impacted in a number of ways:

- First, bank lending is generally funded through some combination of customer deposits and finance from the capital markets. Any re-assessment of the risk on capital markets can raise funding costs or reduce the amount of funds banks are willing to lend at a given interest rate. These market adjustments can quickly be passed on to commercial lending risk criteria and interest rates.

- Second, banks tend to keep their capital ratios (i.e. the ratio of banks' capital to assets) well above levels required by regulatory regimes in order to protect against unexpected changes in their balance sheets and to secure high credit ratings. Any significant fall in bank capital ratios can reduce the amount of available funds as banks rebalance the ratio of capital to assets, or increase the cost of raising finance as credit ratings deteriorate.

- Third, the financial position of borrowers (i.e. their level of collateral) impacts the price and quantity of loans made available to them by banks. Falling asset values (i.e. real estate or equity prices) and the subsequent weakening of borrower balance sheets can lead to a rise in risk premia, which again can restrict the volume of lending or increase the interest rates charged on loans.

The problems faced by Northern Rock, a leading UK mortgage provider, are a prominent example of the adverse effect of tighter terms and availability of credit. Northern Rock did not itself have a direct exposure to US sub-prime assets but, had been funding an increasing proportion of its rapidly growing UK mortgage lending through the wholesale money markets using a mixture of securitisation, covered bonds and other instruments. Following the sudden and unexpected squeeze on liquidity in these markets in August 2007, Northern Rock could not access (or at least not at acceptable cost) sufficient funds to cover its ongoing mortgage lending operations. The Bank of England stepped in to prevent this lender from going bankrupt and possibly triggering wider systemic problems in the UK financial sector. Other mortgage providers have understandably constrained their lending activity in the light of these events.

Tighter terms and availability of credit for households and firms have also prevailed since August of last year. The Bank of England's 2007 Q4 Credit Conditions Survey found that the availability of secured and unsecured credit to households, as well as corporate credit availability, fell in the three months to December. Also, interest rate spreads on secured lending to households and corporate loans increased significantly over the same three month period. Lenders expected these trends to continue into the first quarter of 2008.

In particular, an estimated 1 million fixed rate mortgages are due to expire in 2008, which could lead to an uptick in effective interest rates,[2] squeezing household incomes and reducing discretionary spending, as well as curtailing marginal business investment plans.

Firms' borrowing from banks has increased significantly in recent years, although overall gearing levels have

[2] The effective interest rate is the weighted average of all the interest rates across each type of deposit or loan account held by all the clients within an economic sector. The Bank calculates average effective rates as weighted averages of the effective interest rates supplied by each of the reporting banks.

remained relatively modest by historic standards. Smaller companies tend to be more restricted to use of bank loans and overdraft facilities rather than bonds and other forms of capital market funding and are therefore more affected by any tightening of bank lending criteria or higher interest rates on these new loans.

A large share of bank lending to small companies is based on floating interest rates, and companies with loans linked to the inter-bank rate are likely to have seen their earnings squeezed and the ability to finance new investments reduced during the latter stages of 2007.

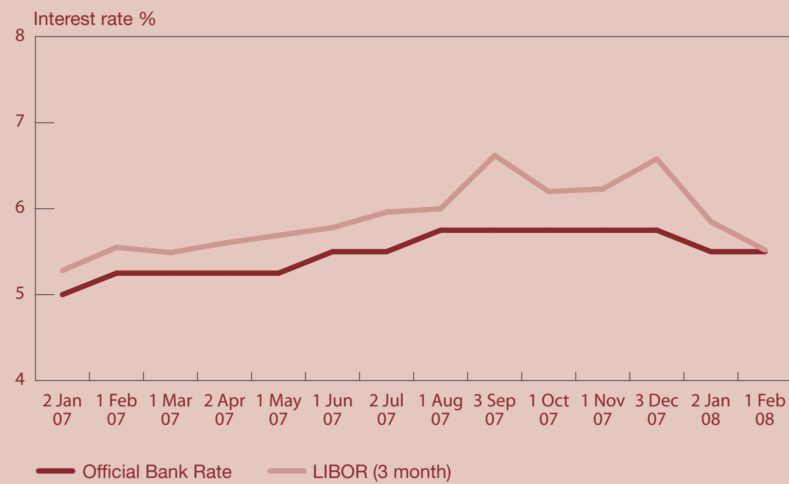
Large cash injections into the banking system by the Bank of England eased the upward pressure on money market rates and reduced the unusually large gap between inter-bank rates and base rates in early 2008 (see Figure 3.2). However, risk premia remain high and tighter commercial lending criteria have persisted.

Non-bank finance (bond and equity issues)

Firms can raise external finance either by borrowing from banks or by tapping directly into capital markets through new bond or equity issues. Larger firms tend to have better access than smaller firms to finance from equity or bond issuance, and are therefore better placed to switch their financing from bank loans into equity or bonds.

However, the recent drop in equity prices and concerns about corporate bond prices (particularly for any debt with lower credit ratings) means that these options have also become more expensive ways of raising capital. Fortunately, as documented in the special article in the November 2007 issue of UK Economic Outlook, the majority of UK firms are starting from a relatively healthy financial position and so should be able to meet most of their immediate funding needs from retained earnings. But these funds also have an opportunity cost and there are limits to the sustainability of investment growth given restricted access to external finance.

Figure 3.2 – UK short term interest rates



Source: Bank of England

Asset prices

As mentioned above, financial instability can depress asset prices (in particular for houses and equities) and thus erode the perceived or realised wealth of households and firms, so discouraging spending and making credit more difficult or expensive to obtain.

Recent housing market data (see Section II.1 above) point to a slowdown in demand and the emergence of falling house prices in some areas. Any significant fall in housing equity will make people feel less wealthy, which may impact negatively on their desire or ability to spend, while prompting increased savings to rebuild their balance sheets. However, research undertaken by the Bank of England[3] suggests that, because consumers have accrued such large increases in equity as a result of the rapid house price rises of recent years, moderate falls in house prices may not have a large impact on consumption. More rapid house price falls would, however, be expected to have much larger effects via wealth, confidence and collateral effects.

Equity markets have fallen since the beginning of the year. By mid-February the FTSE100 was down from its 2007 year end by over 500 points or almost 9%, and many market analysts foresee a bumpy ride in the year ahead for UK equities. However, while this will affect corporate financing options as described above, the wealth effects for households may be more modest given that most such equity holdings are via pension funds and insurance companies that are largely or wholly illiquid and so may not have much direct influence on consumer spending and borrowing decisions (in contrast to the US, where direct individual ownership of equities is more common).

Uncertainty and confidence

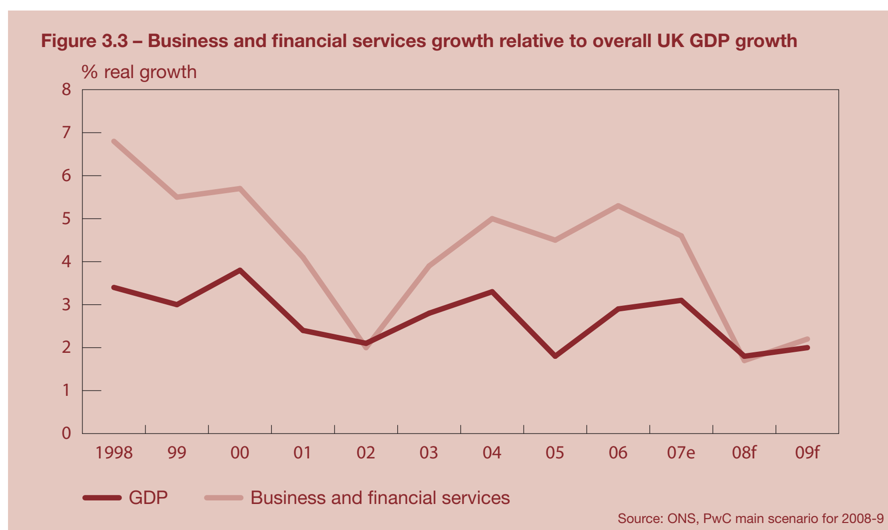
An increase in the perception of risk by firms about the cost of finance and future demand conditions can lead to postponement of investment plans. Similarly, increased uncertainty about the financial position of households can lead them to reduce spending and increase savings to protect against any future erosion of income and wealth levels, or any dimunition in the ability to obtain credit.

As discussed further in Section II.1 above, consumer and business confidence levels have been on a downward trend in the UK for some time, but took a turn for the worse following the financial market instability starting in August 2007. However, this decline in confidence indicators has not yet reached the point where they are signalling a recession, as opposed to just a marked slowdown in growth. In particular, most households still seem more confident about their own financial position, which is likely to be based on real data, than about the general situation of the economy, which may be more influenced by bad news stories in the media.[4]

[3] 'Household debt and spending: results from the 2007 NMG Research survey', Bank of England (2007).
[4] In this respect we can note that 'R-word' indices based on the number of times the word 'recession' appears in newspaper stories, have been trending up markedly since the credit crunch hit last August.

Financial services output

Financial services and related business services represent a significant proportion of the UK economy[5] and have been the main drivers of economic growth in recent years (see Figure 3.3). Around half of financial sector output is created by fee-generating activity such as intermediation activities earning fees or commissions, auxiliary activities such as trading or stock markets, and the insurance and pension fund sector. The remainder of financial services is made up of core banking activity. All of these activities are directly affected by financial instability and associated tighter terms and availability of credit that can restrain spending by firms and households and reduce transaction volumes.



The CBI/PwC quarterly financial services survey carried out in January 2008 pointed to a decline in fees and commissions income towards the end of 2007 and an expectation that this would continue in the months ahead. As Figure 3.3 illustrates, our own main scenario projection, as described in more detail in Section II above, sees a marked fall in business and financial services growth in 2008-9, bringing it back into line with overall GDP growth after several years when it has been a clear outperformer. For parts of this sector this slowdown may feel like a recession after the heady growth of recent years, even if it does not meet the technical recession definition of two consecutive quarters of negative growth.

External demand for UK exports

The weakening of demand in key export markets such as the US and continental Europe can impact the UK economy directly through reduced exports of goods and services, as well as through lower repatriated profits and depressed business confidence. Weaker external and domestic demand conditions can lead to an increase in profit warnings and further undermine stock markets, investment plans and employment levels.

Despite sharp interest rate cuts and the promise of a large fiscal stimulus package, the US economy slowed significantly in the fourth quarter of 2007 and, as discussed further in Appendix A, looks likely to enter or come very close to a technical recession in 2008. Other key UK export markets like Germany also look set to see a marked slowdown in growth this year. While the Chinese and Indian economies still appear much healthier for now, they are much less important to the UK as export markets than either the US or the rest of the EU. On the other hand the weaker pound should help to offset these negative export effects to some degree.

III.4 – Key features of the year ahead

As discussed, some tightening of terms and availability of credit to UK households and firms is underway. This is likely to impact both consumer spending and business investment to varying degrees.

As far as households are concerned, recent developments in financial markets may force a re-assessment of income prospects, leading to an increase in savings levels. Indeed, consumer confidence slipped in January to its lowest level since May 2004, amid consumers' concerns about the prospects for employment and house prices. Any further fall in house or equity prices could begin to impact consumer spending through wealth or collateral effects.

Even in the absence of deteriorating expectations, tighter credit conditions are likely to stretch household finances by adding to the debt service burden. The level of household debt currently stands at 135% of household income. Any increase in lending interest rates will reduce consumer spending as income is diverted to service increased debt payments. Existing debt levels could accelerate the effects of the credit crunch on the UK economy.

Higher lending rates are likely to add to the rising rate of residential repossessions in 2008 and a further weakening of the housing market, particularly as house prices in the past have been supported by the loosening of credit conditions. According to figures released by the Council of Mortgage Lenders (CML) in February, 27,100 homes were repossessed in 2007, up from 22,400 in 2006, and almost twice the number seen in 2005. However, this still falls well short of the level of repossessions that occurred in the house price crash of the early 1990s (see Figure 3.4). The Financial Services Authority (FSA) predicts that 123 homes will be repossessed per day in 2008 as the housing market continues to cool.

As for firms, a reduction in the availability and increase in the cost of capital is expected to prompt marginal investment plans to be put on hold in 2008. The largest companies typically account for around two thirds of corporate investment in the UK and anything that undermines their ability to raise finance has serious implications for UK gross fixed investment.

The outlook for equities and bond prices is less positive than in previous years and will affect firms' ability to raise finance on

[5] Financial intermediation accounted for around 9% of GDP in 2006, rising to around 28% if all business and financial services are included (although it should be noted that some types of business services will not be so closely related to the financial sector).

capital markets through equity or bond issuance. Furthermore, heightened uncertainty about future demand prospects alone may be sufficient to derail plans for additional investment.

Around one third of business investment spending is on buildings, which has been supported in recent years by rapidly rising commercial property prices. However, commercial property price inflation has slipped back since 2006 and a continuation of this trend coupled with an expected slowdown in house price inflation, or even deflation is anticipated and will undermine business investment growth in 2008.

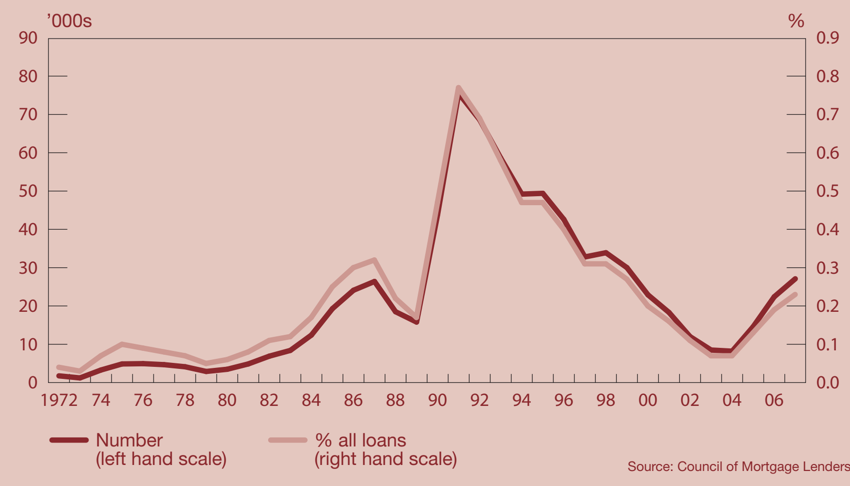
On a more positive note, some larger firms may be able to mitigate any fall in asset prices or increased lending rates by funding investment from a large pool of retained earnings that have been built up from the financial surpluses they have been running for the past several years.

As noted above, the financial services sector, which has been the main driver behind economic growth in recent years, is expected to experience a sharp slowdown in output growth in 2008. This is largely linked to the on-going instability in financial markets and a re-assessment of risk criteria, which will curtail output volumes.

The picture is mixed as far as corporate finance and deal transactions are concerned. The initial public offering (IPO) market appears to be slowing, but the market as a whole remained buoyant in early 2008. One category of IPO that has slowed almost to a halt is that of the highly leveraged private equity (PE) backed business. However, while this market has slowed, signs remain of a healthy pipeline of other PE activity. In particular, the pipeline of mid-market PE-backed mergers and acquisition (M&A) deals still looks promising. Clearly, there is less syndication risk for lenders in the mid-market which, therefore, is not as badly affected by the withdrawal of CDOs and related developments.

Asset price developments are likely to be significant in determining the extent to which consumption and investment will weaken in 2008. Equity prices have been under pressure in recent months, creating the potential for negative wealth effects

Figure 3.4 – Repossessions of mortgaged properties in the UK



Source: Council of Mortgage Lenders

Table 3.1 – The Conference Board: UK Business Cycle Indicators*

Index	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Leading index	129.6	129.4	129.2	129.1	129.2	128.8	128.3
% change	0.2	-0.2	-0.2	-0.1	0.1	-0.3	-0.4
Coincident index	118.6	118.6	118.8	119.1	119.3	119.5	119.6
% change	0.2	0	0.2	0.3	0.2	0.2	0.1

* Leading index components: order book volume; expected output volume; consumer confidence; all share price index; yield spread; productivity (whole economy); operating surplus (corporations). Coincident index components: industrial production; retail sales; employment; real household disposable income.

Source: The Conference Board (December 2007 press release)

and restricting financing options for companies. Similarly, the property market is coming under pressure and falling house prices pose a significant threat to the UK economy should they slide much further.

Labour market developments are expected to be affected by the recent financial market instability. This is likely to be most apparent in the financial services sector itself, which accounts for around 4% of total UK employment. Weaker financial services output is likely to feed through to deteriorating employment conditions in the sector. The Centre for Economics and Business Research expects there to be 8,000 job losses in the City in 2008 due to the impact of the credit crunch. Any further escalation of financial instability leading to more substantial write-offs, increased uncertainty, tighter credit conditions and reduced demand expectations could quickly translate into more significant job losses in the sector. Employment in the wider services sector is likely to be indirectly affected by developments in the financial markets. The potential for job losses largely depends on the duration of the current level of instability and expectations of things getting much worse before they get any better.

III.5 – Forward looking indicators

As discussed further in Section II.2 above, while our main scenario is for a slowdown rather than a recession in the UK in 2008, the risks are clearly weighted to the downside. Companies are advised to stress test their business plans against a possible future recession and to monitor relevant leading indicators for any signs that such a scenario may be unfolding.

The appropriate leading indicators to consider will vary from sector to sector, but one general index worth watching is the Conference Board's composite index of leading indicators for the UK.[6] This index (see Table 3.1) has deteriorated in recent months mainly due to expectations of decreased output volumes (from the services and manufacturing sector PMI indices), falling consumer confidence levels and rising yield spreads. The fall in equity values in early 2008 is also likely to add to

[6] The seven measures that make up the Conference Board index are estimates of whole economy productivity and the operating surpluses of corporations, stock prices, volume of expected output, order book volumes, consumer confidence and yield spreads. In a UK context, housing starts and other early indicators of housing market activity such as mortgage approvals may also be relevant leading indicators.

downward pressure on this composite leading indicator index. It is notable that, as shown in Table 3.1, the coincident indicator for the UK has not shown any such downward trend yet, which is consistent with the view that growth has further to slow looking forward than has yet been evident in the actual GDP data.

III.6 – Summary and conclusions

Since last August, financial market instability has led to a tightening of credit conditions, downward pressure on asset prices and increased uncertainty about demand, income and employment prospects. These factors have clearly raised the downside risks to global economic growth in 2008. These risks are most pronounced in the US, but are arguably more acute in the UK than in other major European economies, given the importance of developments in the housing market and the role played by the financial services sector in the UK economy.

The transmission channels through which global financial market instability feed through to UK economic activity are numerous and complex, which inevitably adds to the uncertainty surrounding the UK economic outlook at this time. As yet, hard evidence of a serious impact on overall UK GDP growth remains limited, but this is clearly a time for businesses to be vigilant (by looking at a set of leading indicators tailored to their business) and prepared for deteriorating economic conditions (by stress testing their business plans against the downside risks of most relevance to their businesses).