The International Banking Crisis and British Experience

Nicholas Dimsdale, The Queens College, Oxford

Introduction

The international financial system has been exposed to a severe shock as the effects of the turmoil in the market for US sub-prime mortgages have been widely disseminated. The impact of the crisis on the British economy is explored in this paper. London as the centre of the international banking industry is particularly vulnerable to US financial turbulence. Its experience could be relevant to all aspiring centres of international finance, which may become exposed to similar risks as the UK banks in the current on going crisis.

The paper looks at the impact of the crisis on international banking, before taking a closer look at UK banks. The key phases of the crisis are summarized in Chart 1, which traces the path leading from rising arrears in US sub-prime mortgages to the impact on banks and the money market. The paper examines the conduct of the Bank of England and in particular its role in the failure of Northern Rock. The interaction between British banks and the real economy is briefly considered. The recent tightening of the crisis, which has prompted a co-ordinated response by central banks is briefly discussed. The paper concludes with a review of the lessons which may be learned about the banking system and its regulation as a result of the market turmoil.

Developments in Banking

The underlying cause of the present international banking crisis has been attributed to a continuing search for higher returns by participants in financial markets in an environment where interest rates have been relatively low, Bank of England (2007b), DiMartino et al (2007).This quest by investors has expanded the demand for a range of higher yielding assets, such as US sub-prime residential mortgage backed securities (Chart1) and highly leveraged corporate loans. It has stimulated the creation of complex financial instruments. The growing demand for structured instruments has encouraged the issue of asset backed securities and Collateralised Debt Obligations (CDOs) shown in Chart 3. The Bank of England (2007a) had expressed concern about the pricing of risk in markets for asset backed securities before the present crisis, following market reports that risk premia were too low.

The growth of these new instruments was associated with some weakening of standards for assessing credit risk. In its *Report on Financial Stability* in April the Bank of England (2007a) drew attention to the problems of maintaining the quality of risk assessment by the originators and the purchasers of credit instruments. The problem has arisen from the growing use of the 'originate and distribute' model of banking , which provides a source of finance for new loans, but makes banks dependent on a sustained demand for credit instruments in capital markets.

The model contrasts with traditional banking where a bank holds loans until paid at maturity and lending is financed primarily from funds provided by depositors. In the new model banks aim to securitise loans, which can be sold on to the capital markets, so providing the finance for further lending. In addition the funds of depositors are supplemented by short term borrowing from the money market. The holding of longer term assets is financed by a sequence of short term loans, which are regularly rolled over.

This 'originate and distribute' model of banking has increased the supply of credit and has expanded the balance sheets of banks. However the model involves a chain of participants from the original lender to the final investor who holds the asset. Those at the end of this chain have less information about the underlying quality of loans than those who originate them. The originators may well have less incentive to monitor credit risk as the final holder of the investment. Sustained favourable economic conditions and a high level of liquidity have given rise to some complacency among investors, who have relaxed standards of due diligence when selecting investments. This tendency has aggravated the information and incentive problems, which are inherent in the new model of banking. These problems have been a major influence in the present banking crisis, which is affecting financial institutions in the US and Europe.

The Course followed by the Turmoil

The arrears on US sub-prime mortgages were rising steadily in 2006 and 2007 as shown in Chart 4. In July 2007 this deteriorating situation provoked an increase in the credit spreads on these mortgages. Although the US sub-prime market is small relative to the global financial system, information problems led to great uncertainties about the scale and location of losses. The uncertainties spread to the international financial market, since British and European banks had some exposure to the US sub-prime mortgages. Concern began to be felt about structured credit instruments.

A key factor which triggered a further rise in interest spreads was when defaults on sub-prime mortgages rose to levels which threatened to cause losses to even highly rated tranches of sub-prime RMBS (Residential Mortgage Backed Securities). These securities had previously been ranked as being low risk. The collections of loans included in structured instruments began to show wider fluctuations in their returns than in the past as shown in Chart 5.The value of structured credit instruments is highly sensitive to assumptions about the levels and correlations of defaults in the underlying loans. The news that mortgage tranches were riskier than previously considered led to questioning of the assumptions on which valuations were based.

This shock served to alert investors, who had not distinguished effectively between the characteristics of different assets as a result of this uncertainty about valuation of structured assets increased and the spread on asset backed securities rose in international markets as shown in Chart 6. Downgrades in ratings and changes in the valuation procedures of ratings agencies served also to weaken the confidence of investors. These concerns led to a situation in August 2007 in which the primary market for asset backed securities was effectively closed and the issuance of CDOs fell away as shown in Chart 3. In view of the high degree of uncertainty about valuations, investors tended to assume the worst about the quality of these assets, causing the market to break down. Financial markets appear to have followed the course suggested by Ackerlof (1970) in his analysis of the market for 'lemons' under conditions of asymmetric information between agents.

In secondary markets the prices of structured assets declined as investors attempted to reduce their leverage in an illiquid market. Information problems were particularly severe for complex products such as CDOs , where neither buyers or sellers could assess values with any degree of accuracy. In June 2007 there were problems in realizing the value of structured credit instruments held as collateral for creditors of two hedge funds linked to Bear Stearns. In July and August the German IKB and Sachsen banks experienced problems of valuing structured assets and a leading French bank BNP Paribas reported problems in valuing some of its funds. These examples show how lack of information about the location of risk could generate uncertainty and result in markets failing to value assets. Problems in the markets for structured debt were associated with a rise in the required rate of return, a rise in volatility (Chart 7) and reduced liquidity (Chart 8) in a range of markets. The problems of valuation in the market for structured instruments had an impact on other asset markets. Corporate credit spreads rose markedly. The issuance of leveraged loans virtually ceased as the demand for collateralized loans dried up. This removed a key link in the channel for the finance of leveraged buy outs, which had seen high activity in the first half of 2007, Bank of England (2007b), Bank for International Settlements (2007).

The General Impact of the Crisis on Banks

The closure of the markets for asset backed securities (ABS) and leveraged loans created problems for some banks which had an urgent need to fund a growing accumulation of assets, which they had not expected to hold on their balance sheets for long. Central bank support for the IKB bank in Germany in late July provided evidence of the exposure of some banks to off balance sheet investment vehicles. The vehicles hold structured credit instruments, such as pools of residential mortgages, financed by the issue of short term asset backed paper. They are of two types. Conduits which are supported by credit lines of 100% of the value of their portfolios by their sponsoring bank and SIVs (Structured Investment Vehicles) which have less comprehensive credit lines and hold other assets as well as asset backed securities. The vehicles hold long maturity structured assets, which are financed by the issue of short term asset backed commercial paper (ABCP).

There has been an increase in uncertainty about the value of the asset backed securities. As a result the cost of funding using ABCP has risen sharply in relation to short term interest rates as shown in Chart 9 and the volume of outstanding securities has declined as shown in Chart 10. In the case of conduits sponsoring banks may take the assets held by the vehicles onto their balance sheets, if short term funding dries up. In the case of SIVs credit lines may be activated or the vehicle may be liquidated generating downward pressure on asset prices. The absorption of the assets held by investment vehicles by banks implies a process of reintermediation. It expands banks' balance sheets and increases the risks which they are bearing. Banks have therefore accumulated liquidity to fund this expansion of their balance sheets and to meet future demands of their liquidity from their sponsored investment vehicles. In disturbed market conditions they have built up precautionary balances to finance possible redemptions of asset backed securities. They have been unwilling to lend in the interbank market leading to a marked rise in spreads in the market for 3 month securities as shown in Chart 11.

The increased demand for liquidity has increased the demand for government securities so that yields on default free assets have fallen. Concern over counterparty risk has made banks unwilling to lend to each other. This has resulted in an increase in the premium demanded in the interbank market for loans longer than overnight.

The Effects of the Crisis on the British Banking System

UK banks have experienced similar problems to the general issues discussed in the previous section. Their exposure to US sub-prime mortgages has been limited, but they have a much greater commitment to the larger market for asset backed securities. This exposure is through direct holdings and indirectly through investments held by sponsored subsidiaries, such as conduits and SIVs (Structured Investment Vehicles). Concerns about mounting defaults in the US market for sub-prime mortgages and the associated downgrading of pools of US residential mortgages have disturbed market participants. It has led to general lack of confidence among investors in asset backed securities as a class of asset. As a result the structured vehicles associated with banks have encountered problems in financing themselves through the issue of asset backed commercial paper (ABCP). In the event conduits and SIVs experiencing difficulties in borrowing , the next step is to draw on credit lines granting by their sponsoring banks. UK banks have been faced with unpredictable claims on their resources due to credit risk.

In addition investors' lack of confidence in asset backed securities has led to an unwillingness to take up securitised debt. This has created funding problems for UK banks which are involved in the domestic market for residential mortgages. The default rate on British mortgages is low and the sub-prime sector is smaller than in the US. Nevertheless institutions such as pension funds have been unwilling to take up securitised mortgages. Banks have therefore faced growing problems of financing assets, which they had planned to sell on to other investors. This unintended expansion in their balance sheets has strained their liquidity. They have had to warehouse loans grant to finance leveraged buy outs (LBOs) as the market for securitised company debt has contracted.

Shortage of liquidity has made UK banks keen to accumulate liquid assets at every opportunity. In particular it has reduced their willingness to lend funds in the interbank market for longer maturities, in view of their concerns about their own liquidity. In addition they have also been concerned not to lend to other banks because of exposure to counterparty risk. The impairment of the money market has been a major feature of the banking crisis. Dependence on money market finance has been rising as a percentage of total funding as shown in Chart 13. It has created problems for banks, such as Northern Rock, which relied upon the ready availability of short term funds to finance their lending activities. As loans for longer maturities, such as 3 months, have become scarcer, borrowers have had to borrow on shorter terms, exposing themselves to rollover risk. This problem became acute for Northern Rock.

UK banks have also suffered from a loss of fee income, which they had previously earned from acting as the lead arranger in leveraged buy-outs and also from underwriting structured credit investments. Fee income has been a major contributor to the rapid growth of bank profits over the last four years. The decline in fee income could have a major effect on bank earnings. The impact of the severe shortage of bank liquidity was not foreseen by market participants and has raised the perceived riskiness of banks internationally and in the UK.

The process whereby banks have been able to redirect credit to other financial institutions as envisaged in the 'originate and distribute' model has been interrupted. Banks have been obliged to reassume risks, which they had planned to avoid. The resulting expansion of their balance sheets can be regarded as reintermediation. The size of the commitments outstanding to off balance sheet vehicles, such as asset- backed security conduits and SIVs has been estimated at £109bn or 2.1 % of total assets of major UK banks. The capital position of British banks as measured by Tier 1 capital ratios remains strong as shown in Chart 14. The impact of unanticipated balance sheet expansion by British banks due to reintermediation is shown in Table C. The overall effect on the Tier 1 ratio has been estimated by the Bank of England to be a decline from 8.2% to 7.6%, which should be sustainable without difficulty. To be confident in this assessment it would be necessary to know more about the position of individual banks.

Investors' cash withdrawn from the markets for asset backed securities , securitisation and leveraged loans should have been deposited within the banking system. But it appears that liquidity has not been redistributed effectively in this way because investors have been unwilling to commit themselves to term deposits. In addition banks on receiving funds have tended to hoard liquidity as a precautionary buffer against uncertain future needs.

Major British banks have in recent years been making increasing use of wholesale borrowing to finance a growing gap between lending to customers and deposits. The gap was 22% of the stock of consumer loans in June 2007 and was reduced to 10% of loans after allowing for the contribution of securitisation. While securitisation reduces the need to rely on short term borrowing, it may be unpredictable if investors become unwilling to take up mortgage based securities. At the end of 2006 the median share of major UK banks with wholesale liabilities maturing within 3 months was 44%. As banks have become more reluctant to lend at other than at very short term maturities, roll over risk has increased for borrowers in the wholesale money market. There has been a marked increase in overnight borrowing by some banks, such as Northern Rock. The cost of interbank funding rose steeply in August and September, particularly in the market for 3 month loans. There was also a sharp increase in the borrowing rates for banks with lower credit ratings.

The increase in the funding costs of banks has affected corporate borrowing rates and this has resulted in a decline in the demand for new loans. Spreads over Libor for new loans have risen , which could be explained by banks seeking to raise spreads in compensation for reduced income from fees. Non price terms for corporate lending have tightened. In the market for leveraged loans the terms of loans have become tighter with an end to 'covenant lite' deals and a reduction in the degree of leverage. In the first half of 2007 there was a rapid growth in loans by UK banks to the commercial property sector, which rose by 13%. As risks to this sector have increased, the terms of new loan contracts have tightened.

There has been rapid growth of mortgage lending since 2005 and spreads have been falling due to increasing competition among lenders. The availability of cheap funding via mortgage backed securities has been a contributory factor. The recent problems of financing lending due to the difficulty of selling mortgage backed securities will check this process. While the availability of mortgages to prime borrowers is likely to continue, a marked tightening is taking place in the sub-prime mortgage market and defaults in this market are expected to rise.

Major British banks maintain a high risk exposure to each other and to LCFIs (Large Complex Financial Intermediaries). In June 2007 total exposure to non–UK LCFIs amounted to £110 bn or 62% of Tier 1 capital, of which 25% was to US securities houses. The cost of insuring against counterparty risk has risen for UK banks. Increases in CDS (Credit Default Swap) premia were in particular related to their exposure to US banks because of their suspected association with the US sub-prime mortgages. CDS premia have risen because of lack of transparency over the scale and location of losses in this area. LCFIs have considerable exposure to leveraged loans and to structured products, such as ABCP conduits and SIVs. Hence loans to LCFIs may involve banks in significant counterparty risk. The steep rise in credit default swap premia is shown in Chart 17 and in particular on loans to US security houses.

The Role of the Bank of England in the Crisis

The independence of the Bank of England goes back to 1997, when the newly elected Labour government agreed to give the Bank a substantial degree of independence over the setting of interest rates within the context of achieving a government approved inflation target. This arrangement stopped short of creating a central bank which would have as much autonomy as the ECB (European Central Bank). Under the new arrangements the Bank gave up responsibility for regulating the banking system, which was handed over to the newly created FSA (Financial Services Authority), while overall supervision remained in the hands of the Treasury and the Chancellor of the Exchequer. The present crisis has been the first real test of the new tripartite system.

Monetary policy under the new system is based on an inflation target with interest rates set by the MPC (Monetary Policy Committee).It has been successful in holding down inflation and in providing a stable monetary framework, which has contributed to the achievement of a steady rate of economic growth. Until the present crisis not much has been demanded of the FSA. The last major threat financial stability in the UK was the secondary banking crisis of 1973-4, which followed shortly after the partial deregulation of the banking system.

The recent turmoil has been a severe test of the Bank of England’s decision making processes. As compared with the Federal Reserve and the ECB, assistance to the money market facing a severe shortage of liquidity came later and was less generous. Whereas the Fed and the ECB injected substantial liquidity on August 9, no action was taken by the Bank until September 6. Governor Mervyn King argued that the central bank should not provide bail-outs to banks which had made risky investment decisions. Provision of such assistance would create a problem of moral hazard by encouraging speculative behaviour in the future. This firm statement was followed by an undertaking to provide funds to relieve a shortage of funds in the market for overnight funds, but the Governor refused to extend assistance to the market for longer maturities up to 3 months. Lending by the Bank would be at the penalty rate of the base rate of 5.75% plus 100 basis points. This statement prompted a rise in 3 month sterling Libor (London inter bank offer rate) to 6.90% .Banks struggled to build up liquidity in the face of a buyers' strike in the market for asset backed securities. The rise in 3 month Libor implied a spread of more than 100 basis points relative to the Bank's policy rate of 5.75% as shown in Chart 11.

Both the Federal Reserve and the ECB were more flexible in being willing to intervene in the market for longer dated paper and also in accepting a wider range of assets as collateral for loans. The Fed created expectations of a cut in interest which it delivered in the form of a reduction in the federal funds rate by 50 basis points on September 18, while the ECB postponed a widely expected rise in its repo rate. As a result US and European money markets had a lower differential between policy rates and market rates for 3 month securities as compared with that for sterling Libor, although the UK spread was reduced after the reduction in US interest rates.

When the run by depositors on Northern Rock occurred, there was a remarkable U –turn by the Bank of England. No more reference was made to the dangers of moral hazard and policy was directed towards stabilizing the financial system. The Governor announced on September 19 that the Bank would intervene in the market for 3 month securities and that a wider range of securities would be acceptable as collateral for loans. Pressures in the money market eased as the spread of 3 month Libor over base rate declined to 50 basis points as shown in Chart 11. The spread was still higher than its pre crisis level of c25 basis points. It has been suggested that this easing owes little to relaxation by the Bank. UK banks have preferred to borrow at the ECB, which could be cheaper than borrowing from the Bank and more importantly helped to preserve their anonymity. Thus the U-turn in policy made by the Bank may have achieved little apart from contributing to an improvement in market sentiment. The lack of consistency in the Bank's policy contrasts with the continuing supportive policies followed by the Fed and the ECB, which have allayed the markets' worst fears.

While concentrating upon the issue of moral hazard, the Bank has given less attention to an analysis of the money market, which could have shed some light on the problems, which it was facing. Allen and Gale (2000) (2007) have shown how the money market normally works well in transferring funds from banks with a temporary surplus of funds to those with temporary deficits. However, when there is a general shortage of liquidity, the money market can operate so that lenders with draw funds from borrowers, who may become seriously illiquid or who may withdraw funds from other borrowers, so spreading liquidity problems throughout the financial system. In short, the money market can become a mechanism for disseminating financial instability. In such conditions ample provisions of funds by the central bank is needed. The Bank appears to have overlooked this responsibility as it hesitated over assisting Northern Rock, when it was deprived of finance from the money market.

The Bank Run on Northern Rock

In 1997 Northern Rock was converted from a mutual building society into a bank. At that time its mortgage lending was financed by retail deposits. After demutualization it embarked on a growth strategy which was increasingly dependent upon generating funds through securitisation of mortgages. The rate of growth of its lending and funding was rapid, so that it has become a leading provider of mortgage finance holding a 20% share of the market as shown in Box A Chart 1. Northern Rock was well capitalized and held a portfolio of good quality mortgages with no exposure to the UK sub-prime sector. A potential weakness was that in the event of a setback to the market for securitisation it would need to rely on the money market to finance its growing mortgage book.

In the present crisis it was faced with the closure of the market for securitised mortgages and difficulties in raising funds on the wholesale money market because of the squeeze on bank liquidity. In mid August the Bank of England started to discuss the funding problems faced by Northern Rock, while lenders in the wholesale market were discouraged from providing funding because of the bank's perceived vulnerability.

Under the tripartite monetary arrangements set up in 1998 responsibility for bank regulation was removed from the Bank of England and given to the FSA (Financial Services Authority), while the Bank determined monetary policy with interest rates being set by the MPC (Monetary Policy Committee). Both the FSA and the Bank were to operate under the overall supervision of the Treasury.

The issue of the solvency of Northern Rock was examined by the FSA. On the reception of a favourable assessment of the solvency of Northern Rock, it was agreed that the Bank as lender of last resort would make loans available to it during the period of market turbulence. When this news was announced its impact was unpredictable. On the one hand Northern Rock was to receive financial assistance from the Bank, on the other hand the announcement confirmed rumours that the bank was in serious difficulty. The depositors, who were concerned about their savings, participated in a bank run. This provided a remarkable spectacle on television of many elderly depositors standing in line to withdraw their savings. On 17 September the Chancellor of the Exchequer Alistair Darling announced that the government would guarantee all Northern Rock deposits during the current period of instability, which was soon extended to include unsecured wholesale funding. The amount of assistance given by the Bank to Northern Rock rose steadily to £25 billion.Its fate is uncertain but sale to the most acceptable bidder seems likely to occur in early 2008.

While the failure of Northern Rock has been described in detail in the financial press, little attempt has been made to understand the processes involved. There was even a disagreement over whether depositors were acting rationally in seeking to withdraw their deposits. Governor Mervyn King stated that their behaviour was rational but Sir Callum McCarthy, chairman of the FSA asserted that it was not.

It is generally understood that in a fractional reserve banking system a bank is subject to the risk of illiquidity, which is a separate issue from its solvency. The problem has been to explain the incidence of bank runs. According to Diamond and Dybvig (1983) banks have short term depositors who have immediate liquidity needs and longer term depositors, who want to benefit from returns from the bank's illiquid investments. The breakdown of these two types of depositor is unknown, not even to the depositors themselves as they do not know their future needs for liquidity. Two outcomes are possible, one is that short term depositors get their cash and long term depositors get their returns. The other is a bank run in which all depositors seek to withdraw. If too many depositors attempt to withdraw their deposits for whatever reason, it is rational for all depositors to seek to liquidate their deposits, because of the illiquidity of the bank's assets, so causing a run on the bank. According to this model bank runs are unpredictable and could occur at any time. There is, however, considerable empirical evidence, based on US experience, Gorton (1987), that bank runs have been closely related to specific events which affect bank profitability and not to random disturbance or sunspots as in the previous model.

Morris and Shin (2004) have extended the sunspot model to incorporate the effects of changes in economic fundamentals. The basic set up of the model is similar to the sunspot model but fundamentals are important in determining the probability that a bank run will occur. A depositor will withdraw his deposit if he thinks that other investors are likely to withdraw. A run will be triggered by some generally observed signal at a time when fundamentals are weak. The publicly observed signal provides sufficient information to a depositor to indicate to him that other depositors will withdraw.

In the case of Northern Rock fundamentals were weak and deteriorating. It was recognized that the bank was illiquid and the statements made by the management were unconvincing. The signal for the bank run was the public announcement that financial support was to be provided by the Bank of England. This confirmed that the bank was in difficulty but provided no assurances on the protection of deposits. The current deposit insurance in the UK provides a guarantee for deposits up to a maximum of £33,500, which was inadequate. The bank run was rational since the value of cash was certain and that of inadequately protected deposits in an ailing bank was not. Only when an absolute commitment was given by Chancellor Darling to guarantee all Northern Rock's deposits did the run cease. The government put aside concerns about moral hazard, which dominated the views and actions of the Bank of England and gave priority to combating the threat to the stability of the banking system. If the run on Northern Rock had continued, banks faced by similar risks, such as Bradford & Bingley and Alliance &Leicester, could also have been subject to the risk of massive withdrawals of deposits, creating a serious risk of contagion.

The Impact of the Crisis on the Economy

The present crisis affecting the banking system is not likely to be solved quickly or without costs. Some of these costs will fall on the non financial sector of the economy. The banking system is well capitalised and profitable. It should be able to adjust to a new regime where proper allowance is made for risk in asset pricing. Conditions of financial fragility are likely to persist for some time and the system will remain vulnerable to new shocks.

Some of the vulnerable points of the non financial economy have been indicated by the Bank and these need to be considered. As pressures on bank liquidity continue, the spread between Libor and Bank rate will continue to be more than 50 basis points, making borrowing more costly in the general economy. Spreads have risen in December to 100 basis points as a result of end of year pressures on banks. If this continues into 2008 there will greater problems for the non financial economy, since the interest rates charged in this sector are generally related to Libor. The chief areas of vulnerability are the following:

(a) Households

The current level of mortgage arrears is only 1.4% and is only one sixth of its peak in the early 1990s. Repossessions of houses are rising but are still well below the previous peak. The general financial position of households is fairly robust as increased real value of debt is offset by the increased real value of assets. There are however some areas of weakness. These include sub-prime mortgages, which are considerably less important than in the US and first time buyers, who will be hit by higher borrowing combined with high house prices. Another sector of the housing market, which is vulnerable, is buy-to- let activity. The interest and administration costs of buy-to-let landlords now exceed market rents. This combined with an expectation that house prices will decline or at best stagnate in 2008, makes investment in buy-to-let unattractive.

There is considerable uncertainty about the degree of overvaluation of UK house prices. The IMF (2007) has suggested that the overvaluation could be as much as 40%, but their equations do not take account of the structural factors making for high UK house prices. There is a growing view among specialists that house prices could fall by about 10% in 2008. A decline of this size would have adverse effects on consumer wealth and expenditure.

(b) The corporate sector

This sector is highly profitable and will not be much affected by a mild credit squeeze, particularly if equity prices remain buoyant and the slowdown in the economy is not too severe. There are, however, some areas of weakness in this sector. There is group of highly borrowed companies, which are not notably profitable and which could be vulnerable to a credit squeeze. Highly leveraged firms, which have been taken private in the recent boom in LBOs , now look fragile. The availability of credit to the corporate sector as measured by the Bank of England's Credit Conditions Survey 2007 is shown in Chart 16. It suggests a tightening of credit in both the third and fourth quarters of 2007.

(c) Commercial Property

The prospects for the sector look poor. Until mid 2006 the price of commercial property was rising faster than rents and yields were falling. Since then property prices have been falling and this is expected to continue. There has been a recent boom in investment in commercial property and capacity is now growing faster than demand, which is expected to be adversely affected by a decline in activity in the financial sector. Chart 16 also shows contraction of credit to commercial property in the second half of 2007.

The Effects of the Banking Crisis on the Outlook for the Economy

The overall impact of the credit squeeze on the British economy is currently being assessed by forecasters. They are finding it difficult to judge its effects accurately. The economy has been growing at about an annual rate of 3% over the last two years. The underlying trend growth rate of the economy is about 2.8% and margin of unused capacity is narrow. A reduction in the growth rate in 2008 was expected without taking account of the full effects of the banking crisis. The Treasury forecast made at the time of the Chancellor's 2007 Pre Budget Report in November forecast a fall in GDP growth to 2-2.5% for 2008. The slowdown was attributable to a check to the growth in consumer spending and investment. Growth of consumer spending at the rate achieved in the first half of 2007 of more than 3% per annum is not sustainable. In 2006 and 2007 real disposable income of households has been rising at only 1.5 % per annum. Households have drawn on their savings to finance consumption as the sector's savings ratio has declined from 5% in 2006 to a recent low of 3.5% in 2007. Consumption will also be constrained by the check to the rise in real house prices, since housing is a major component of households' wealth. The impact of the credit squeeze on the personal sector could well cause a further setback to consumer spending through credit rationing.

Business investment grew at 7% in 2006 and 2007, but the growth rate is expected to decline in 2008. The increasing cost of capital is a factor checking investment expenditure. This will be amplified by credit rationing due to pressures on banks. Similar considerations apply to house building. The cost of borrowing has been raised by increases in Bank Rate since 2006, causing house building to fall back from a growth rate of 6% in 2006 and 2007 to less than 3 % in 2008.

The Treasury and the National Institute are in agreement in forecasting slower growth of domestic demand in 2008, but the National Institute is less optimistic about the prospects for exports. UK exports are vulnerable to a check to growth in its main markets in Europe and the US. The two forecasting groups expect growth of c 2% in 2008 followed by a return to the trend growth rate in 2008.These forecasts look rather optimistic in the light of more recent developments in the squeeze on banks. If this continues with its present force into the first half of 2008, there could growth of c1.5% in 2008. The Bank of England in its November Inflation Report (2007) shows GDP growth falling below 2% per annum in H1 2008 with some recovery in the second half of the year. It emphasizes that the main risks lie on the downside of the forecasts for GDP growth. The prospects are for a sharp setback as the growth of GDP falls below 2% in part of 2008 or throughout the year.

The MPC has held Bank rate at 5.75% during the turmoil, which erupted in July and August. It has not felt able to reduce its policy rate as the Federal Reserve has done because of its need to hold inflation close to its target rate of 2%. As the economy slows down at the end of 2007, it is facing a dilemma between countering the effects of rising world prices of oil and food on the one hand and bringing relief to a slowing domestic economy on the other. News of weakness in the economy explains its decision to cut Bank rate by 25 basis points in December. Further rate reductions are expected early in the New Year, but not necessarily as soon as January.The pressure for reductions will rise should the growth rate turn out to fall short of present central forecasts.

Central Bank Cooperation

There was not much evidence of cooperation between leading central bank during the crisis in mid summer. The Federal Reserve, ECB and the Bank of England implemented policies to moderate the effects of the turmoil without coordinating their moves. Fortunately it seems that this phase is over. Renewed pressures in the interbank market have pushed up the spreads on 1 month Libor over policy rates to over 100 basis points. This end of year effect has been more severe than expected, such that spreads have returned to similar levels as in August and September. Consequently at a time in which both the Fed and the Bank of England have been reducing policy rates, this has been more than offset by the increase in spreads, so tightening monetary policy.

The response of the three central banks has been to announce on December 12 a coordinated expansion of credit, which is intended to provide banks with the liquidity which they require. The Fed is to inject $20bn of 28 day money and $20bn of 35 day money plus a relaxation of collateral requirements. The ECB is injecting $20bn through a reciprocal swap agreement with the Fed. The Bank of England is to provide £20bn of 3 month loans. The funds will be auctioned and the rate of interest will not be at the penal rate of policy rate plus 1% but somewhere between the penal rate and the policy rate set by the MPC , currently 5.50% , depending on the bids received. The range of collateral on which the credit is granted is to be widened to include asset backed securities.It is intended that the method of allocating credit to banks will avoid the problem of borrowing from the Bank of England being stigmatised as happened to Northern Rock. The allocation of credit may well not be anonymous in practice and this discourage borrowers.

The evidence of cooperation among central bankers is encouraging, but this additional liquidity may well not be sufficient to relieve the turmoil. The initial reaction of markets has not been enthusiastic, but Libor spreads over policy rates have fallen slightly. Further injections of funds can be provided, once the arrangements for joint action are in place. However, the greater the scale of the assistance, the greater the relevance of arguments about moral hazard. If central banks are to provide massive support for financial markets, the case for tightening of bank regulation is strengthened. As Martin Wolf put it recently in the *Financial Times* 'The bigger the rescue today, the more stringent regulation of financial institutions must be in the future.' A further problem is that in the integrated financial world of today, regulation will only be effective if coordinated internationally. Otherwise banks facing tightened national regulations will respond by moving their activities off shore. There must also be concern that ,at a time when price increases are showing signs of reviving, massive provision of liquidity to bail-out banks will strengthen inflationary forces in the medium term.

The Main Lessons to be Learned from the Crisis

The Bank of England has considered possible remedies for the problems which have arisen in the UK financial system during the current period of turbulence. It has focused on the main areas needing attention. The key lessons to be learned are summarized in Table A.

(a) The first area requiring attention is liquidity management. The failure of Northern Rock has highlighted the risks associated with high dependence of banks on borrowing in wholesale money markets. Both banks and regulators need contingency plans for dealing with the problems which this model entails. The model depends on dependence on the securitisation of mortgages as well the money market. Northern Rock failed because neither securitisation nor the wholesale money market could meet its funding needs. Regulators need to ensure that banks have adequate liquidity for the type of business which they conduct. Apparently the FSA, which had the responsibility for bank regulation under the division of responsibilities introduced by the Labour government in 1997, considered that it was sufficient to monitor the solvency of banks without considering the equally important issue of bank liquidity. It was lack of liquidity rather than a questionable loan portfolio which brought down Northern Rock. The need to consider liquidity applies to all banks and in particular those with off balance sheet commitments, which are a potential claim on their liquidityin the event of turbulence in the money market.

(b) The second area needing attention is the valuation of complex financial instruments.
Problems of asymmetric information are endemic in financial markets. The creation of complex instruments which pose problems of valuation risks a breakdown of markets when there is a shock to the financial system. The effective functioning of markets calls for the structure of such instruments to be clarified. Those who create complex have a duty to explain them fully to investors, while investors have a similar responsibility to understand what they are buying. Rating agencies can assist the process in indicating liquidity risks. Their ratings have not proved to be robust in that securities with ostensibly high credit ratings have been heavily downgraded in the

face of market turbulence. Investors have frequently relied upon the ratings produced by agencies in a mechanical way during the process of making investment decisions. This practice needs to be avoided.

(c)The third area, which is closely related to the second area, is the need for transparency. Inadequate information about the exposure of institutions to risk has aggravated the present crisis, since in a crisis 'giving an institution the benefit of the doubt is replaced by fear of the unknown.' The process of transferring and dispersing risks has become a source of instability, since there is lack of information about the final location of risks. Some assistance will be provided by the new Basel regulations for bank capital which call for greater disclosure by banks, which will reduce incentives to hold risky assets off balance sheet.

(d) The final area is the management of financial crises. The Bank has recognized that this is the first time for many years that it has acted as lender of last resort to a major bank. It concedes that such assistance may be counter productive if there is a stigma associated with the making use of the Bank's lending facilities. It is desirable for the Bank to increase the effectiveness of its lending at a time of financial stress. This includes the issue of whether assistance could be provided without revealing the identity of the borrower as practised by the ECB.
The run on Northern Rock has shown the need to improve the UK system of deposit insurance. There is need to protect depositors while recognizing the problems of moral hazard to which comprehensive deposit insurance could be vulnerable. There is also a need to improve the insolvency procedures for banks. This should enable a failing bank to meet the needs of its depositors and to carry on banking business pending the transfer of ownership to new owners.

Conclusion

The measures listed in the previous section could help to moderate any future banking crisis, but they would not resolve all issues. The tightening of the crisis at the end of the year has shown how deep seated are the problems of the financial system. Closer co-operation between central banks is required to co-ordinate provision of liquidity. It is also needed to

provide a more effective form of bank regulation, which cannot be satisfactorily introduced at the national level.
Even if the banking crisis is resolved ,it cannot prevent a sharp slow down in the growth of the UK economy in the short term. The forces making for contraction are in place. The severity of the downturn is hard to predict, but it is agreed that the risks lie on the down side, making the central forecasts of the forecasters appear optimistic.

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