

# To what extent are prudential and accounting arrangements pro- or countercyclical with respect to overall financial conditions?

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## 1. Introduction

The 1998 financial turmoil on international capital markets has suggested some weaknesses in the Basel Committee's 1988 Capital Accord. Criticism has focused not only on the measures of risk used in this framework, but also on its ability to incorporate key insights from the theory of finance, such as the fact that it does not generate any capital advantage for banks that have well diversified portfolios. Moreover, it has also been recognised that bank capital pressures may have led to cyclical movements in banks' lending, increasing macroeconomic instability.

The paper focuses on the latter issue. It assesses to what extent the new proposals by the Basel Committee - the New Capital Adequacy Framework - address the issue, taking account of the fact that, as underlined by Furfine (2000), banks tend to optimally respond to the economic incentives they find in the regulations.

The paper argues that although the envisaged reform improves on the previous Accord, it does not reduce the procyclical character of bank lending. An illustration is provided by an assessment of one of the "pillars" of the reform that involves a greater reliance on agency and internal ratings. While such a proposal is well reasoned, it also appears not to be immune to this criticism.

Refinements, such as the extension of fair value accounting, that are also liable to put in place a new set of incentives do not seem to provide better results on these grounds, may also raise other serious concerns for the conduct of monetary policy. For example, fair value accounting may result in a situation where the countercyclical role of monetary policy could conflict with financial stability considerations. The paper then explores other alternatives proposed in the literature and elaborates on dynamic provisioning to cover expected losses.

In the context of the New Capital Adequacy Framework, the paper stresses the conceptual gap between the growing sophistication in the forward-looking measurement of risks when supervisors are dealing with capital requirements and the crude and static provisioning methods governing accounting rules. Pending a change of these accounting rules, supervisors may design capital requirements so that expected losses would be adequately covered. Some countries like Spain have already implemented such new provisioning rules.

Dynamic provisioning may serve financial stability in a number of ways including encouraging risk-adjusted pricing by banks, reducing the procyclicality of bank lending, and strengthening banking systems ahead of an economic downturn. Its implementation, however, has to overcome traditional accounting and taxation principles.

## 2. The envisaged reform of bank capital requirements could enhance the procyclical character of bank lending

Since the implementation of the 1988 Basel Accord in the early 1990s, several studies have discussed the effect of capital standards on banking behaviour. Evidence has been provided for the United States by Haubrich and Watchel (1993), Hall (1993), Berger and Udell (1994) or Thakor (1996), for Japan by Ito and Sasaki (1998) and for the United Kingdom by Ediz et al (1998), to name a few. The papers generally conclude that banks substituted away from high risk-weighted assets, shifting from corporate lending to increase their holding of government securities. According to these papers, banks

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<sup>1</sup> The views expressed in this paper are those of the authors and do not necessarily reflect the opinion of the Bank of France and/or of the French Banking Commission. \*Bank of France, Directorate General Research and International Relations, \*\*French Banking Commission.

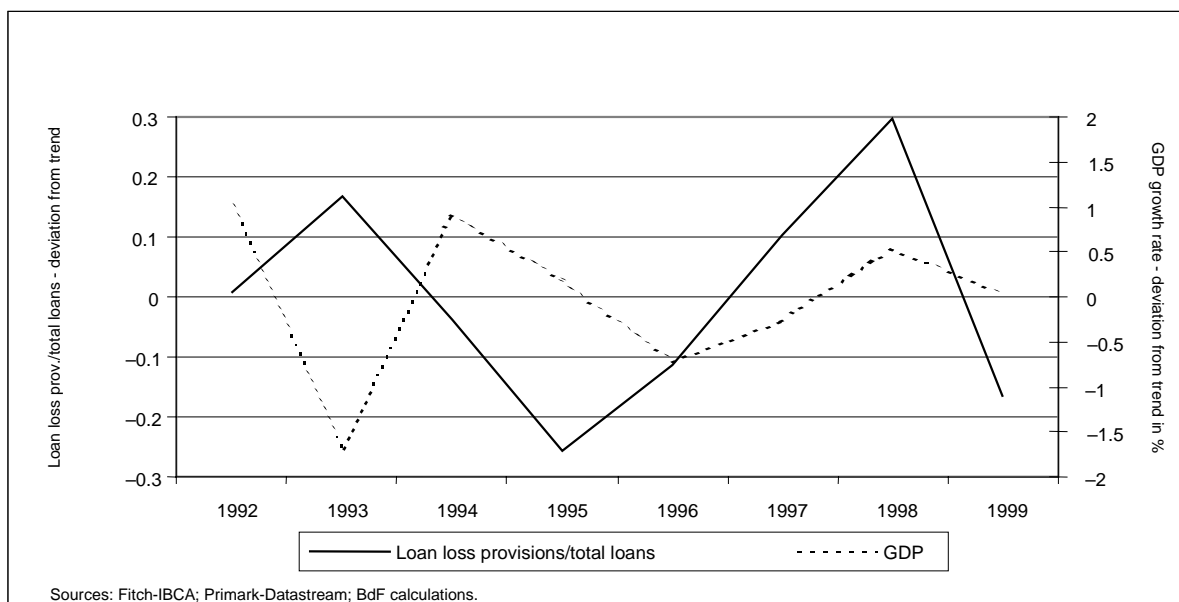
also reduced lending as a result of the implementation of the Basel Accord, though this conclusion is controversial for the UK experience. More recently, the focus has moved towards the issue of whether the current system of prudential regulation amplifies the financial and economical cycles. In this section, we analyse the extent to which the envisaged reforms of bank capital requirements may or may not reduce the procyclical character of bank lending.

## 2.1 Bank lending aggregates can be expected to be cyclical

The empirical characterisation of the possible procyclicality of bank lending is made difficult since it is sometimes hard to distinguish what results from supply or demand behaviour. Credit aggregates generally summarise both these effects. In the French case, the link between credit aggregates and the business cycle is not straightforward. As shown by Grunspan et al (1997), who focused more specifically on the demand side, the dismantling of the direct control of the volume of bank lending - a period known as *the désencadrement du crédit* - accompanied by deep changes in French financial markets has led, since the mid-1980s, to a weakening of the link observed between credit aggregates and GDP growth in comparison with the previous decade.

However, more specific indicators tend to show that banks' behaviour has remained procyclical in recent years. An illustration is provided by the ratio "*loan loss provisions/total loans*".

Figure 1  
Loan loss provisions / total loans and GDP growth in France



From 1992 to 1999, a period which roughly corresponds to the last French business cycle, the ratio of "*loan loss provisions/total loans*", expressed as a deviation from its trend measured over the 1990s, moved in the opposite direction to the GDP growth rate. During the 1993 recession, loan loss provisions increased quite significantly before being scaled back during the recovery period that started in 1994-95. The end of the 1990s showed a similar pattern, as loan loss provisions rose whilst the GDP growth rate moved below its trend. At the same time, total loans tended to move in line with the GDP growth rate, though it is difficult to break down this movement into demand and supply side effects. Evidence suggests that banks use loan loss provisions (LLP) to cover losses due to the default of their borrowers or their failure to repay principal and/or interest.

From a supervisory point of view, the accounting treatment of credit risk could be improved. At present, this risk is generally accounted for item by item when it occurs or is likely to occur, as a result of impairment, asset depreciation or liabilities appreciation or strong presumptions of commitment value degradation. So the accounting effects of risks are often perceptible too late, a short time before charging off. In this sense, provisions do not reflect the true inherent credit risk of the loan portfolio.

For these reasons, it can be argued that the current accounting treatment embedded in the regulation triggers the procyclicality of banks' lending behaviour.

## **2.2 Moreover, there is a well documented “credit cycle” in most countries, with banks moving down the credit curve as the cycle expands**

### **2.2.1 Although the theory is not clear-cut on bank lending ...**

On the theoretical side, there is no clear consensus about banks' lending behaviour over the business cycle. On the one hand, it can be argued that banks behave procyclically, that is, banks reduce their provisions and expand their lending in the boom phase of the business cycle, and sharply reduce lending while increasing provisions in the recession. Such a point of view generally stresses the role of uncertainty and imperfections on the credit market. It could be mitigated, however, by the introduction of risk considerations, according to the distinction between risk and uncertainty introduced by Knight in 1921. For example, high market risk would occur if a bank's loan portfolio were concentrated on booming sectors that may be subject to boom-bust dynamics, in areas that are highly dependent on cyclical economic conditions (eg real estate) or in sectors with returns significantly higher than the market rate of return. (Gonzalez-Hermosillo (1999)). Risk considerations would, under such circumstances, imply countercyclical provisioning behaviour.

On the other hand, assuming efficient credit markets, banks should be able to accurately assess and foresee risks over the business cycle. As a result, as the demand for loans expands during the upturn, banks could increase their margins, augment their capital and constitute loan loss provisions in order to cover both future unexpected and expected losses. Conversely, the provisions accumulated in the boom phase would act as a buffer during the downturn, smoothing both the bank results and the economic cycle. Capital accumulation would provide the banks with a supplementary cushion, allowing them to cover unexpected losses. Here again, the argument has to be qualified since evidence suggests that credit markets are not perfect and are likely to be subject to information asymmetries. Moreover, competition might also increase in the boom phase. As a result, margins could be reduced by competitive pressures, contributing to the procyclical behaviour of the banking sector.

### **2.2.2 Credit markets are likely to be imperfect ...**

As mentioned above, a strand of the literature has focused on credit market imperfections. According to this view, banks are likely to overestimate the creditworthiness of borrowers in the boom phase of the business cycle, expanding loans and contributing to amplifying the cycle. Such behaviour might be exacerbated by competitive pressures. Banks may assess risks accurately and as a consequence ask for a higher premium on external finance. However, due to competitive pressures, they could also compensate for a higher premium by increasing the volume of loans.

One rationale behind this kind of behaviour is the concept of “*disaster myopia*” developed by Guttentag and Herring (1986). In this approach, the bank manager knows only that there is a small but finite probability of disaster occurring. He has neither a priori knowledge of this probability nor sufficient information to estimate it from historical record. During the boom phase of the cycle, this subjective probability of disaster may decline, leading the bank to lend to a broader range of borrowers. Put another way, some borrowers who were considered as too risky in the earlier phase of the cycle could obtain loans more easily as the cycle expands. As a consequence, the quality of banks' portfolios may deteriorate and become riskier in the mature phase of the cycle. As emphasised by Herring (1999), the financial system may become increasingly vulnerable to a crisis in periods of benign financial conditions, as the probability of disaster is considered to be nil. In the “*disaster myopia*” context, bank asset quality deteriorates without the bank having consciously taken the decision to accept greater risk.

Asymmetries and credit market imperfections also play a key role in the broad credit channel literature. Adverse selection effects, as highlighted by the seminal paper by Stiglitz-Weiss (1981), may create situations where the tendency for riskiness of default worsens as the cycle expands, because of interest rate increases due to a higher demand for loans or as a result of a monetary policy tightening. High interest rates may potentially attract bad quality or very risky borrowers, who try hard to get loans to pursue their project and who do not really bear the risk. These kinds of moral hazard considerations introduce further complications. Gertler (1988), Bernanke (1993), Bernanke and Gertler (1989), Bernanke et al (1999) and Kiotaky and Moore (1997) stressed the role of collateral in such a context:

in order to prevent moral hazard, the bank may ask the entrepreneur either to engage his own funds, or a part of his net worth, in the project or require collateral for a loan, thus introducing wealth effects in both the credit and the economic cycle. For example, in the buoyant phase of the business cycle, as net worth increases, the cost of external finance decreases, favouring investment, which reinforces both the firm's net worth and the business cycle. But these authors also point out the key role played by agency costs: a monetary tightening that raises interest rates and generates a real economic slowdown will cause a firm's balance sheet to deteriorate, raising agency costs and lowering the efficiency of credit allocation.

More generally, evidence suggests, to the extent that the credit cycle tends to coincide with the business cycle, that the risk of a sharp downturn in asset quality during the mature phase of the business cycle could rise dramatically (IMF (1998)). However, banks do not seem to increase their provisions accordingly.

### **2.2.3     *Consequently, bank profits tend to move in line with the economic cycle***

To recap, credit losses are cyclical. The pattern of bank results is then mainly driven by changes in the charge on bad and doubtful debts. The current accounting practice is to make provisions for credit risk only when the recovery of a loan is considered as dubious, because of a deterioration in the creditworthiness of the borrower. This implies that provisions or bad debt charges are related to already observed information and consequently do not reflect the real amount of credit risk the bank carries. Thus, the current method of loan loss provisioning accentuates the impact of business cycles on banking profits, which tend to be overestimated during an upswing and underestimated during a downswing.

## **2.3       Capital requirements are likely to affect banks' behaviour**

### **2.3.1     *The effects of capital requirements are likely to be asymmetric over the business cycle ...***

Asymmetries in banks' behaviour over the business cycle may also result from capital requirements. As banks' balance sheets deteriorate during downturns, in conjunction with declines in loan demand and increased default risks, banks may face a substantial capital contraction. To deal with this situation and comply with the capital adequacy regulations, banks may either try to raise new capital or cut back on lending. However, capital issuance may be difficult or very costly in situations where the economy is decelerating and banks' balance sheets are deteriorating. For such reasons, it can be argued that, during downturns, banks may prefer to cut back on their loan base (Mishkin (1999)). As mentioned in the financial accelerator literature, such a contraction in bank lending will reduce even more the firms' ability to invest and will trigger a deeper recession. Conversely, during booms, banks may find it easy to raise equity capital.

### **2.3.2     *... and may well have macroeconomic consequences in some periods***

The Basel Committee on Banking Supervision (1999) surveys a wide range of empirical studies dealing with this issue. However, the discussion is usually plagued by the fact that it is generally difficult to isolate loan supply shocks from loan demand shocks. By contrast, focusing on the commercial real estate market, rather than on commercial and industrial lending, which is more tied to national business conditions, Peek and Rosengren (2000a) identify a true exogenous loan supply shock, which occurred through Japanese banks in the United States. One of the main findings of the paper is that "*binding risk-based capital requirements associated with the Japanese stock market decline resulted in a decrease in lending by Japanese banks in the United States*". They show that the Japanese banks' pullback significantly reduced construction activity in those US markets with a large Japanese bank penetration, leading to a significant economic shock. More important is the fact that binding capital requirements in one country may result in "*collateral damage*" (Peek and Rosengren (2000a)) in another country, pointing out that capital requirements may eventually affect the international business cycle. Though this latter development is probably extreme, it illustrates the fact that more interdependent economies are also probably more exposed to exogenous shocks.

## **2.4 The reform of the capital adequacy system could enhance these procyclical effects**

To what extent do the proposals to reform the international capital adequacy system interfere with these procyclical effects?

### **2.4.1 Internal ratings**

In the proposals included in the Basel Committee's New Capital Adequacy Framework, greater reliance is placed on internal processes to set banks' capital. However, this generally well perceived approach raises several problems, as pointed out by Karacadag and Taylor (2000): it probably underestimates the degree of inconsistency or inaccuracy in internal ratings, which may widely differ within and across countries. On the other hand, such a choice is nothing but the recognition that standardisation is inappropriate and that capital adequacy must vary according to banks' characteristics (quality and types of assets, management, etc). As a consequence, the use of "*mechanical formulas*" should play a rather limited role (Estrella (1998)) in the design of the New Capital Adequacy Framework.

In principle, internal ratings may have important advantages compared to external ratings: they potentially incorporate proprietary information on bank clients that is unavailable to the public and to rating agencies. They should generate more accurate credit risk assessments of the borrower. However, a problem arises since banks appear to have generally limited data and techniques available to estimate loss characteristics. Furthermore, internal ratings are generally criticised because they are "point in time" assessments of borrower creditworthiness: a survey carried out by the BIS (2000) on internal rating systems provides some evidence that banks usually base their internal rating on a borrower's current condition with a time horizon of one year. The implication of such a practice is that internal ratings are likely to be more procyclical because of this short time horizon, since it is shorter than the usual duration of a business cycle. Such an issue could be related to the concept of "*disaster myopia*" mentioned previously. Because risk assessment is based on a short horizon, and may vary quite a lot across banks, which may use a wide range of practices, most likely depending on their size, internal ratings may not really constitute an improvement regards dealing with this procyclicality issue.

### **2.4.2 Another proposal builds upon external ratings**

Karacadag and Taylor (2000) highlight some advantages of external ratings, which will be used in the standardised approach of the new Accord: they are more likely to be stable than market prices and probably less procyclical than internal ratings. Such an approach is also probably easier to implement than the latter. The main argument is that external ratings should ensure greater accuracy and consistency of methodologies than internal ratings, which imply having to compare a wider range of practice.

However, external ratings have been criticised recently (IMF (1999)) because of the failure of agencies to give advance warning of the Asian crisis. On these grounds, rating agencies' practice also had a macroeconomic destabilising impact. As a consequence of sharp bank balance sheet deterioration, rating agencies heavily downgraded some of these banks. This decision had a procyclical effect on capital flows, as illustrated by Caballero and Krishnamurthy (1998). Furthermore, downgrades led banks to increase provisions on loans in order to satisfy capital requirements, raising the cost of external finance for firms or reducing lending. Developing an open-economy version of the model of Diamond and Dibvig (1983) on bank runs, the Chang and Velasco (1998) framework can be used to show that such a reduction in bank lending may have resulted in a deepening of the crisis. Such a process relies upon the usual credit channel or financial accelerator effects. This statement can, however, be balanced by the 1998 IMF report on international capital markets, which acknowledges the agencies' proven track record in the US market. The report also insists on the fact that ratings may have been stabilising rather than destabilising during the Asian crisis, to the extent that downgrades were much less severe than the surge in loss probabilities implied in the risk premia demanded by the market.

Nevertheless, rating agencies are private companies, in fierce competition with one another and accountable to shareholders who are motivated to earn dividends as the cycle expands. This does not prevent these external rating agencies from being procyclical as well. Furthermore, Altman and Saunders (2000) suggest that a capital adequacy system built around traditional agency ratings may

follow rather than lead the business cycle, resulting in an enhanced rather than a reduced degree of instability in the banking system.

Although banks may remain the principal providers of loans, increased competition between banks and credit markets has also led to a situation where the most creditworthy bank customers can obtain credit on better terms from credit markets than from their banks. As a consequence, the average credit quality of the remaining bank loan has probably declined. According to this statement, managing credit risk is generally perceived as a very challenging issue which the development of credit risk models tries to address (cf Carey (2000) or Herring (1999) for recent references). However, credit risk models also face the problem of assessing credit risk accurately. Although some of these models rely on sophisticated approaches, the assessment of risk is generally based on recent bank experience since, here again, risk assessment is based on a horizon which is shorter than a complete business cycle. Therefore, credit risk approaches are not immune to the procyclicality criticism.

The envisaged reform improves the previous accord by focusing on risk assessment and trying to take into account bank asset quality. However, it does not seem to reduce the procyclicality of banks' behaviour. Alternatives, such as fair value accounting, are also envisaged. One is thus led to ask to what extent such an alternative deals with the procyclicality issue.

### **3. Fair value accounting**

Under historical cost accounting, changes in value are not recognised until realised. Under full fair value accounting, unrealised holding gains and losses are recognised in current earnings. In view of the steady development of supposedly efficient financial markets, it is assumed that a "*fair value*" can be calculated for any asset or liability, even a non-traded one, by comparison with market valuations of instruments or types of risks with similar characteristics. Proponents of full fair value accounting believe that full fair values might better reflect underlying economic values and might improve the quality of information available to investors and regulators because this method of measurement captures changes in risks occurring during the holding period. It would also allow enterprises less latitude to "*manage*" earnings, thereby enhancing the comparability of financial statements.

Under the current system of partial fair value accounting, in most countries financial instruments held for trading ("*trading book*") are measured at fair value and instruments held longer term ("*banking book*") are usually recognised at amortised cost. Derivatives are accounted for in the same manner as the item hedged.

For accounting purposes, the IASC<sup>2</sup> favours fair value over historical cost plus accrued earnings. According to the provisions of IAS 39, all derivatives and financial instruments held for trading or available for sale will be shown at fair value.<sup>3</sup> Assets held to maturity, loans and most financial liabilities will be accounted for at amortised cost.

This extension of the use of fair values in accounting for financial instruments is part of a longer-term project assigned by the IASC to the Joint Working Group of Standard Setters (JWG) to develop proposals for the use of full fair value accounting for all financial assets and liabilities in the primary financial statements (Basel Committee on Banking Supervision (2000)).

#### **3.1 According to its proponents, full fair value accounting might improve market and regulatory discipline**

Berger et al (1995) argue that the book value measure of regulatory capital does not reflect a bank's ability to withstand a loss without imposing a cost on creditors or the constraint on moral hazard. Using capital ratios and net worth requirements based on full fair value accounting, regulators, by measuring true net worth, could close a bank before capital is fully dissipated. For example, using fair value

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<sup>2</sup> International Accounting Standards Committee.

<sup>3</sup> IAS (International Accounting Standard) 39, "*Financial Instruments: Recognition and Measurement*", implementation date: January 2001. Financial instruments include shares, bonds, loans and derivatives.

accounting, regulators would have addressed the savings and loan crisis in the United States earlier (Barth et al (1995)).

Full fair value accounting would also create a framework that compels bank managers themselves to confront portfolio problems as they develop (Berlin et al (1991)).

Furthermore, full fair value accounting would be superior to the current “*mixed*” historical cost/market value model. According to Jackson et al (2000), the “*mixed*” model is not sustainable because banks tend increasingly to view their exposures on a “*whole bank*” basis. Therefore, hedging strategies do not fit easily in this model.

### **3.2 However, reservations or concerns have been expressed regarding the extension of fair value accounting on five grounds**

#### **3.2.1 Fair value accounting and the principle of prudence**

Fair value accounting considers latent profits and latent losses similarly. However, a prudential attitude does not count latent profits except on liquid instruments. Thus, the impact of this choice can be strong as regards the volatility of financial information.

#### **3.2.2 Full fair value accounting could impair the “*special*” function of the banking system**

Berger et al (1991) underline that full fair value accounting is not consistent with the view that bank lending is “*special*”. The definition of a market value for a bank loan is more in line with a view of banks as portfolio managers of securities than as resolvers of information and monitoring problems.

Furthermore, full fair value accounting could enhance the procyclical character of bank lending. Berlin et al (1991) assert that capital requirements based upon current market values may impair the banking system’s “*special*” function as a backup source of liquidity for the real sector of the economy during periods of stringency in direct credit markets. Bank credit positions could more closely mirror those of direct credit markets.

#### **3.2.3 Practical measurement and verification issues in defining full fair values**

Under full fair value accounting, the book value of unmarketed bank instruments would have to be adjusted for changes in the credit quality of the instruments’ counterparties and in interest rate levels. The choice of the method to be used in the present value calculation of non-marketable assets and liabilities raises a number of difficult issues (Berger et al (1999), Jackson et al (2000)).

For example, according to Jackson et al (2000), in the case of loans, (i) contractual returns could be discounted using the current yield on corporate bonds with a similar rating; (ii) expected losses could be deducted from future cash flows before discounting using the current expected return on similar types of loans; or (iii) in an approach preferred by the authors, contracted payments on loans would be discounted using the current yield at issue on new loans of a similar type.

Therefore, there are a number of possible implicit values that could be assigned to non-marketable assets and liabilities previously held at cost. The private nature of the information used could create a verification problem for regulators and auditors. According to the Basel Committee on Banking Supervision (2000), the difficulties in calculating reliable fair values in some countries could call into question the auditability of these values.

Moreover, the use of a current rate of interest in the present value calculation raises the issue of whether it would result in heightened volatility in values and net worth and might encourage short-termist behaviour.

#### **3.2.4 Earnings of banks could become more volatile as realised gains and losses are passed through to the income statement**

Critics of extended or full fair value accounting argue that it could have adverse effects on financial stability. Earnings figures based on variations in market prices are likely to be more volatile than those based on historical cost. This increased volatility does not reflect the underlying economic volatility of banks’ operations. For many banks, “*trading book*” activities are fundamentally different from “*banking*”

*book*” activities and risk management is not the same in both cases. Most bank assets and liabilities are still likely to be held to maturity. Variations in the market value of an instrument held to maturity do not represent a risk as long as the financing of the holding is secured. Therefore, changes in the fair value are not clearly real changes in income or capital.

Moreover, introducing more fair value accounting on the asset side of the balance sheet while reporting most liabilities at cost, such as under the provisions of IAS 39, might not reflect the reporting bank’s underlying management practice, for example in the case of matched asset and liability positions, but would increase the risk of volatility in reported earnings (Basel Committee on Banking Supervision (2000)). This increased volatility could lead to inefficient capital allocation decisions by investors, thus raising banks’ cost of capital.

On the other hand, Berlin et al (1991) question the social welfare benefits arising from bank “*income smoothing*”: reporting accounting numbers that reflect current economic values should presumably increase the efficiency and quality of accounting information.

According to Jackson et al (2000), whether full fair value would lead to more volatile net worth would depend on the extent to which a bank hedges its interest rate risk and on the impact of the treatment of loans. Since the value of loans is more directly dependent on the evolution of the economic cycle than on interest rate changes, it does not generally exhibit sharp fluctuations. If this characteristic were taken into account in the determination of the value of the loan book, volatility would be limited.

However, it could be argued that the use of a current market rate in the present value calculation would generate volatility.

The available empirical evidence on the effects of partial fair value accounting (eg Barth et al (1995), Yonetani and Katsuo (1998)) shows that earnings are significantly more volatile when using fair value accounting for investment securities than when using historical cost. But the market does not seem to perceive this additional earnings volatility as additional risk since share prices do not reflect the incremental volatility.

However, Yonetani and Katsuo (1998) suggest that the impact of the additional volatility could depend on the level of bank capital. Focusing on banks with low Basel capital adequacy ratios, they find, in the case of Japan, that fair value earnings volatility is reflected in their share price, thereby raising their cost of capital.

The results of these empirical studies should, however, be qualified since the introduction of full fair value accounting would represent a “*regime change*” liable to lead to a change in investors’ and banks’ behaviour.

### **3.2.5 Fair value accounting and monetary policy**

The potential increase in volatility under extended or full fair value accounting raises the issue of the interferences between the choice of accounting principles, monetary policy and financial stability, particularly in the light of the recent crisis in Asia.

For example, in a developing country context, the central bank may hesitate to raise interest rates sufficiently if this tightening of monetary policy could lead to the collapse of a fragile banking system (Mishkin (1999)). Increases in interest rates can have a negative effect on bank balance sheets: if the assets of a bank have a longer duration than its liabilities, a rise in interest rates lowers the value of assets more than it raises the value of liabilities, thus causing a decline in net worth; moreover, the already high proportion of non-performing loans, because of excessive risk-taking before the crisis, is liable to increase. This known weakness of the central bank, which increases the vulnerability of the country to crises, could be compounded if fair value accounting is applied, creating additional volatility.

However, one of the explanations of this short-term conflict between the countercyclical role of monetary policy and financial stability considerations is the deterioration of bank balance sheets prior to the crisis. To prevent future financial instability, countries need to rebuild their regulatory and supervisory systems.

Given the range of issues involved and their complexity, Jackson et al (2000) conclude that a shift to full fair value accounting would be premature. The Basel Committee on Banking Supervision (2000), noting that there is uncertainty as to the benefits of fair value accounting and a lack of guidance in determining fair values, comes to a similar conclusion.



Alternative approaches to full fair value accounting have been suggested in the literature, for example adjusting the loan loss reserve to enable capital to reflect changes in the credit quality of the loan portfolio (see Berger et al (1991), Jones and King (1995)). Jackson et al (2000) note that much could be achieved, even without a move to full fair value accounting, to ensure that accounts more closely reflect underlying economic values and suggest an industry debate on the use of expected loss provisioning.

Several routes are available and need to be studied further with respect to achieving the objective of minimising the potential procyclical behaviour of the new Capital Accord.

#### **4. The future Basel Accord provides some remedies against procyclicality**

(a) Theoretically, pillar 2 provides supervisors with the possibility to devise specific instruments or procedures to adjust the level of capital to a bank's risk profile with respect to the capital requirements under pillar 1. To produce countercyclical effects, this case by case adjustment needs, however, the implementation of common criteria and objectives at the banking system level. Through supervisory review (pillar 2), supervisors should verify that regulatory capital is adequate with respect to economic capital. *Unexpected losses*, which are theoretically covered by economic capital, are likely to depend on the volatility of losses though, and hence on the economic cycle. A correct capital allocation will then have to be sensitive to the economic cycle. It is argued that a way to reduce this procyclicality could be to encourage banks to maintain sufficient capital cushions in order to insure against future downturns but this would remain a case by case approach from which it is difficult to expect countercyclical effects at the macroeconomic level.

(b) Alternative routes may also be studied under pillar 3 (market discipline). Increasing market transparency may theoretically lead to a more rapid and more accurate assessment of a bank's ability to manage its risks, and therefore increase pressure on bank managers to promptly address areas of weakness, leading to a timely revaluation of capital building. However, financial markets tend to reinforce the procyclicality of banks' behaviour. Indeed, shareholders tend to be rather procyclical by nature, requiring higher profits from banks in periods of upswing while driving them to be more risk adverse in periods of downswing.

#### **5. Dynamic provisioning may have the advantage of addressing several causes of financial instability**

First, the primary line of defence against financial instability is effective risk management at banks themselves, including adequate provisioning. The second line of defence is effective external control over banks, notably strong banking supervision. These two elements are mutually reinforcing.

It may, however, be argued that a way to lessen the sensitivity of banks' capital requirements to economic cycles could be to mitigate bank margin volatility to enable a continuous growth of bank capital, rather than trying to reduce bank capital fluctuations. This could be done using dynamic provisioning. *Expected losses* are in theory covered by margins. However, current accounting practice deals only with *actual losses* and *not expected losses* and risks usually arise with a lag in time which may not match anticipated cash flows. Potential cash flow and asset mismatches may then affect banks' profits and ultimately their capital. *Dynamic* or *forward-looking* provisions could be designed to supplement margins for the *timely* cover of expected losses. In addition, dynamic provisioning would be an in-built mechanism which would be more market friendly than discretionary capital requirements from supervisors.

The adoption of rules to encourage more prudent behaviour must make sense for both banks individually and the financial system as a whole. From this point of view, it may be worth exploring more dynamic or forward-looking provisioning techniques.

At an aggregate level, more dynamic provisioning might play a countercyclical role.

Current provisioning policies adopted by almost all credit institutions do not allow institutions to measure the future risk associated with their portfolios over the lifetime of their exposure at risk and for

the duration of the economic cycle. As a result, asset quality generally deteriorates at the bottom of the cycle, the effects of which are accentuated by the need for provisioning.

Moreover, as mentioned previously, capital adequacy ratios tend to come under pressure in recessions as provisioning is often found to be inadequate. Banks, facing difficulties in raising new capital in such circumstances, may be then forced to curtail lending. A credit crunch in recessions will further depress output, and have additional repercussions for the quality of banks' assets.

The implementation of an insurance-based technique, such as establishing a minimum level of provisioning for new lending, would allow banks to cover their (statistically) expected losses with such ex ante provisions and, accordingly, make capital fully available to absorb unexpected losses. As a result, capital would become less prone to cyclical downturns. Banks would consolidate their creditworthiness and better protect their depositors, employees and shareholders, and hence the financial system as a whole.

At an individual level, more dynamic provisioning might help financial institutions to improve their pricing policies and induce them to develop more sophisticated approaches in credit risk management such as Raroc (Risk-Adjusted Return On Capital)<sup>TM</sup> techniques.

Intensified competition is one significant trend in financial systems. As a result, in order to preserve their positions, banks may be tempted to underprice their risks, notably by offering low rates and then squeezing their margins.

Moreover, this is an opportune moment to encourage more dynamic provisioning.

Most banks are benefiting from the current economic situation and are registering increasing net profits. By assigning part of these retained profits to the coverage of their future expected losses, they can make capital more available to cover unexpected risks.

Prompted by the recognition of the internal ratings-based approach (IRBA) in the Basel Accord review, banks are heavily involved in the development of internal mechanisms to calculate expected and unexpected losses. Given the costly changes that the IRBA will imply for banks' information systems, now is the right moment to draw all the benefits from these efforts.

## 6. Dynamic provisioning can already be observed in international practice

An examination of existing regulations and practice in the main OECD countries shows that dynamic provisioning is already used in Europe and in Japan, though in different ways. In some other countries (like the United States), regulators<sup>4</sup> use similar techniques based both on the assessment of expected and potential losses associated with banking books and the constitution of "*statistical provisions*" to cover them.

At this stage, such a system is compulsory only in Spain and Portugal. In other European countries, optional systems exist, including several incentives (tax incentives in Germany and Italy for instance). Systems differ from one country to another, in the calculation of provisions and in the extent of the scheme (prudential, accounting and/or fiscal). Nevertheless, in general they are based on the definition of a threshold of provisions as a fixed percentage of the amount of loans, supplementing allowances for bad loans.

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<sup>4</sup> In the United States, the agencies (Securities and Exchange Commission, Federal Deposit Insurance Corporation, Federal Reserve Board, Office of the Comptroller of the Currency and Office of Thrift Supervision) have provided guidance on the Allowance for Loan and Lease Losses (ALLL) methodologies (Interagency Policy Statement on the Allowance for Loan and Lease Losses (ALLL), 21 December 1993). This guidance has recently been supplemented by a proposed policy statement (Federal Financial Institutions Examination Council, Proposed Policy Statement on ALLL Methodologies and Documentation for Banks and Savings Institutions, September 2000). The determination of amounts of ALLL should be based on management's current judgments about the credit quality of the loan portfolio and should consider all known relevant internal and external factors that affect loan collectibility as of the reporting date. In particular, loan losses for groups of loans can be estimated through the application of loss rates to the groups' aggregate loan balances; such rates reflect historical loan loss experience for each group of loans, adjusted for relevant environmental factors (eg industry, geographical, economic and political factors) over a defined period of time.

Spain in particular has developed its regulations regarding dynamic provisioning and strengthened them with a new scheme, applying from 1 July 2000, with an explicit countercyclical aim, based either on the statistical failures experienced by each bank (internal ratings approach) or on a standard approach defined by the Bank of Spain (circular 9/1999, 17 December 1999).

Beyond actual differences in national regulations, it should be noted that several of the main European, US and Japanese credit institutions currently apply dynamic provisioning to several parts of their balance sheet.

## **7. A wider application of dynamic provisioning is still facing current accounting and taxation principles**

To sum up, the main accounting rules in the world support provisioning based on human judgment, loan by loan or regarding homogenous group of loans. As the border between future losses, which have not to be provisioned, and latent losses, which should be provisioned, is very thin, there is already a scope to recognise dynamic provisioning. Yet the current accounting and taxation framework may constitute hurdles in many countries where risks on specific loans need to be identified prior to the allowance of a provision, responding to the concern of discouraging profit smoothing and tax management. In this sense the concept of expected loss, however it is determined, is still far from current accounting notions. The accounting task force of the Basel Committee is actively studying this issue in the framework of the reform.

Consequently it can be worth reconsidering the issue from the prudential viewpoint into which consideration these provisions should be made. Assuming expected losses could not be covered by provisions, one option is to establish additional regulatory provisions for credit institutions outside the statutory accounts. Under this approach capital would have to be restated taking into account any regulatory provisions not included in the accounts. For instance excess margins over the full cost of funding may be used as covering future losses like in the credit cards lending business. This possibility should also be discussed contemplating it in terms of disclosure under pillar 3.

## **8. How dynamic provisioning might work**

The first step would be to determine the expected losses for each category of loan. This exercise may be best performed by banks from their own data on default rates, but in the meantime authorities may also consider a standard approach via a minimum provisioning requirement for each main type of loan.

The second step relates to accounting procedures:

- the requirements could include either the outstanding loans or new ones (as in insurance);
- the accounting and prudential status of the provisions need to be discussed: should they be considered as general allowances and can they be partly included in capital? The answer to this question is also linked with the tax legislation. Dynamic provisions are similar to general provisions in the sense that they are not related to a specific loan, but they cannot be included in capital to the extent they cover expected losses. However, dynamic provisions sometimes exceeding expected losses could be considered as elements of the general provisions admitted in tier two of the Cooke ratio, the main part being deducted from the denominator.

The last step regards the evolution of the mechanism. On the one hand, the provisioning rates must be constantly reassessed. On the other hand, the occurrence of risks must imply specific provisions that can be drawn from the amount of dynamic provisions.

## **9. Conclusion: dynamic provisioning may be a supplementary factor to financial stability**

The current period can be considered by many as an exceptional one in terms of growth and funding.

American supervisors have declared *“banks are now at a critical phase in the credit cycle... After years of high quarterly profits, low delinquency rates and comfortable capital ratios, it is easy to forget the fundamentals of sound lending... It would be a substantial contribution to address potential credit problems pre-emptively before these problems have time to grow from minor disturbances to major disruptions”* (Mc Donough, 2000). French supervisors share this view and are considering how forward-looking provisioning may encourage banks to maintain their capacity to face an economic reverse.

Reliable information provided by banks about this could improve confidence in the stability of their incomes and their soundness. Investors and depositors may find advantages in this proposal. From a macroeconomic point of view, this mechanism may reduce “stop go” banking policies on lending and minimise effects on growth.

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