

## BANKING CRISIS CASE OF U.S. BANKS VERSUS UK BANKS

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### 1. Introduction

Banks play a crucial role in every economy. Banks operate the payments system, are the major source of credit for large swathes of economic activity, and (usually) act as a safe haven for depositors' funds. The banking system reallocates resources from those in surplus (depositors) to those in deficit (borrowers), by transforming relatively small liquid deposits into larger illiquid loans. If intermediation takes place in an efficient manner, the needs of depositors and borrowers can be met at low cost, yielding substantial private and social benefits for economic growth and development.

To observe that the banking system is currently in a state of extreme crisis, which threatens its capacity to perform this critical intermediation role for many years to come, seems an understatement.

Most economists agree that macroeconomic imbalance, in the form of large surpluses and deficits in the current accounts of the balance of payments of many countries, is a fundamental cause of the credit crisis (Brunnermeier, 2009). High savings ratios and current account surpluses in many South and East Asian and Gulf region countries are counterbalanced by current account

deficits and borrowing in the major consuming economies. Surplus countries export their surplus funds, making investments in bank deposits or securities in deficit countries. Deficit countries borrow in order to finance the gap between their expenditure on consumption and their earnings from selling goods and services, by accepting deposits or selling securities to the governments and residents of surplus countries.

### 2. The methodology of research

The sample includes 10 banks (5 from USA and 5 from UK). We tried to identify the evolution of the banks during the period 2005 – 2009. We want to study the evolution of the banks before and during the financial crisis. We study the evolution of loan loss provisions, capital to assets ratio and return on equity ratio. To calculate the indicators we used the financial statements of the banks from Reuters or from the sites of the banks.

JPMorgan Chase & Co. was incorporated in 1968. In February 2009, the Company completed its acquisitions of UBS Commodities Canada Ltd. and UBS AG's global agricultural business. In March 2009, The Bank of New York Mellon Corporation completed the acquisition of JPMorgan Trust Bank Limited in Japan from the Company.

Citigroup Inc. was incorporated in 1988. As of December 31, 2009, Citigroup had approximately 200 million customer accounts and did business in more than 140 countries. On December

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31, 2009, the Company sold 100% of its interest in Phibro. On October 1, 2009, the Company completed the sale of its entire stake in Nikko Asset Management. During the year ended December 31, 2009, Citigroup sold its Financial Institutions and Diners Club North America credit card businesses. On June 1 2009, Citi and Morgan Stanley established a joint venture.

Wells Fargo & Company is a diversified financial services company located in 39 states and the District of Columbia. As of December 31, 2009, the Company provided banking, insurance, investments, mortgage and consumer finance from more than 10,000 stores under various types of ownership and leasehold agreements.

U.S. Bancorp, incorporated in 1929, is a multi-state financial services holding company. On October 30, 2009, the Company acquired the banking operations of First Bank of Oak Park Co.

Bank of America Corporation is a bank holding company, and a financial holding company. It serves 59 million consumer and small business relationships with approximately 6,000 banking centers, 18,000 ATMs. On January 2009, the Company completed the acquisition of Merrill Lynch.

HSBC Holdings is a global banking and financial services company. In February 2009, it sold its stake in Modern Asia Environmental Holdings Inc. to Japan's Dowa Eco-system Co. In May 2009, the Company completed the acquisition of 88.89% of PT Bank Ekonomi Raharja in Indonesia.

The Royal Bank of Scotland (RBS) was founded in 1727. On January 14, 2009, RBS sold its entire 4.26% stake in Bank of China.

Barclays is a global financial services provider engaged in retail banking, credit cards, corporate and investment banking and wealth management. In June 2009, Temasek sold its entire stake in Barclays.

Standard Chartered has over 1,600 branches and outlets in 71 markets. On February 2 2009, the Company acquired Cazenove Asia Limited from JP Morgan Cazenove. On July 1 2009, it completed the acquisition of its remaining interest in First Africa Group Holdings Limited.

Lloyds Banking was founded in 1765. It operates in over 30 countries. In 2009, following the acquisition of HBOS, Lloyds TSB Group was renamed Lloyds Banking Group.

### **3. The impact of financial crisis over the banking system**

For several years, savings channeled via the banking and financial system from fast-growing emerging economies to governments and consumers in developed countries have permitted western governments to operate with low interest rates and relaxed monetary policy, without stoking the flames of inflation. This cascade of cheap credit has enabled governments to avoid the harmful consequences for living standards of exchange rate devaluation, which would otherwise have been required to correct the current account imbalance.

Western bankers have demonstrated considerable skill and ingenuity in persuading borrowers to take up the abundant supplies of cheap credit, and repackaging the resulting assets into mortgagebacked and other types of structured securities through the "originate and distribute" model. Lighttouch regulation raised few questions concerning the implications for systemic risk and financial stability during the boom years. In the US, low interest rates and the erosion of lending standards helped fuel a housing market bubble. The creation and trade in securitized assets backed by sub-prime mortgages ensured that when this bubble finally burst in 2007, the repercussions of mortgage delinquencies spread far and

wide throughout the global financial system.

The world is gripped by an international financial crisis, and the British banking industry, like that of the United States, has been heavily affected. During 2008, all large British banks were found to be capital deficient after markdowns.

The root of the problems of the British banks is the same as that of American banks: shaky mortgage-backed securities. Often rated AAA when issued, these assets were undermined by rising mortgage default rates and their values dropped precipitously. When market trading all but stopped, the assets' values were difficult to gauge. The crisis expanded during 2007-08 when banking counterparties lost trust in each other and in their credit-default insurers.

By August 2007, major U.S. and European banks were so cautious that a North Atlantic credit squeeze began. Strains mounted in September 2008 when the failure of Lehman Brothers demonstrated that no counterparty was too large or important to fail.

### **3.1 Banking crisis in USA**

The credit crisis has transformed the global financial landscape, bankrupting established names and prompting unprecedented interventions by governments and central banks to save others from collapse as they buckle under the weight of "toxic debts." This timeline charts the key moments in that process.

The trouble in the US mortgage market has been bad for US banks. Last year, 140 US banks failed and had to be rescued by federal regulators. Already this year, 16 have been seized by the

authorities, a rate that points to a similarly high total in 2010.

The federal government projected that 19 of the nation's biggest banks could suffer losses of up to \$599 billion through the end of next year if the economy performs worse than expected and ordered 10 of them to raise a combined \$74.6 billion in capital to cushion themselves.

In March 2008, JPMorgan Chase & Co. bought Bear Stearns Cos. for about \$240 million.

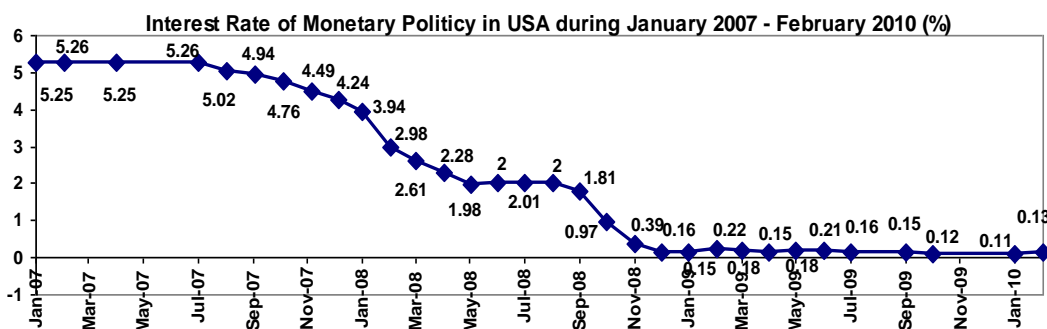
In September 2008, Bank of America Corp., the biggest U.S. consumer bank, agreed to acquire Merrill Lynch & Co. for about \$50 billion as the credit crisis claimed another of America's oldest financial companies.

Bank of America was given a new injection of \$20bn (£13.5bn) by the US government and a guarantee of \$118bn on potential losses on toxic assets that have threatened to overwhelm the financial system.

The Federal Reserve had pumped an additional \$630 billion into the global financial system until 2009, flooding banks with cash to alleviate the worst banking crisis since the Great Depression.

In March 2009, the Federal Reserve sharply stepped up its efforts to bolster the economy, announced that it would pump an extra \$1 trillion into the financial system by purchasing Treasury bonds and mortgage securities. Having already reduced the key interest rate it controls nearly to zero (see figure no.1), the central bank has increasingly turned to alternatives like buying securities as a way of getting more dollars into the economy, a tactic that amounts to creating vast new sums of money out of thin air.

Figure no. 1



Source: www.federalreserve.gov

### 3.2 Banking crisis in UK

The British government has aggressively sought to resolve problems at the banks through a mixed system of capital injections and asset guarantees. After recent mergers, four large banks remain: Barclays, HSBC, Lloyds Banking Group, and RBS. Two of these banks, Barclays and HSBC, have raised capital privately.

The U.K. government has introduced a mixture of bank recapitalizations and asset insurance for the other two banks. In October 2008, the government injected capital into RBS and Lloyds by purchasing preferred shares with a high return of 12 %. The banks also halted dividend payments. In January 2009, as an effort to boost the banks' lending, the interest on the preference shares was reduced to 5 % and the RBS preference shares were swapped for ordinary shares, increasing the government stake in RBS to 70%. In exchange for capital injections, the government elicited a promise from the banks that they would sustain, at 2007 levels, their lending to small- and medium-size enterprises and households.

On February 26, 2009, the government agreed to inject into RBS £25.5 billion as capital and guarantee assets of £325 billion, increasing the government's ownership to near 95%. For Lloyds, the government agreed to insure up to £250 billion of assets, already holding a 43 percent ownership

stake; on March 7, the government agreed to insure an additional £260 billion, pushing its likely ownership toward 75%. The asset guarantees are through the Asset Protection Scheme, a program to "provide protection against credit losses occurring on specified pools of assets above a certain threshold." The Asset Protection Scheme assists banks because it postpones the need for immediate write downs (as would be required if assets were sold to a "bad bank") and, although the first tier of losses must be absorbed by the bank's capital, the guarantee reduces the bank's risk-weighted assets. For both RBS and Lloyds, the government's stake is being managed by a special company set up by H.M. Treasury, called UK Financial Investments (UKFI); this company effectively operates as a separate government entity.

The goal of the UKFI is to unwind the government's stake and, if possible, earn a profit for British taxpayers.

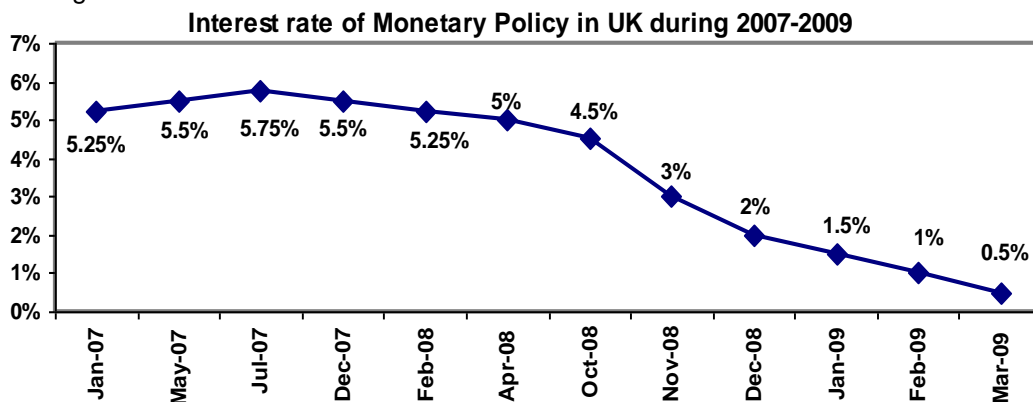
The time required for the unwinding is highly uncertain, with rights holders likely to press legal claims for higher-than-offered valuations.

Concerns about the possibility of a major slowdown in the UK economy led the Bank of England to implement a base rate cut on 6 December 2007, to 5.5%. This was the first of series of cuts which saw the base rate reduced to a historically unprecedented 0.5% by

March 2009 (see figure no. 2), this rate was kept until February 2010. On 12 December 2007, the Bank of England participated in a coordinated international effort to increase liquidity in the interbank

markets, by increasing the size of its next two auctions of short-term funds, in December 2007 and January 2008, from £2.85bn to £11.35bn each.

Figure no. 2



Source: [www.bankofengland.co.uk](http://www.bankofengland.co.uk)

### 3.3 Evolution of loan loss provisions

When banks face external-financing frictions, such as financial crisis, they are not able to immediately restore reductions in equity capital that occur during economic downturns. The capital crunch theory predicts that capital adequacy regulation combined with these market imperfections leads to pro-cyclical bank lending. Specifically, the theory predicts that during recessions, banks' lending is more sensitive to their capital ratios than during expansionary periods.

Regulators and policy makers argue that the pro-cyclical effect of capital is reinforced by current loan loss provisions rules. Loan loss reserves are designed to absorb expected credit losses. However, if loan loss provisioning is backward looking, then the credit losses arising from economic downturns are more likely to require banks to recognize more loan losses during recessions, thereby accentuating capital pro-cyclicality.

Loan loss provisions are one of the three priorities for policy action addressing the forces that contribute to positive feedback mechanisms between

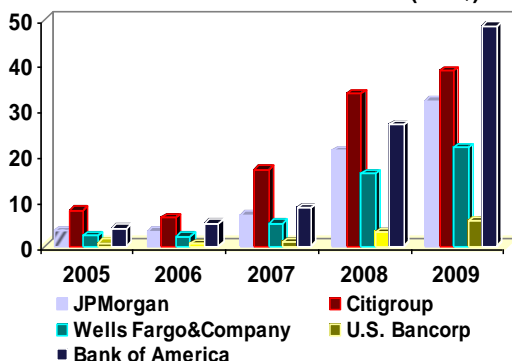
the financial and the real sectors of the economy.

Banks' loan losses are ultimately determined by two factors: the size of the loans that borrowers cannot service and the portion of these loans that is lost. The latter depends on banks' collateral and borrowers' future debt-servicing capability. In charts no.1 and 2, we present the evolution of loan loss provisions in USA and UK.

U.S. banks may incur about \$ 470 billion of losses and writedowns by the end of 2010, which may cause the banks to be unprofitable in the current period.<sup>2</sup>

<sup>2</sup> [www.reuters.com](http://www.reuters.com)

Chart no.1  
Loan Loss Provision in 2005-2009 (mld.\$)



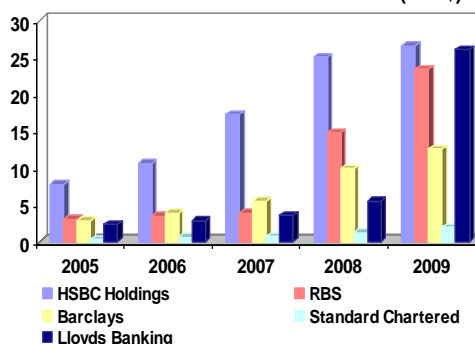
Source: www.reuters.com

In the first chart we can see that American banks, especially Bank of America and JP Morgan, are drastically affected by financial crisis. Bank of America has increased the loan loss provisions from \$ 8.4 billion (in 2007) to \$ 48.6 billion (in 2009). The loan loss reserves of JP Morgan increased from \$ 6.9 billion to \$ 32 billion during the same period. The allowance for loan losses of Citigroup was \$38.8 billion in 2009, or 6.1% of loans, compared to \$29.6 billion, or 4.3% of loans, at year-end 2008.

During 2005-2006, loan loss provisions of American banks had small values, under \$ 10 billion.

British banks shared the same experience like American banks. Lloyds Banking Group increased his loan loss provisions from \$ 3.6 billion (in 2007) to \$ 26 billion at year-end 2009. The loan loss provisions of Royal Bank of Scotland arrived at \$ 23.3 billion in 2009 from \$ 3.9 billion (in 2007). Risk elements in lending and potential problem loans represented 5.5% of gross loans and advances to customers in 2009 (2008 – 2.5%, taking into account that loan loss provisions were \$ 14.8 billion). Before the crisis, British banks made reduced values of loan loss provisions, only HSBC had a prudent risk policy.

Chart no. 2  
Loan Loss Provision in 2005-2009 (mld.\$)



Source: www.reuters.com

### 3.4 Evolution of capital to assets ratio

Capital to assets ratio is the ratio which determines the capacity of the bank in terms of meeting the time liabilities and other risks such as credit risk, operational risk, etc. In the most simple formulation, a bank's capital is the "cushion" for potential losses, which protects the bank's depositors or other lenders. Banking regulators in most countries define and monitor CAR to protect depositors, thereby maintaining confidence in the banking system.

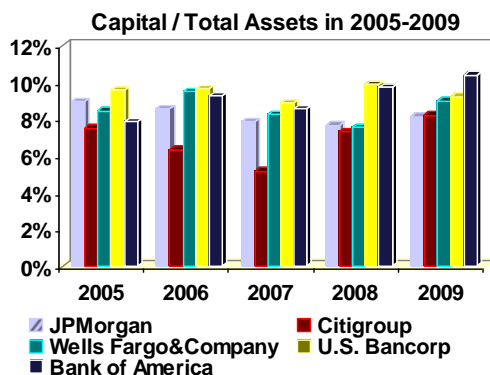
CAR is similar to leverage; in the most basic formulation, it is comparable to the inverse of debt-to-equity leverage formulations (although CAR uses equity over assets instead of debt-to-equity; since assets are by definition equal to debt plus equity, a transformation is required). Unlike traditional leverage, however, CAR recognizes that assets can have different levels of risk.

Citigroup estimated in its report, the average Tier 1 ratio in Europe and the US for 2009, which is expected to reach 7.7% and 7%. During the financial crisis the capital to asset ratio (TIER 1) of major banks remains below European average, according to the report.<sup>3</sup>

Charts no. 3 and 4 present the evolution of capital to asset ratio that were registered by the banks from our sample during 2005-2009.

<sup>3</sup> <http://www.ttbank.gr>

Chart no. 3

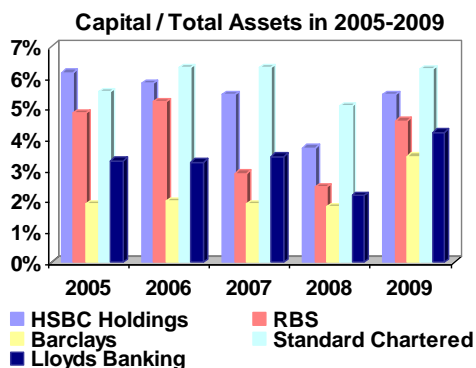


Source: Author's calculations based on financial statements of the banks

American banks respected the level of the ratio presented in Citigroup report. In 2009, all American banks, from our sample, registered values of the ratio bigger than 7%. Last year, JP Morgan registered a value for capital to assets ratio of 8.1%, while the capital decreased with 1% and total assets with 7% comparative with 2008. In 2008, the capital increased with 35% and the total assets with 39% than year 2007, but value of the ratio decreased at 7.7%. Citigroup Bank registered a value of the ratio of 8.2% last year, Wells Fargo & Company 9%, U.S. Bancorp 9.2% and Bank of America 10.4%. Before the crisis, during 2005-2006, the capital to assets ratio respect the limit cited by Citigroup report, with some exceptions. The financial crisis began in 2007 in U.S.A, so we can see in chart no. 3 that values of the ratio presented smaller values than the previous period, because the capital of the banks decreased, while total assets increased.

British banks, from our sample, did not respect the level of the ratio presented in Citigroup report. Last year they registered values under 7.7%: HSBC Holdings 5.4%, Royal Bank of Scotland 4.6%, Barclays 3.4%, Standard Chartered 6.3% and Lloyds Banking Group 4.2%. Before the financial crisis, HSBC Holdings and Standard Chartered registered values of capital / total assets ratio near 6%. We can see in chart no. 4 that in 2008, banks had the smallest

Chart no. 4



values of the ratio. The causes were the same like in the cases of American banks: the capital decreased significantly (the capital of HSBC decreased 27% in 2008 comparative to 2007; the capital of Lloyds decreased 29% during the same period) or had an insignificantly increase (the capital of RBS increased only 2% or 6% in the case of Standard Chartered), while total assets increased comparative with previous years (HSBC 7%, RBS 20%, Barclays 53%, Standard Chartered 32%, Lloyds 13%).

### 3.5 Return on Equity

The efficiency of banks can be measured through the use of the return-on-equity (ROE) ratio, which shows to what extent banks use reinvested earnings to produce future profits. The improvement in ROE can be divided into several stages beginning with the recovery since the 1997-98 crisis, followed by expansion of loans, and lastly, financial management.

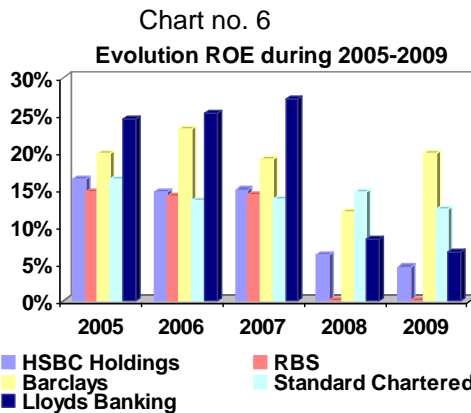
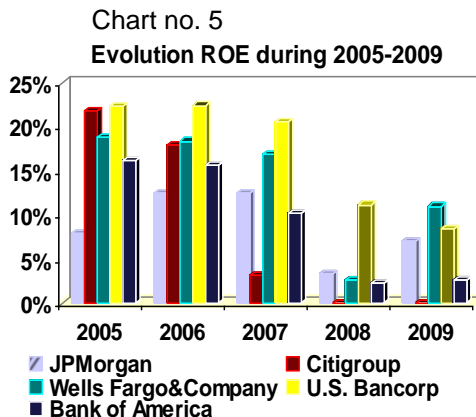
In general, the growth of ROE may depend on the capitalisation of banks. When a bank is highly capitalised, through the Tier-1 capital adequacy ratio (CAR), then the expansion in the ROE metric is retarded. The reason is excess capital is not distributed back to stakeholders, but instead it is retained for future expansion. The movement in ROE ratio also hinges on banking actions. Banks that pursue active capital management activities will have better

ROE. This may be obtained through consistent (and/or large) dividend payments, share buy back programmes as well as mergers and acquisitions.

Higher dividend payout and share buy backs will reduce reserves, which lead to an ROE improvement. In contrast,

banks that manage larger reserves due to recent or future investment projects will stymie their ROE ratios.

Charts no. 5 and 6 present the evolution of return on equity ratio that were registered by the banks of the sample during 2005-2009.



Source: Author’s calculations based on financial statements of the banks

In chart no. 5 we can see how the financial crisis affected the evolution of the ratio before and during it. Citigroup Bank is the most affected from the sample of American banks. Its return on equity ratio fell, because the profit decreased from \$ 24.6 billion (in 2005) to \$ 3.6 billion (in 2007). In 2008 and 2009, the bank suffered losses (\$ 27.7 billion, respectively \$ 1.6 billion).

ROE ratios registered by others American banks had the same evolution, because their profits decreased significantly, but they did not fell to zero.

The ROE ratios of Wells Fargo & Company and JP Morgan increased at the end year 2009, due to increase of net income from \$ 5.6 billion (in 2008) to \$ 11.7 billion (in 2009), respectively from \$ 2.7 billion to \$ 12.3 billion during the same period.

Chart no. 6 shows the same evolution of ROE ratio of British banks like those of American banks. The biggest depreciations of the ratio were registered in 2008. Royal Bank of Scotland is the most affected from the sample of British banks. Its return on

equity ratio fell, because the profit decreased from \$ 10 billion (in 2005) to a loss of \$ 43.5 billion (in 2008). Last year, the bank suffered another loses income of \$ 4.2 billion.

The ROE ratio of Lloyds decreased significantly in 2008 comparative to 2007 from 27.1% to 8.2%. Main causes were the decreased of net income with 78% and the capital with 29% during the same period. Only the return on equity ratio of Barclays Bank increased at the end year 2009, due to the increase of net income with 82% comparative to 2008.

#### 4. Conclusion

The credit crisis has exposed weaknesses in the current regime for the regulation of bank capital ratios (ratio of shareholder equity to total assets, crucial because equity is the buffer that absorbs losses in the event of write-offs of non-performing assets). Under the risk-weighted capital regulation regime of Basel 2, the use of backward-looking models for risk assessment creates a destabilising tendency for capital



provisioning to amplify the economic cycle. Under boom conditions, observed rates of borrower default decline. Accordingly, bank assets in all risk classes are assessed as having become less risky and as requiring lower provisioning. Therefore existing capital buffers can support increased bank lending, which tends to amplify the upturn in the cycle. It is now widely accepted that banks should be required to accumulate capital during booms, so that reserves are available to draw upon during times of economic stress. Capital provisioning would thereby exert a stabilising effect.

A recent estimate suggests that the additional financial resources already committed by governments around the world in direct response to the credit crisis amounts to \$7 trillion (Huertas, 2009). Short-term fire fighting to try to prevent the crisis from evolving into a devastating and longlasting deflationary spiral has been high on the policy agenda as the crisis has developed. However, there is also extensive debate surrounding the longer-term implications of the crisis for the future architecture of the banking and financial system. In bank regulation, support has been expressed for a 'return to basics' involving:

- greater emphasis on simple leverage and liquidity ratios;

- more realistic risk assessment as the basis for risk-based capital regulation;
- greater transparency and the curtailment of opaque business models;
- effective early-warning systems and effective procedures for early intervention in cases of financial distress.

Whatever changes take place, there is no doubt that the momentous events of the past 24 months will resonate for many years to come, and that banks must anticipate significant restrictions on their future lending and securitization activities and risk-taking capabilities.

Changes to bank consumer loan loss reserve balances will continue to reflect the losses embedded in bank consumer loan portfolio due to underlying credit trends as well as the impact of the bank forbearance programs.

There are complementary indications that the pace of downwards credit rating migration for corporates is slowing. Nonetheless, the financial circumstances of many consumers and businesses remain fragile, and rising refinancing costs, whether as a result of monetary tightening or of increased regulatory capital requirements, could expose some customers to further difficulty. The increase reflects the substantial deterioration in the credit environment; partly offset by a reduction in the charge in respect of loans and advances to banks and other impairment provisions.

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