

Financial Stability Review



2002 Issue 1



National Bank of Belgium

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FOREWORD

By focusing on controlling inflation, central banks have made the concept of stability central to their action. Price stability does not only contribute to a more regular growth path for the real economy, it also helps to eliminate a major source of disturbance in financial markets by alleviating uncertainties and distortions created by large price fluctuations. While central banks are thus concerned about financial stability, this function should not be considered as a mere by-product or extension of their traditional monetary policy objective.

On the operational level, the key role played by central banks in the money creation and circulation process places them at the crossroads of most financial flows. In that capacity, central banks are the ultimate provider of liquidity to the system. They also contribute directly to strengthening the stability of financial markets by developing secure and efficient payment and settlement mechanisms. Synergies also operate in the opposite direction, as a financial system which functions smoothly will increase the speed and efficiency of monetary policy impulses.

A similar duality exists on the analytical level. Central banks have a long tradition of examining how changes in financial conditions might affect the real economy. While such analyses remain essential, central banks are also increasingly concerned by the vulnerability of the financial system to fluctuations in real activities. So the causalities also have to be reversed and due attention must be given to the impact that developments in the real economy could have on the stability of the financial system. It is in order to publicly address these concerns and communicate its role in promoting financial stability that the Bank is launching the publication of this new annual Financial Stability Review (FSR).

In contrast to monetary stability, which can conveniently be gauged by a quantitative objective, financial stability does not lend itself to a neat definition. More often than not, the objective is described by reference to its opposite, i.e. the absence of financial instability. The latter, in turn, is defined as a situation or an environment that makes banks and/or financial markets unable to channel funds

efficiently and effectively from savers to borrowers with productive investment opportunities. As the system is no longer able to overcome asymmetric information problems and to perform risk-sharing services, there is an ensuing contraction in activity and a reduction in general economic welfare.

Stability does not, however, imply immutability or even an undisturbed environment. Like firms in all other economic sectors, financial institutions are subject to competitive pressures. The challenge is to let these market mechanisms play their full role while avoiding major malfunctioning of the financial system, which would entail systemic risks for the whole economy. This objective requires three types of action: surveillance, prevention and resolution.

These three themes appear in the various articles in this first issue of the FSR. The importance of surveillance is emphasised by the introductory article devoted to an overview of present financial stability conditions in Belgium, which should become a regular feature of future issues of this FSR. Potential threats to financial stability are listed, whether they are linked to the international environment, changes in the financial position of the Belgian private sector or developments inherent in the banking sector itself.

Among the latter, the blurring of frontiers between the various segments of financial markets is certainly a crucial development. Belgium is actually at the forefront of these changes through the emergence of major complex financial institutions, notably in the form of bancassurance groups. The second article in the FSR analyses issues raised by those large entities in terms of risks and surveillance. This topic is all the more important in Belgium because these groups have often been built up through cross-border mergers or acquisitions.

The third article, on the exercise of oversight activity in Belgium, concerns the point where surveillance and prevention meet. Indeed, oversight has a dual function. It includes the design of norms and standards to promote sound payment and securities settlement systems as an essential tool of prevention. It also covers the monitoring of the effective application of these norms. The presence in Belgium of several systems operating throughout Europe, or even worldwide, will also justify regular analysis of this activity in future issues of the FSR.

Crisis prevention requires not only suitable operational devices but also adequate institutional and legal arrangements. One such aid is the existence of clear and comprehensive regulations on financial collateral. Indeed, this instrument plays a key role in mitigating the risk for many financial operations, and it is no coincidence that the development of more efficient payment and settlement systems has gone hand in hand with the general spread of collateralisation. The challenges and issues raised by the growing use of collateral, and the answers provided by the recent EU Directive on this matter, are the topics of the fourth article in this FSR.

Finally, the crisis resolution dimension is addressed in the international context of sovereign debt restructuring. This issue has received renewed attention with the current discussion on private sector involvement and, more specifically, the recent proposal by Mrs Krueger, First Deputy Managing Director of the IMF, concerning the implementation of a Sovereign Debt Restructuring Mechanism. These discussions have in fact reactivated the recurrent debate which, some years ago, triggered the Rey Report on private sector involvement, a report drafted with an active contribution by the Bank. The last article in the FSR re-examines the Rey Report and analyses to what extent recent developments warrant a new approach to the problems faced by sovereign debt markets.

The diversity of topics covered in this first FSR illustrates that financial stability issues have to be studied from a wide variety of angles. To assess the macro-determinants of financial stability and to understand the micro-foundations of risk-taking activities, it is essential to combine analysis of economic variables, knowledge of the legal and institutional environment and research on new financial techniques and instruments. Such an agenda can obviously not be pursued in isolation. This FSR should serve to stimulate not only discussion but also co-operation in Belgium between authorities in charge of macro- and micro-prudential supervision and financial market operators. It should also allow the Bank and other institutions invited to contribute to future issues of this Review to make their voice heard in the various discussions held in international fora.

*Brussels, June 2002
Guy Quaden
Governor*

EXECUTIVE SUMMARY

The general conclusion of this Financial Stability Review finds that the Belgian banking sector, during the last few months, has coped reasonably well with a difficult international environment, marked by a slowdown in worldwide growth, the events of September 11th, a fall in most equity markets, the Argentine default and some high-profile corporate bankruptcies.

This achievement needs to be seen in perspective. In most industrialised countries, financial markets have proved resilient, adjusting rather well to this succession of adverse shocks. The efficiency and stability of the financial system has clearly benefited from the sound market infrastructures, which stood up adequately

to the challenge raised by the events of September 11th. In particular the payment and settlement systems continued to operate almost continuously and switching to alternative transaction channels in the most delicate situations enabled market closure to be kept to the absolute minimum.

By thus helping to limit the potentially large negative repercussions of the above-mentioned shocks for the global economy, the resilience and the flexibility of financial markets may have been a major factor in the restoration of confidence in a recovery of world economic growth in 2002. However, the USA and euro area stock markets have only partially benefited from this

THE OVERSIGHT RESPONSIBILITIES OF CENTRAL BANKS ACCORDING TO THE CORE PRINCIPLES FOR SYSTEMICALLY IMPORTANT PAYMENT SYSTEMS

Payment infrastructures are of paramount importance for maintaining stable and efficient financial markets. The responsibilities of central banks with regard to financial stability have led them to develop a wide variety of initiatives, many of them relating to payment systems and payment infrastructures. These central bank activities culminated in the CPSS report "Core Principles for systemically important payment systems", identifying 10 Core Principles and 4 central bank responsibilities. The 10 Core Principles deal with the risks inherent in payment systems, such as legal risks, credit risks, liquidity risks and operational risks, as well as issues such as governance, transparency, access criteria and efficiency. The central bank responsibilities constitute the basis for setting central bank policies in the field of payment systems.

In the case of the National Bank of Belgium, these central bank responsibilities inter alia relate to infrastructures that have a worldwide dimension, such as SWIFT and Euroclear. This means that the NBB oversight of these systems is motivated by their role for international financial stability and that it entails an international co-operation with other authorities, based on the principles for international co-operation, which were laid down in the Lamfalussy report. This has been called the lead overseer system in which one central bank, in this case the NBB, has the primary responsibility for oversight and co-operates with other central banks.

improved outlook for global economic growth due to the persistence of historically high price earnings ratios and the continued downturn in corporate profits. Moreover, the artificial inflation of the earnings reported by some quoted corporations has raised concerns over the integrity of some corporations' financial statements willing to use "aggressive accounting techniques" to embellish their results.

In emerging markets, the most significant development took place in Argentina where an unsustainable fiscal policy gradually evolved into a full-blown debt, currency and banking crisis in December 2001 and the breakdown of the currency board regime in January 2002. This severe financial crisis in Argentina did in general not spill over to other emerging markets.

However, it revived the debate on sovereign debt restructuring and, in particular, the private sector involvement in restructuring mechanisms.

While, in many areas, financial markets have coped adequately with shocks, this adaptability can certainly not be taken for granted and the resiliency of main financial institutions has to be closely monitored. In Belgium, more than in other industrialised countries, such an analysis will focus on the banking sector which retains a prominent role in financial intermediation.

Belgian banks show some specific features which should enable them to withstand the adverse consequences of potential further shocks. In particular, Belgian banks do not seem to be overly exposed to credit risks. Government bonds still

THE REY REPORT REVISITED

The resolution of sovereign debt crises – Recent developments

In the aftermath of the Mexican crisis of 1994, and against the background of increased reliance by sovereign debtors on bond financing in the early 1990s, the Group of Ten published in 1996 a report on "The resolution of Sovereign Liquidity Crises". In order to promote a more orderly resolution of such crises, and hence reduce the huge costs involved, the so-called "Rey Report" put much emphasis on the benefits of including collective action clauses (CACs) in sovereign bond issues through a market-led process. Such clauses were seen as the appropriate way of solving specific creditor representation and co-ordination problems which occur during crises.

Since 1996, the world has seen several new large debt crises in emerging economies, constituting serious threats to international financial stability. The debate on the inclusion of CACs – what is now called a "contractual approach" – has regained considerable momentum at the current stage, as has the debate on a "statutory approach", which would imply the establishment of a sovereign debt restructuring mechanism.

The paper "The Rey Report Revisited" recalls experiences with recent debt crises, and analyses the potential impact of the proposals put forward in the current debate on the behaviour of creditors and debtors. Building on that analysis, the point is made that the statutory and contractual approaches are not only complementary and self-reinforcing, but are even inextricably interlinked, while presumptive access limits to Fund financing act as a catalyst for the functioning of both.

TABLE 1 – FINANCIAL STRUCTURE IN BELGIUM, THE EURO AREA AND THE USA*(Figures on a territorial basis, for the year 1999, percentages of GDP unless otherwise stated)*

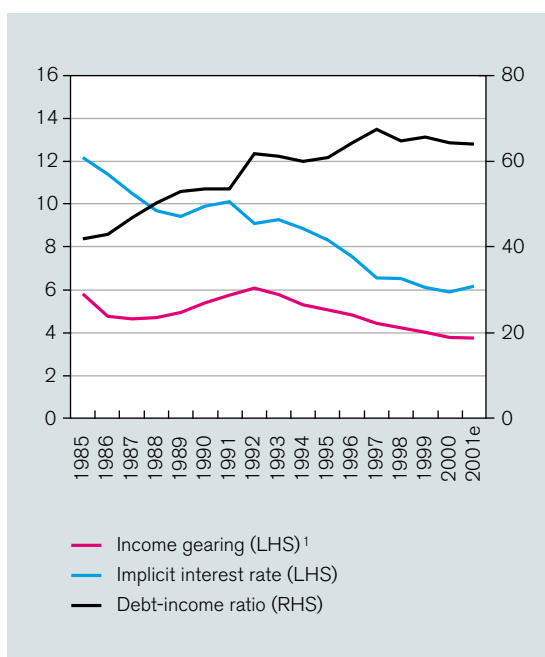
	Euro area	USA	Belgium
Total bank assets	181	99	303
Bank deposits	78	55	111
Debt securities issued by the non financial corporate sector	4	26	8
Stock market capitalisation ...	90	193	77
Number of credit institutions ..	8,351	8,417	119

Sources: NBB, ECB, OECD, IMF, BIS, International Federation of Stock Exchanges.

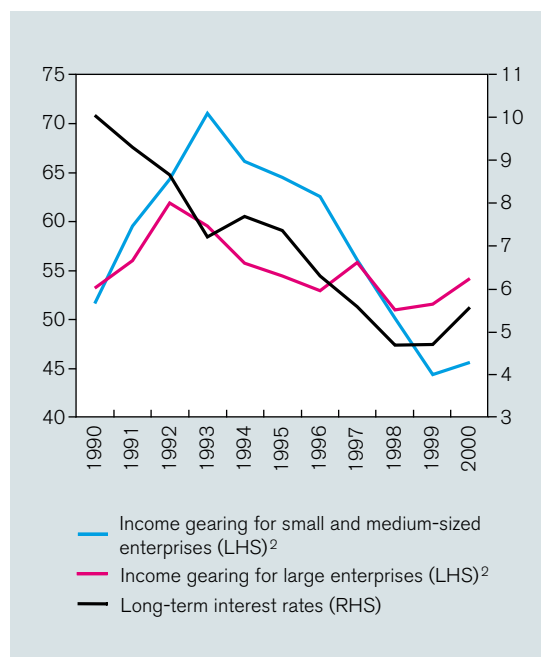
represent a large, although decreasing, part of banks' assets. The aggregated financial position of Belgian households remains healthy. While their debt income ratio has significantly increased

since 1985, stabilising at the level of 70 p.c. in recent years, individuals have at the same time benefited from the reduction in interest rates. By pushing down gross interest payments in proportion to disposable income (income gearing ratio), this fall in interest rates has been an important factor in giving households the confidence to contract more debts. Thanks to this reduction in interest rates, corporations' income gearing ratio has also been decreasing over time for all types of companies. Moreover, corporate clients of Belgian banks are well diversified because they include a large proportion of SMEs, which limits the concentration of risks.

Those characteristics are not new. They have shaped the working environment of Belgian credit institutions for many years and largely explain why the Belgian financial sector has been immune to systemic crises, which have affected several industrialised countries over

CHART 1 – BELGIAN HOUSEHOLDS' KEY RATIOS OF INDEBTEDNESS*(Percentages)*

Source: NBB

¹ Households' income gearing is the ratio of financial charges to disposable income.² Firms' income gearing is the ratio of financial charges to the sum of operational result and financial income.**CHART 2 – ENTERPRISES' INCOME GEARING AND INTEREST RATES***(Percentages)*

the past two decades. However, those foreign examples also indicate that risks mostly tend to develop when banks are facing major structural changes. Belgian credit institutions have certainly not been sheltered from the effects of deregulation and increased competition on financial markets, which has affected behaviour towards risks and the balance between risk and return sought by investors.

Diversification started many years ago. Some banks have been moving into emerging markets, particularly in Central Europe, where their exposure has sharply increased. While the prospect of EU accession is creating a positive environment for the region, public sector and, to a lesser extent, current account deficits have recently been growing in several of those countries. The correction of those imbalances may at times lead to more stressful macro-economic conditions.

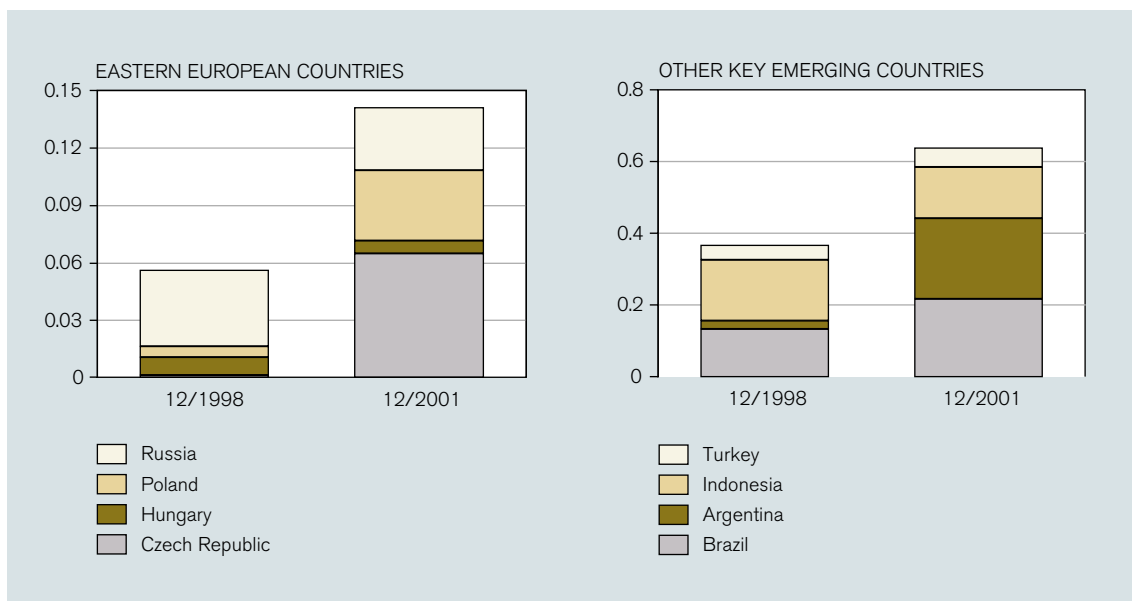
To ensure the profitability of the various segments of their activities, banks are also reviewing

their policy and re-pricing some of their products, bringing them more in line with economic fundamentals. This has been the case in corporate finance, in particular, but also applies to mortgage credits where cross-subsidisation strategies had previously induced banks to propose loans with very thin margins, not always reflecting the true cost and riskiness of the operations. While the economic rationale of this policy change is clear, it may have made credit conditions harder at a time of weakening economic activity.

A worsening in the economic climate is also likely to affect the volume of credits. On the one hand, it may prompt companies to defer investments and, hence, reduce their demand for new loans. Simultaneously, in an economic downturn, the risks previously accepted in a more buoyant environment will materialise in the form of increasing loan losses, leading to a more cautious approach to lending by banks. The trend in credit lines opened by Belgian

CHART 3 - CHANGE IN SOVEREIGN RISKS ON SOME EMERGING MARKETS¹

(Percentages of regulatory capital)

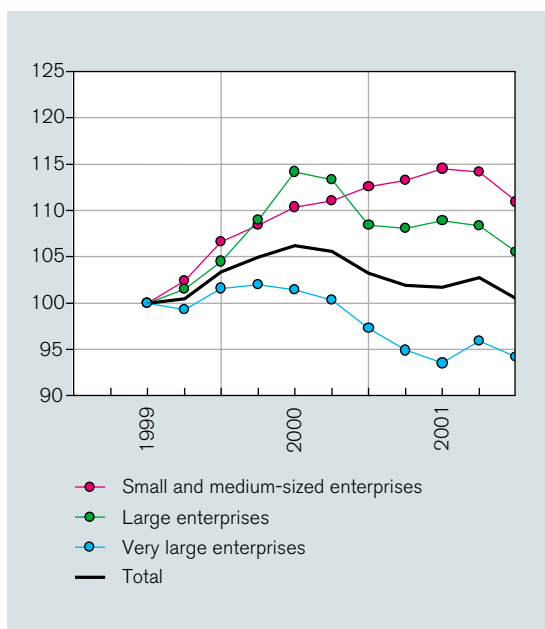


Sources: BIS, Moody's, CBF.

¹ Sovereign risks are measured by multiplying Belgian banks' country exposures by the average annual default probability associated with the sovereign foreign currency ratings attributed to each country.

CHART 4 – OUTSTANDING AMOUNTS OF CREDIT LINES OPENED BY BELGIAN CREDIT INSTITUTIONS TO BELGIAN CORPORATIONS

(Indices end June 1999 = 100)

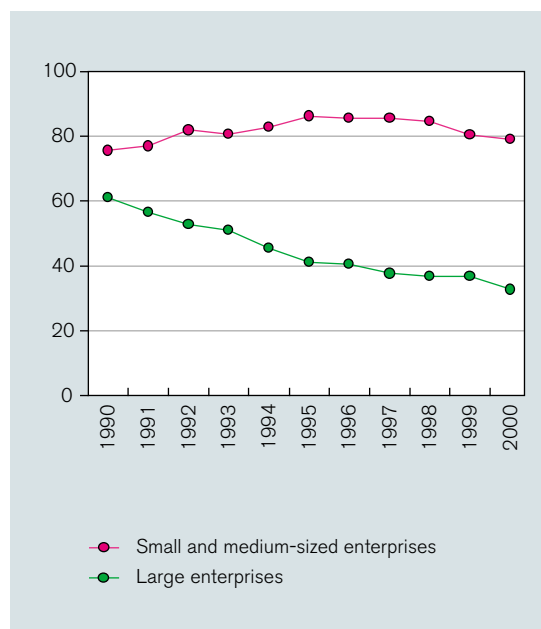


Source : NBB (Credit Register and Central Balance Sheet Office).

credit institutions to domestic companies may be used as a rough measure of the overall importance of this supply effect. The volume of credit lines opened was effectively reduced by more than 5 p.c. between June 2000 and December 2001, but this chiefly concerned large and very large corporations. It has to be noted that the pattern of dependence on bank loans is much lower for those large customers than for smaller corporations. While the ratio of bank loans to capital and reserves remained fairly constant over time at around 80 p.c. for SMEs, it fell from 61 p.c. in 1990 to 33 p.c. in 2000 for large corporations. To the extent that own funds collected by corporations serve as a buffer and are therefore one of the key variables considered by banks when taking their credit decisions, reinforcing the capital base of SMEs is an important priority, not only to strengthen the financial structure of those enterprises but also to facilitate their access to credit.

CHART 5 – RATIO OF BANK LOANS TO OWN FUNDS FOR BELGIAN CORPORATIONS

(Percentages)

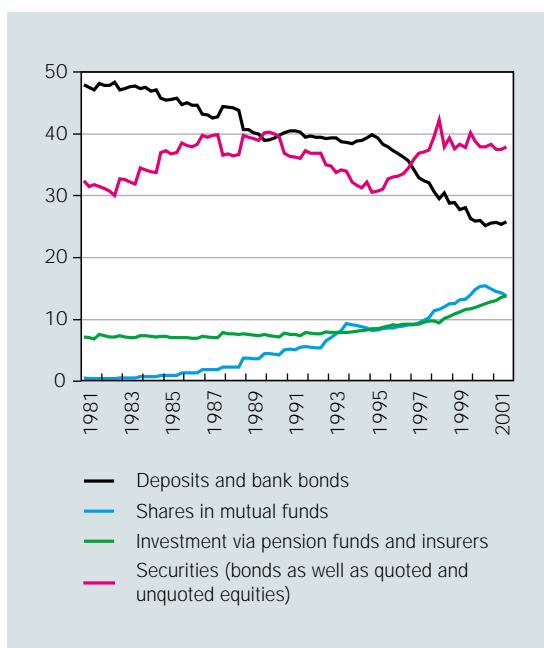


On the liability side, most Belgian institutions have reacted to the reduced demand of households for banks' deposits and bonds by collecting funds through other channels, most notably through mutual funds, and by developing private banking activities. This move has allowed banks to generate new income and, thus, to offset the negative effect, on their profitability, of the overall decrease in the share of credit institutions in the intermediation of households' financial savings.

Another positive effect of this reorientation of activities is that it does not weigh down banks' balance sheets, credit and market risks being taken over by other investors, e.g. pension funds or mutual funds. However, this policy also has its drawbacks. Beside the costs incurred, diversification implies new risks, among them legal and reputation risks, and exposes banks to the volatility of the new sources of income, which are highly dependent on market conditions.

CHART 6 – BELGIAN HOUSEHOLDS' FINANCIAL ASSETS

(Percentages of total assets)



Source : NBB.

Bancassurance is another diversification avenue explored by major Belgian banks. The creation of financial conglomerates has been accompanied by the emergence of a few large institutions. Today, the 4 major banking groups in Belgium are collecting 76 p.c. of domestic bank deposits and granting 79 p.c. of domestic bank credits. So, the diversification of activities pursued within each institution seems to go hand in hand with a concentration in a smaller number of institutions.

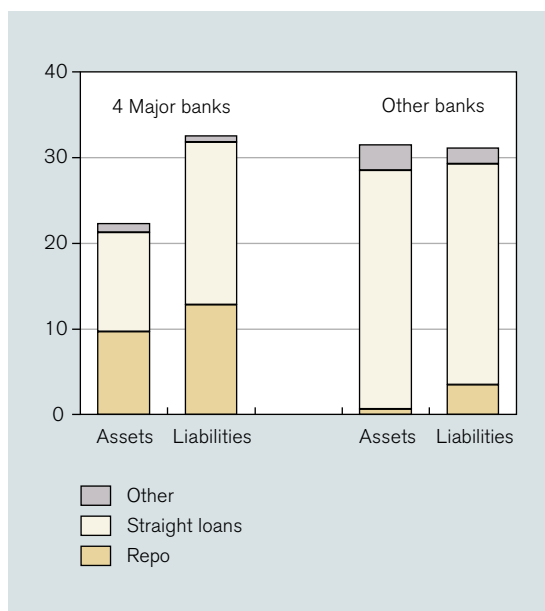
In the meantime, Belgian banks are also operating in a more open environment, the internationalisation of financial markets having been further accentuated by the introduction of the euro. The creation of the Eurozone has substantially increased Belgian banks' access to liquidity beyond their domestic market. This is certainly a positive development, in particular for the 4 largest credit institutions, which are

FINANCIAL CONGLOMERATES

Banking sectors throughout the industrialised world have undergone transformations in recent years, marked by expansion of bank activities beyond those traditionally associated with banking. The formation of financial conglomerates – the combination of banking, securities, and insurance activities – represents the ultimate step in the broadening scope of bank activity. Belgian banks have been particularly active in this area.

The paper "Financial Conglomerates" analyses the emergence of financial conglomerates in comparison with experience for general conglomerates, and it explores the implications of financial conglomerates for financial stability and regulation. The formation of financial conglomerates has been stimulated by financial deregulation, potential synergies across activities, and developing financial markets. Financial conglomerates may well provide benefits of lower return variability and higher profit, in the face of increased competition confronting banks on the asset and liabilities sides of their balance sheets. At the same time, financial conglomerates create new risks—such as regulatory arbitrage and intra-firm contagion when one of the conglomerate's divisions encounters financial distress—that may call into question the effectiveness of existing regulatory constraints.

The proposed Financial Conglomerates Directive focuses on these new risks. The paper discusses how the Directive introduces safeguards against certain practices of regulatory arbitrage and how it aims at limiting internal contagion by insisting on proper risk management procedures and on tight cooperation between banking and insurance regulators.

CHART 7 – INTERBANK TRANSACTIONS: DISTINCTION BETWEEN LARGE AND OTHER BANKS*(Percentages of balance sheet total, data on a company basis)*

Source : NBB.

major net borrowers on the interbank market. At the end of December 2001, interbank borrowings represented 33 p.c. of total liabilities of the 4 major Belgian banks, while interbank lending amounted to 22 p.c. of their total assets. Those sizeable positions have the potential, by linking together individual credit institutions, to transmit shocks originating in one individual bank to the rest of the system.

To reduce this potential source of contagion risks, many banks – among them the major Belgian credit institutions – are substituting repurchase agreements for straight loans. While this collateralisation technique represents a convenient way to secure interbank transactions, to fulfil its stabilising functions, it needs to be backed by strong legal underpinning.

While Belgian credit institutions have to adjust to numerous developments, the macroeconomic

FINANCIAL COLLATERAL AND LEGAL UNDERPINNINGS OF FINANCIAL STABILITY

The use of financial collateral has grown rapidly during the two last decades and is expected to grow even more under the Basel II capital requirements. Whereas collateral enhances the efficiency of financial markets, the widespread use of this instrument also raises supervisory issues. First, at a time when asset prices are under pressure, the need to sell assets in order to meet margin calls or to realise collateralised assets upon default of a counterparty could add to the existing pressure. Second, collateral transforms credit risk into operational and legal risks, especially in a cross-border context. With the active support of market associations, the EU has recently adopted a directive aiming at eliminating the main legal obstacles to the cross-border use of collateral.

The Financial Collateral Directive is thus an important tool for increasing the legal certainty of collateral arrangements. Nevertheless, it will achieve the goal of creating a single market for secured transactions only if Member States do not make extensive use of the opt out provisions that have been included in the Directive for some specific transactions. In addition, much will depend on the concrete design and management of financial collateral arrangements. The future development of collateralisation will also be shaped by the final provisions of the new Basel II capital requirements for banks and investment firms. As regards financial collateral arrangements involving EU banks and investment firms, only arrangements covered by the new directive should qualify for lower capital requirements.

environment in which they operate, in general, has become more conducive to financial stability. A sounder fiscal policy has gradually relieved the public finance constraint, reducing the macroeconomic risks related to unexpected fiscal tightening. A monetary policy targeted at price stability is also contributing to a more predictable pattern of interest rates, which undoubtedly facilitates the

conditions for engaging in maturity transformation activities. While this new orientation in economic policy exerts a stabilising influence, the financial services industry is still subject to the radical changes induced by IT developments, deregulation and globalisation of financial markets. The continuous adaptation to this evolving environment requires particular skills and vigilance.

FINANCIAL STABILITY OVERVIEW

1 INTRODUCTION

This overview presents a survey of recent and prospective developments relevant to the stability of the Belgian financial system in order to assess risks of disruption. As mentioned in the foreword, both the causes and the effects of such potential risks are quite diverse. Disruption can be triggered by the bankruptcy of individual institutions, by extreme market price volatility or by the collapse of market liquidity¹. In turn, those crises are liable to affect each of the three key functions performed by financial markets, namely the management of risk, the provision of liquidity and the processing of information.

Financial instability usually results from the interaction of an initial shock and a mechanism through which the shock is spread to other parts of the financial markets, so creating a systemic problem². While banks are not the only operators in the markets, they play a key role in this sequence, especially in a country like Belgium, which still has a predominantly bank-intermediated financial system. Even when banks do not necessarily trigger the contagion process, they are almost always the main component in the propagation mechanism. For these reasons, the analysis of the banking sector occupies a prominent place in this overview.

Initial shocks at the root of a financial crisis may be idiosyncratic or widespread. Idiosyncratic shocks affect a single financial intermediary. The failure of the internal monitoring system in a particular bank, or the default of a country or a company which a bank has a relatively large exposure to, are just a few examples of this kind of disturbance. Widespread or aggregate shocks concern a large number of institutions at the same time. Sharp fluctuations in financial asset prices, a deep downturn in economic activity or

the breakdown of financial system infrastructures are shocks of a widespread nature.

These shocks can be transmitted through the banking sector along different channels. First, banks are closely interconnected via their participation in the interbank market, their mutual exposures in payments and securities settlement systems and their numerous transactions in some key financial products, such as market and credit derivatives. In this environment, difficulties in one bank can lead to problems at other institutions, with a chain reaction leading to broader financial stress.

Second, the transmission of shocks can take place through a loss of confidence in the financial system, whereby problems with one intermediary are interpreted as being signals of difficulties with others. This lack of discrimination by market agents will be all the more acute when information is difficult to collect or when the relevant institutions are potentially vulnerable. This is, in particular, the case for banks due to the unique feature of their balance sheets characterised by high leverage and high liquidity risk.

Finally, the pro-cyclical character of bank lending can also contribute to the transmission to the financial sector of shocks in the real economy. During economic downturns, credit losses tend to increase, sharpening banks' awareness of risk. This induces these institutions to reduce their supply of funds to the economy, thereby amplifying cyclical fluctuations. Furthermore, these credit cycles may be combined with asset price cycles.³ A decrease in financial asset

¹ See Davis (2001).

² See De Bandt and Hartmann (2000) for an extensive discussion.

³ See, e.g., Kiyotaki and Moore (1997) and Bernanke et al. (1999).

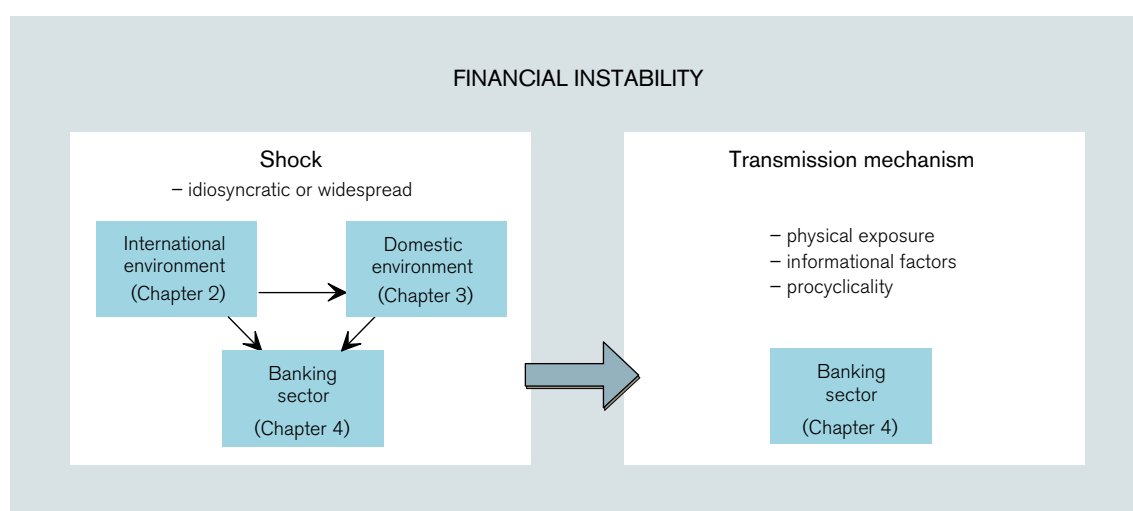
values, be it a fall in equity or in property prices, may reduce firms' net worth and the value of their collateral. This will limit the borrowers' access to external funding or make it more expensive. This, in turn, will cause a decrease in investment spending, further lowering asset prices and net worth.

In practice, the different transmission mechanisms do not necessarily work independently; they often go together and reinforce each other. Moreover, the distinction between the shock and the propagation mechanism is not always clear-cut. As a rule, the likelihood of financial instability increases with the severity of the initial shock and the speed of the transmission mechanism.

In order to monitor the stability of the Belgian banking system we make use of a set of macroeconomic and aggregate microeconomic indicators of financial instability. The focus is on quantitative variables which reflect the

various risks to which the banking sector is exposed. The relevant variables have been identified by reference to academic research in this area and macro-prudential analysis done by other national central banks. In particular, indicators of the health of individual financial institutions have been derived from the set of indicators developed in conjunction with the IMF's financial sector assessment program (FSAP).⁴

This overview is structured as follows. The second chapter analyses developments in the international environment, which will directly or indirectly affect Belgian credit institutions. As Belgian banks are strongly exposed to the domestic economy, more directly through their credits to the private sector, chapter 3 focuses on the resilience of the financial positions of corporations and households. Chapter 4 considers more specifically the implications of these international and domestic developments for the Belgian banking sector.



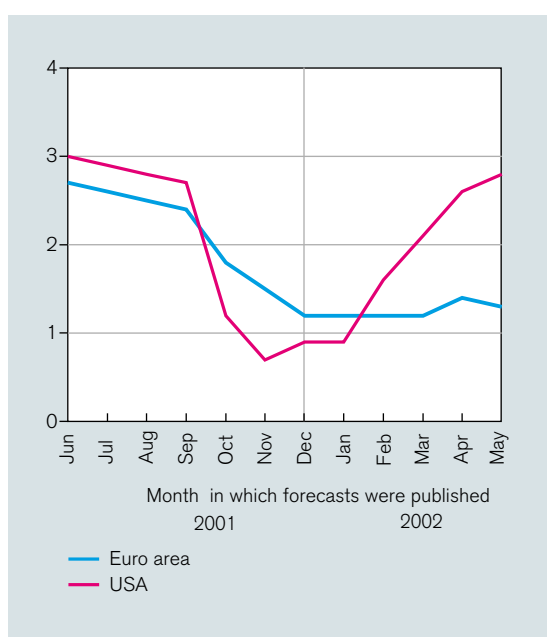
⁴ To analyse the aggregate health of a financial sector, the IMF has developed its so-called CAMELS framework which involves the analysis of the following six groups of indicators: capital adequacy, e.g. capital ratios; asset quality, e.g. sectoral credit risk concentrations and indebtedness of private sector; management soundness; earnings, e.g. return on assets; liquidity, e.g. maturity structure and sensitivity to market risk, e.g. interest rate risk. See IMF (2000).

2 RECENT DEVELOPMENTS IN INTERNATIONAL FINANCIAL MARKETS

Although the international financial system had to cope with a series of important adverse developments in the second half of 2001 – including the consequences of a global economic slowdown, the events of September 11th, the Argentine default and a number of high-profile corporate bankruptcies – financial markets have generally proved to be resilient to these shocks, while displaying a high capacity to adjust and to (re-) price assets in a selective manner. By thus helping to limit the potentially large negative repercussions of the above-mentioned shocks for the global economy, the resilience and the flexibility of financial markets may have been a major factor in the restoration of confidence in a recovery of world economic growth in 2002.

CHART 1 – CONSENSUS FORECASTS FOR GDP GROWTH IN 2002¹

(Percentage changes in GDP at constant prices)

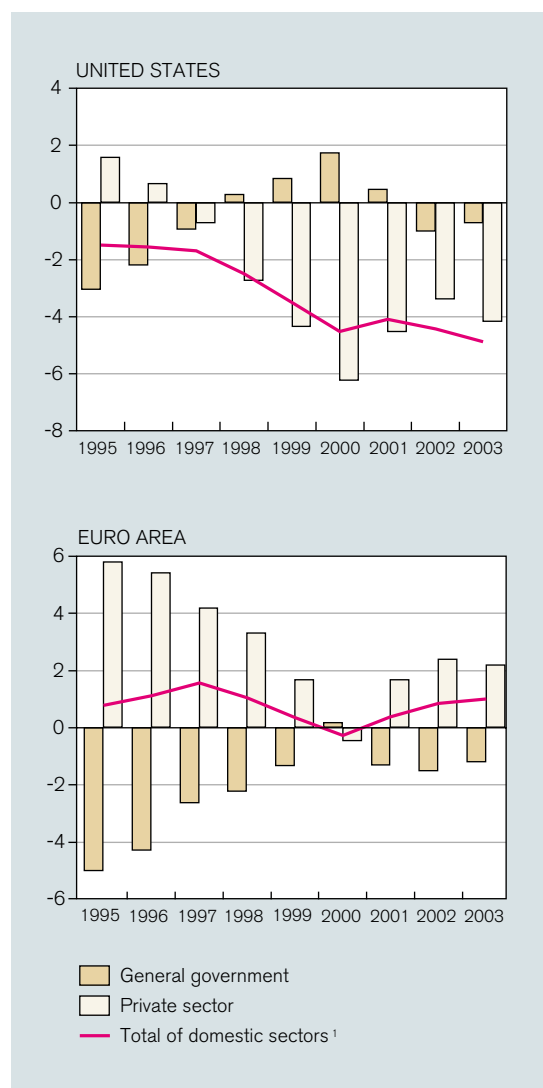


Source : Consensus Forecasts.

¹ Average of the forecasts produced by a group of private sector experts.

CHART 2 – SAVING-INVESTMENT BALANCES

(Percentages of GDP)



Source : OECD (Figures for 2002 and 2003 are forecasts).

¹ Corresponds to the current account balance.

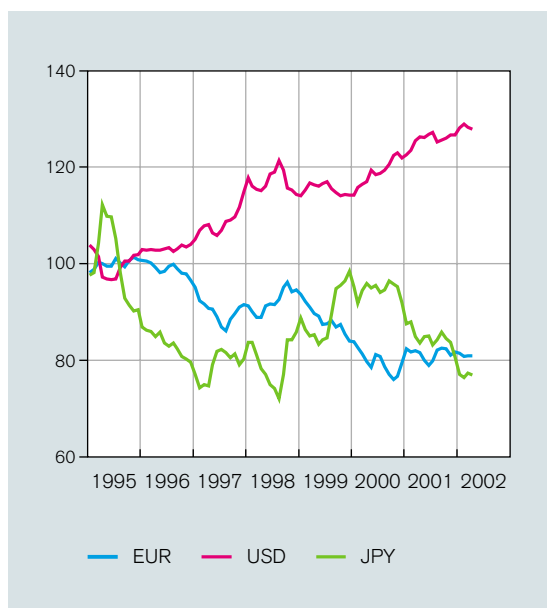
As may be seen from chart 1, growth forecasts for the American economy started to be revised upward from the last quarter of 2001, with the consensus GDP growth forecast for 2002 being raised from a very low 0.7 p.c. in November 2001 to 2.8 p.c. in May 2002. The similar indicator for the euro area, where the economic downturn in 2001 was less pronounced than in the USA, bottomed out towards the end of last year and was revised upward slightly in the second quarter of 2002.

While the swift improvement in the outlook for American growth is undoubtedly a positive development for the global economy, the high volatility in these forecasts may also be interpreted as a sign of uncertainty about the underlying strength and sustainability of the American economic performance. Indeed, the recovery of growth has relied to a large extent on a reduction in the pace of inventory liquidation and on strong consumer spending. Corporate investment spending has so far remained lacklustre.

In this context, it is also noteworthy that the economic slowdown in 2001 has only partially reversed the previous build-up of a large saving-investment imbalance in the American private sector, resulting in the persistence of a high current account deficit (4.1 p.c. of GDP in 2001) (Chart 2). In the euro area, such large imbalances are absent, following the gradual reduction of fiscal deficits in the second half of the 1990s. While the experience in other countries suggests that large imbalances in the private sector may

CHART 3 – REAL EFFECTIVE EXCHANGE RATES

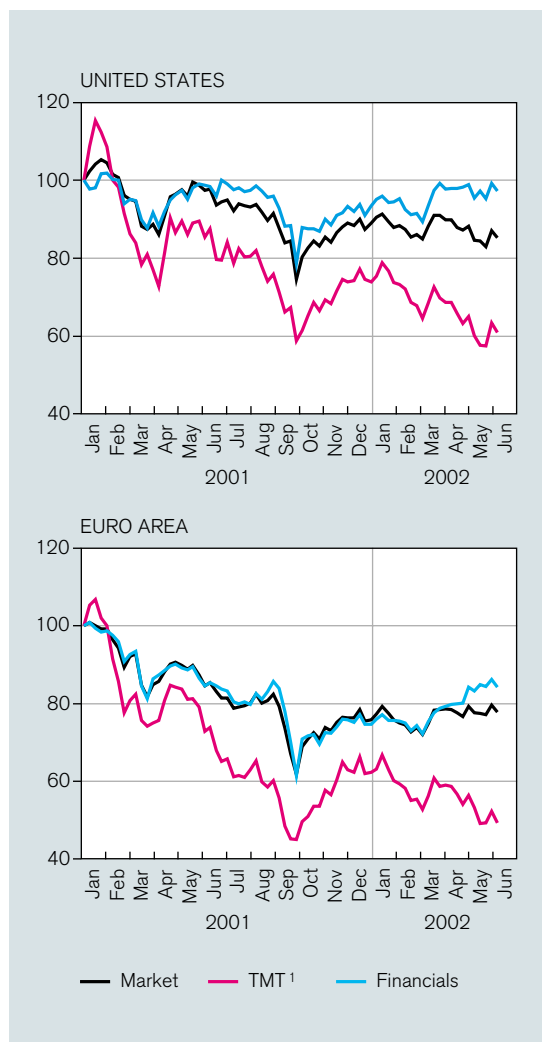
(Indices 1995 = 100)



Sources : Datastream, OECD.

CHART 4 – STOCK MARKET INDICES

(Indices 1 January 2001 = 100)



Source : Datastream.

¹ Technology, Media and Telecommunication sector.

adjust in a rather abrupt manner – with negative consequences for growth and asset prices – foreign investors have so far proved willing to finance the resulting shortfall in American external savings. However, this continued high reliance on foreign capital makes American asset prices vulnerable to a potential change in foreign investors' risk appetite for American assets. In this light, the recent weakening of the US dollar may potentially usher in a reversal of the sharp appreciation of the US dollar since 1995 (Chart 3).

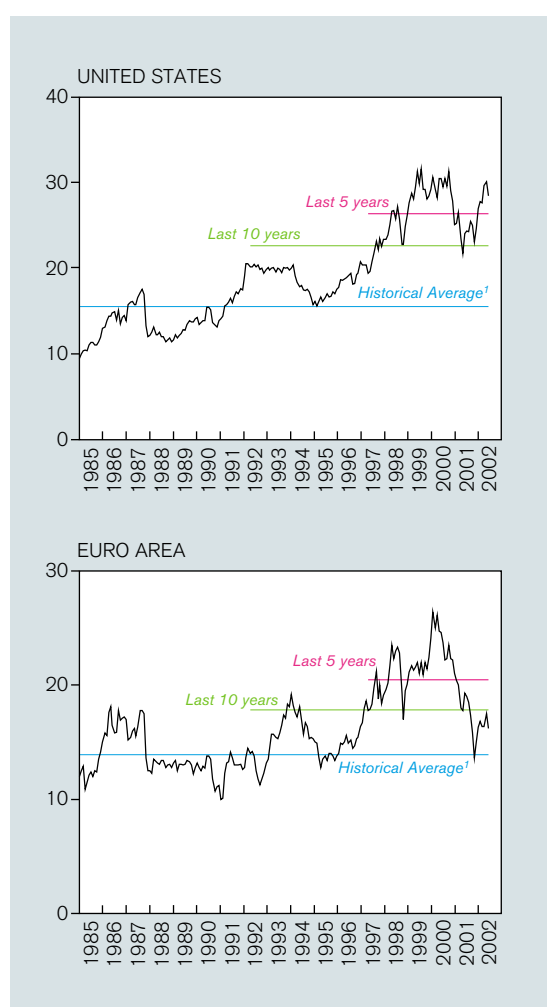
Even if reduced foreign exchange positions were to limit the direct effects of a sharp correction in the US dollar for European banks, a weaker dollar may affect them in indirect ways, including through bank clients with US dollar exposure or through the impact on global growth and financial market volatility.

Following a rapid recovery from the lows reached in the immediate aftermath of the terrorist attacks in September, stock markets in the USA and the euro area have broadly traded sideways since the beginning of 2002 (Chart 4). Stocks in the technology, media and telecommunications

sectors, which registered strong gains during the last quarter of last year, have fallen back again, and remain well below the peak levels reached in the first half of 2000. In contrast, financial stocks have strengthened slightly in both the USA and Europe since the beginning of 2002.

That American and euro area stock markets did not benefit more from the improved outlook for global economic growth may be attributed to several factors, e.g. the persistence of historically high price-earnings ratios and the continued downturn in corporate profits combined with increased concerns over the integrity of corporations' financial statements.

CHART 5 – PRICE - EARNINGS (P/E) RATIOS



Source : Datastream.

¹ For the period 1973-2002.

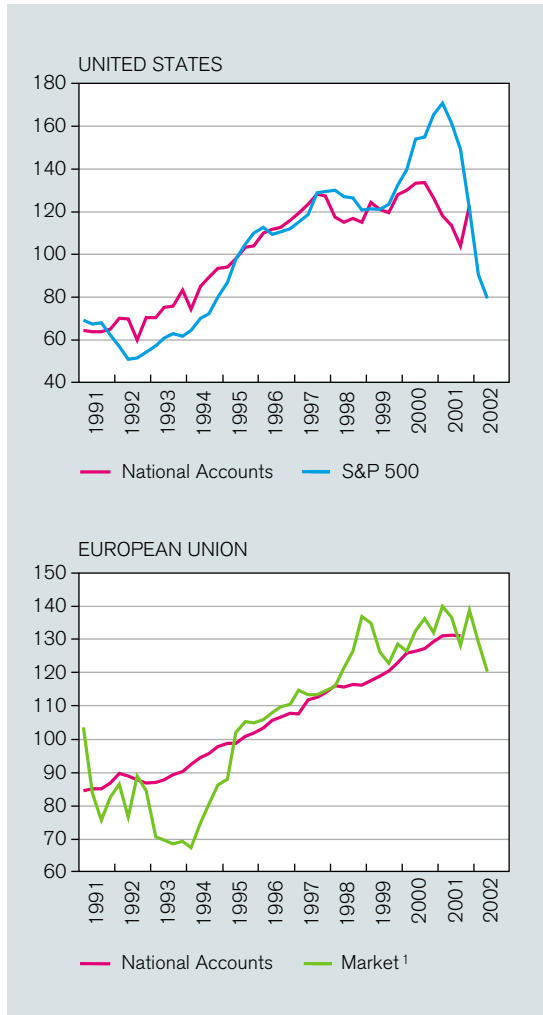
Following sharp declines from the historically high levels reached in 2000, price-earnings (P/E) ratios in the USA and the euro area – calculated on the basis of historical earnings – bottomed out in October last year and subsequently rose as financial markets priced in a recovery of corporate profits (Chart 5). However, this increase in P/E ratios was stronger in the USA than in the euro area, notwithstanding the fact that the previous drop in P/E ratios had been proportionally less pronounced in the USA. As a result, the divergence between the two P/E levels – which became increasingly marked over the past 10 years – has become even more manifest in the course of 2002, with the USA and euro area P/E-ratios respectively close to 30 (i.e. double the historical level) and 15 in May 2002.

This increased divergence in P/E-ratios may be partly explained by the comparatively sharper drop in American corporate profits. Indeed, while the downturn in those profits remained limited in Europe, American corporate earnings actually experienced a historically large fall in 2001, in spite of what appears to have been – in retrospect – a relatively mild and short downturn in economic growth (Chart 6).

Another remarkable feature of the profit recession in the USA is the fact that the relatively

CHART 6 – CORPORATE EARNINGS

(Indices 1995 = 100)



Sources : Datastream, Eurostat.

¹ Datastream Index for the European Union.

sharper decline in earnings reported by quoted companies more than closed the gap between this profit aggregate and the estimate of all companies' corporate profits in the national accounts. While methodological and sample differences may be highlighted as potential explanations for the emergence of a gap between the two profit measures in the second half of 1999, some of the divergence may also have been due to artificial inflation of the earnings reported by quoted corporations willing to use "aggressive accounting techniques" to embellish their results.

The awareness and concerns of financial markets about such "aggressive accounting techniques" increased dramatically following revelations that the American energy concern Enron – which filed for bankruptcy in December 2001 – had used transactions with partner firms and derivative transactions to mislead investors about the true state of its earnings and debts. In addition to questionable accounting practices, the Enron case also revealed substantial flaws in internal corporate governance structures, as well as major shortcomings in the external controls effected by auditors, banks, financial analysts and rating agencies, which should have acted as a safeguard against these practices. While avoiding a generalised loss of confidence in the reliability of the financial information underpinning financial markets, investors did respond to the revealed failure of market discipline in the Enron case, *i.a.* by attaching greater importance to the quality of corporate disclosure and raising the risk premium for companies with a history of "aggressive accounting" or non-transparent financial reporting. This catch-up by financial markets, together with a new emphasis on the necessary rules of conduct for all the actors involved in the monitoring of the integrity of companies' accounts, may be regarded as one of the lessons learned from the Enron case. The potentially large ramifications of litigation and reputational risks were also illustrated in this affair, including by developments related to the role of Enron's lead auditor.

Although Enron was only one of a series of high-profile bankruptcies in the last quarter of 2001 and the first quarter of 2002, credit markets did not overreact to these events. This may be explained by the fact that corporate bond markets had already priced in a substantial deterioration of corporate credit fundamentals in the course of 2001, as reflected *i.a.* in a high number of downgrades of corporations by rating agencies relative to the number of credit rating upgrades. As is evident from the movement in spreads on the American corporate bond market – where data availability

is sufficiently long to cover a full economic cycle – risk premiums had indeed risen to historically high levels before the last quarter of 2001, suggesting that financial markets, to a large extent, had anticipated the increasing risk of corporate failures (Chart 7). This risk still appears to be present, as spreads on both high- and low-grade bonds have generally remained close to the levels reached in the beginning of the fourth quarter of 2001, in spite of the likely benefits of a global economic recovery for corporations' credit fundamentals. In this context, it is all the more important for

this recovery to be non-inflationary as, otherwise, the larger spreads prevailing on bond markets could be associated with an overall increase in long-term interest rates.

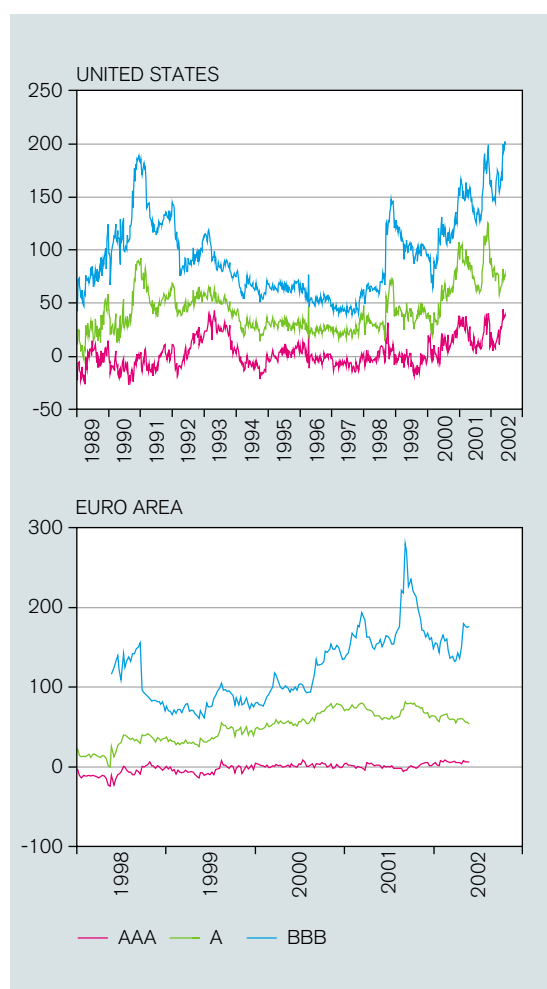
Concerns over credit quality have also remained prominent in Japan, as rating agencies and analysts have continued to voice their unease over the health of the financial system and over the rapid increase in public indebtedness, against the background of weak economic growth and falling prices. Indeed, Japanese banks and life insurance companies remain in a very weak situation – burdened as they are by a high level of non-performing loans and lack of profitability – leading to downgrades by rating agencies in these sectors. Although the government has recently taken initiatives to strengthen the disclosure and accelerate the disposal of bad loans in the banking sector, it remains to be seen whether banks will be able to write off all their bad assets without an additional strengthening of their capital bases.

Credit concerns in Japan have, however, not been confined to the financial and corporate sectors. As illustrated by the further downgrading of the country's sovereign credit rating by the major rating agencies (Table 1), the creditworthiness of the sovereign debtor has also been put under review, given the combination of a high fiscal deficit (-7.1 p.c. of GDP in 2001) with an already large stock of gross public debt (132 p.c. of GDP).

In emerging markets, concerns over the sustainability of fiscal developments were at the heart of the Argentine crisis, which started in November 2000 and gradually developed into a full-blown debt, currency and banking crisis following the default on government debt in December 2001 and the breakdown of the currency board regime in January 2002. Although these developments may have contributed to more unsettled conditions in a number of Latin American countries (including Uruguay, Venezuela and Brazil), this severe financial crisis

CHART 7 – CORPORATE BOND SPREADS¹

(Basis points)



Sources : Bloomberg (Merrill Lynch), Datastream.

¹ Interest-rate differential of corporate bonds vis-à-vis the fixed-rate component of ten-year swap contracts in the corresponding currency.

TABLE 1 – MAIN REVISIONS IN SOVEREIGN FOREIGN CURRENCY RATINGS¹

	Rating Moody's		Rating S&P	
	May 2001	May 2002	May 2001	May 2002
Developed economies				
Japan	Aa2	A2 ²	AA+	AA-
Emerging markets				
Argentina	B2	Ca	B	SD
Indonesia	B3	B3	B-	CCC
Mexico	Baa3	Baa2	BB+	BBB-
Russia	B3	Ba3	B-	B+
Slovak Rep.	Ba1	Baa3	BB+	BBB-
South Africa	Baa3	Baa2	BBB-	BBB-
South Korea	Baa2	A3	BBB	BBB+

Sources: Moody's, Standard & Poor's.

¹ Red and blue ratings refer respectively to recent down- and upgrades.

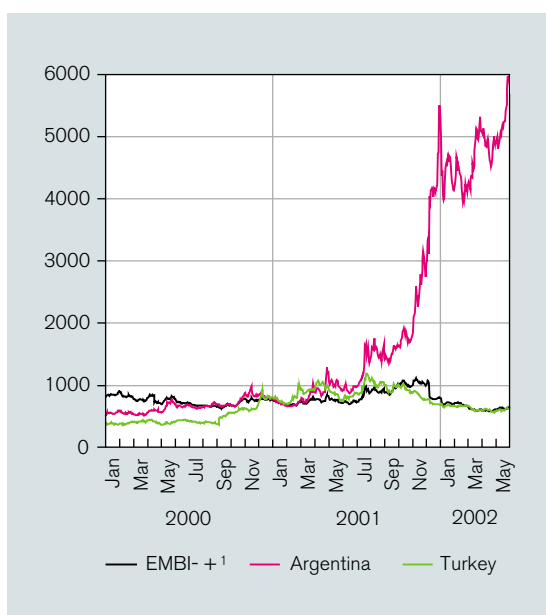
² Local currency rating.

in Argentina in general did not spill over to other emerging markets. Credit spreads for sovereign borrowers in emerging markets other

than Argentina even showed a tendency to decline (Chart 8).

CHART 8 – EMERGING MARKET BOND SPREADS

(Monthly averages, basis points)



Source: JP Morgan.

¹ The movement of the EMBI+ index (the emerging markets composite index) was affected by two index rebalancing operations in December 2001, reducing the weight of Argentine debt in the index from 10.6 p.c. to 2.6 p.c.

One important explanation for this resilience is the general improvement in the fundamentals of emerging markets, thanks to better macroeconomic policies and structural reforms. For several countries this has been confirmed by reappraisals from rating agencies, as indicated in table 1. The more widespread implementation of floating exchange rate regimes in emerging markets has also helped reduce vulnerability to external shocks.

However, as the financial and economic situation in Argentina remains very critical, a risk of more widespread contagion cannot be entirely excluded. A protracted and disorderly resolution of the Argentine crisis could indeed still adversely affect financing conditions for other emerging market borrowers, especially if it were to be associated with a less orderly than expected restructuring of the Argentine debt. The Argentine crisis also shows how vulnerable some countries can be to shortfalls in political and social cohesion.

Although economic and financial developments have generally been favourable in the EU

Accession countries of Central and Eastern Europe, the presence of high fiscal and current account deficits in several of these countries may constitute potential sources of vulnerability, even if foreign direct investment (FDI) inflows and market sentiment towards these countries continue to be positive. In the Czech Republic, Poland and Hungary, recent fiscal developments have been a cause for concern, with fiscal deficits expected to be close to or in excess of 5 p.c. of GDP. The process of adjusting such large imbalances may lead to a more stressful macroeconomic environment.

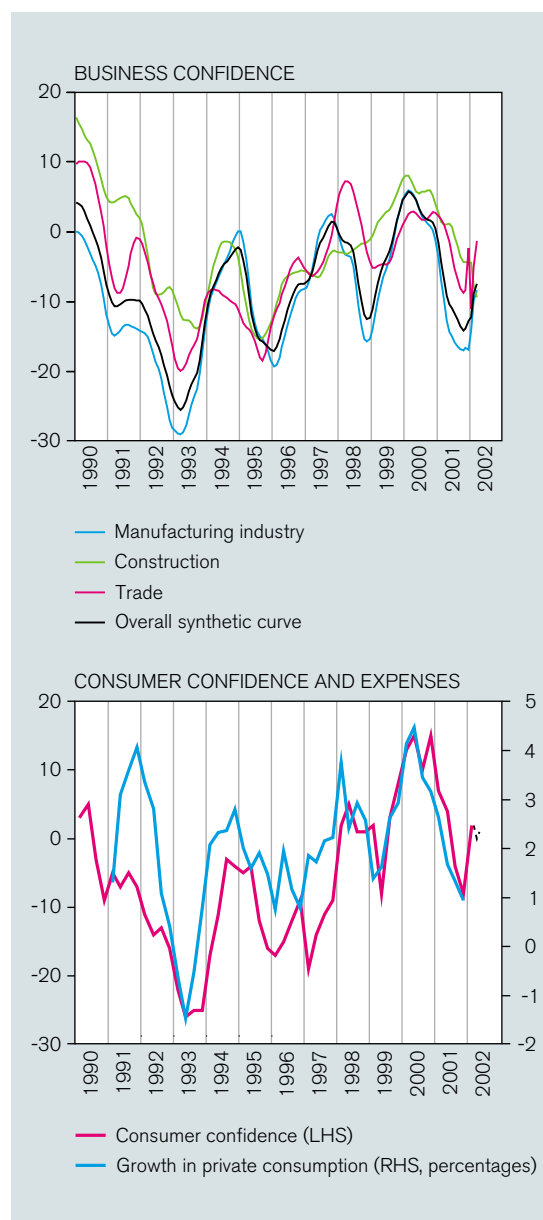
3 FINANCIAL POSITION OF THE PRIVATE DOMESTIC SECTOR

Being a small open economy, Belgium has not been sheltered from the global economic downturn. The growth in GDP declined from 4 p.c. in 2000 to 1 p.c. in 2001, the lowest rate since 1993. At the same time, the country's heavy dependence on external trade should also make it respond faster to the recovery of world economic growth. True, this upturn remains much less pronounced in the EU, which includes Belgium's major trading partners, than in the USA. Nevertheless, an improvement in the outlook for the Belgian manufacturing industries has clearly been reported in the recent surveys on business confidence, even though there is still much uncertainty surrounding these expectations (Chart 9).

Contrary to what was the case in 1993 and, again, during the subsequent low point recorded in 1996, private consumption has proved rather resilient, and this has undoubtedly helped to limit the overall reduction in activity. This pattern is reflected by the consumer confidence indicator. Despite a sharp drop in 2001, this indicator did not fall to the low level observed in the early nineties and, thanks to the improvement at the beginning of 2002, is at present well above the average of the last decade.

CHART 9 – CONFIDENCE INDICATORS

(Seasonally adjusted data)



Source : NBB.

A sustainable revival of confidence depends on the financial health of corporations and households. Indicators used to gauge this health are of a similar nature for the two sectors. In both instances, income flows are the major determinant of the ability to service debts. Capital buffers, which should serve as protection against potential fluctuations in

TABLE 2 – KEY INDICATORS OF FINANCIAL STRENGTH OF CORPORATIONS AND HOUSEHOLDS

	Corporate sector	Household sector
Flows: Income	Profitability	Disposable income
Stocks: Leverage . .	Solvency ratio Capital structure	Capital gearing Wealth structure
Flows / Stocks:		
Debt burden	Income gearing (Number of bankruptcies)	Income gearing Debt/income ratio
Asset prices	Commercial property prices Equity prices	Housing prices Equity prices

these income streams, are assessed through stock data. Leverage, as measured by the solvency ratio for corporations (external funding/ own funds) or by the capital gearing for households (total debts/total assets), serves as the key indicator to measure the size of this buffer. Flow and stock data will, in turn, be combined to assess whether the debt burden taken over by corporations and households is bearable. The main indicator for that purpose is the income gearing ratio (gross interest payment/income). Other variables, more specifically designed for the analysis of either enterprises or individuals, will also be examined in this chapter; for example, the capital structure and the number of bankruptcies for corporations or the wealth structure and the debt income ratio for households (Table 2).

Finally, price data must not be neglected, particularly real estate and housing prices. These assets are key components in the financial positions of corporations and households. As they are often used as collateral to guarantee bank loans, a slump in their value will also affect the possibility for the two sectors to contract new debts, and it will also affect the potential losses of banks in case of default on existing credits.

3.1 CORPORATE SECTOR

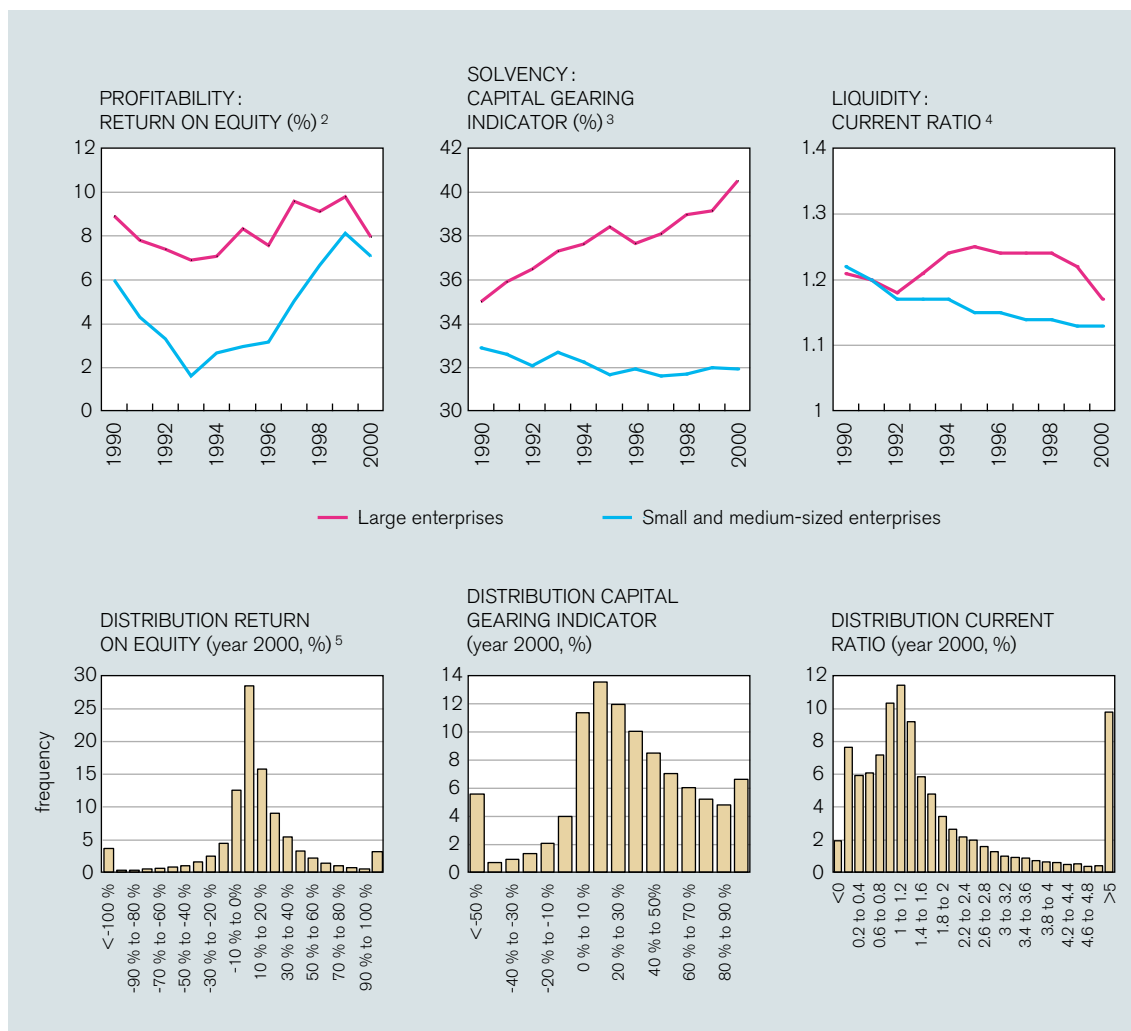
While surveys are regularly conducted to ascertain business expectations and while indicators of real activity are available reasonably quickly, data on the financial position of corporations are only published after a long delay. The main source of information, coming from the Central Balance Sheet Office which collects firms' annual accounts, only covers the period up to 2000. This is a significant time lag, especially for analysing periods of inflexion in the economic cycle, as was the case in 2001. However, this information remains useful because it can reveal structural fragility which may materialise in times of stress.

Chart 10 indicates the movement of three key ratios which are often analysed in combination to gauge corporations' financial health⁵. These ratios measure, respectively, the profitability, solvency and liquidity of Belgian enterprises. Each of them presents two major features. First, they are higher for large corporations which, on average, seem to be better off than small and medium-sized enterprises (SMEs). Second, they reveal quite a wide distribution across the entire population of Belgian corporations. In this respect, it is important to note that data on the evolution of the three ratios (upper level of chart 10) are calculated on the basis of cumulated balance sheet figures, so that data for the entire population are practically equivalent to the data for the sample of large enterprises. In contrast, distribution figures (lower level of the chart) are based on the number of firms, so that they more closely reflect the structure of the population of SMEs.

After the recession of 1993, Belgian corporations steadily improved their profitability up to 1999, but the pace was slower for large corporations than for SMEs. Between those two years, return on equity increased from 6.9 to 9.8 p.c. for the first

⁵ See e.g. Benito and Vlieghe in Bank of England Financial Stability Review (June 2000, p 83): "Theory (e.g. Scott (1981) and empirics (e.g. Altman (1983)) show that the likelihood of bankruptcy is broadly determined by profitability, gearing and liquidity".

CHART 10 – FUNDAMENTAL CORPORATE FINANCIAL HEALTH INDICATORS ¹



Source : NBB (Central Balance Sheet Office).

¹ Corporations are considered as large or as small and medium-sized enterprises, depending on whether they have to submit their annual accounts to the Central Balance Sheet Office in accordance with the full or the abbreviated presentation scheme. Over the accounting year 2000, 93 p.c. of the companies were classified as SME, though the 7 p.c. large enterprises represented some 85 p.c. of the cumulated balance sheet total and some 89 p.c. of net after tax results.

² The return on equity is calculated as net after tax result over capital and reserves.

³ The capital gearing indicator is calculated as own funds divided by balance sheet total.

⁴ The current ratio is calculated as current assets over current liabilities.

⁵ Enterprises with negative own funds are not included in this distribution.

group and from 1.6 to 8.1 p.c. for the second. This “catch-up” effect significantly reduced the profitability gap between the two categories of firms.

This progression came to a halt in 2000. As had already happened in the early nineties, the decrease in profit seems to have preceded the first signs of the economic slowdown. Although a 4 p.c. growth in GDP was still achieved over the year 2000, corporate return on equity

shrank, both for SMEs (from 8.1 p.c. in 1999 to 7.1 p.c. in 2000) and for large firms (from 9.8 p.c. in 1999 to 7.9 p.c. in 2000). A remarkable feature of the return on equity distribution is the occurrence of “fat tails”.⁶

⁶ Caution is required in the interpretation of those extreme figures as they relate, more often than not, to dormant or atypical firms. This is probably the case for a large part of the 3.7 p.c. of all companies which are in the tail on the negative side of the distribution, with a reported return on equity of less than -100 p.c.

Large firms have seen their solvency position improving over the last ten years, their capital gearing indicator (own funds/balance sheet total) rising from 35 p.c. in 1990 to 40.5 p.c. in 2000, whereas the ratio for small and medium-sized enterprises has stabilised around the 32 p.c. level. The distribution of this ratio over the year 2000 shows that no less than 15 p.c. of all companies are in a situation where the reported accumulated losses over the company's lifetime exceed the capital base, resulting in a negative outstanding equity position. The existence of a large group of dormant or marginal corporations accounts for a significant part of this result.

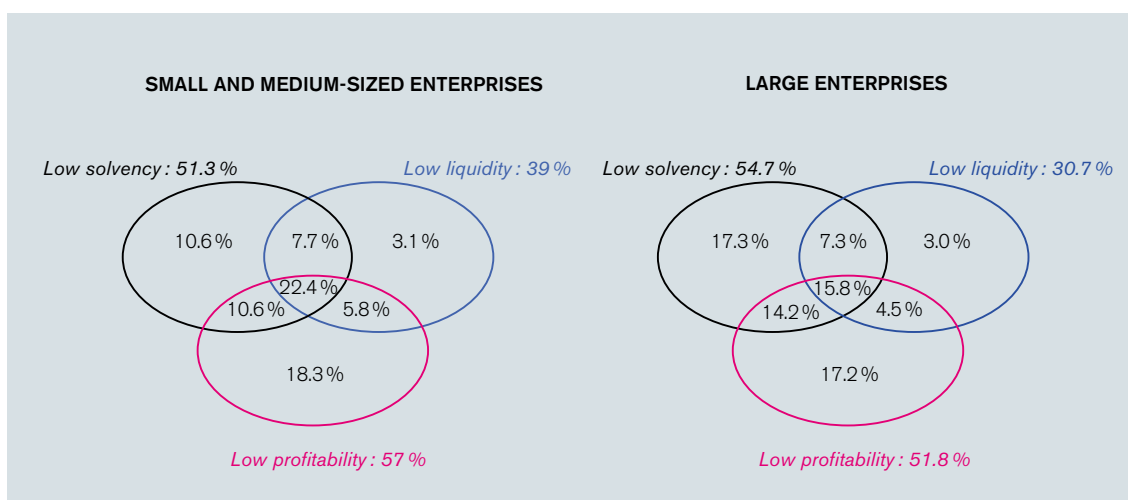
Corporate liquidity can be measured via the current ratio, which sets short-term assets against short-term liabilities. The overall liquidity position of Belgian firms is very stable, as these current ratios have been well above 1 throughout the decade. The dispersion of this liquidity indicator is skewed to the left; nevertheless

nearly 10 p.c. of all companies have a current ratio higher than 5, indicating that their short-term assets far exceed their short-term liabilities. Besides being a potential indicator of an unbalanced liquidity position or of a lack of investment opportunities, such structures could also be explained by two other factors. On the one hand, the nature of some corporations' activities can justify holding a large proportion of inventories or short-term financial assets, such as account receivables. On the other hand, in many small enterprises, the distinction between a company's short-term assets and its owner's personal funds is not always clear cut.

While defaults by non-financial corporations may be triggered by problems concerning either profitability, liquidity or solvency, the firm's situation becomes much more fragile when it faces a financial structure in which problems exist simultaneously at more than one of those three levels.

CHART 11 – COINCIDENCE OF FINANCIAL HEALTH INDICATORS (YEAR 2000)^{1 2 3}

(Percentages of the total number of enterprises)



Source : NBB.

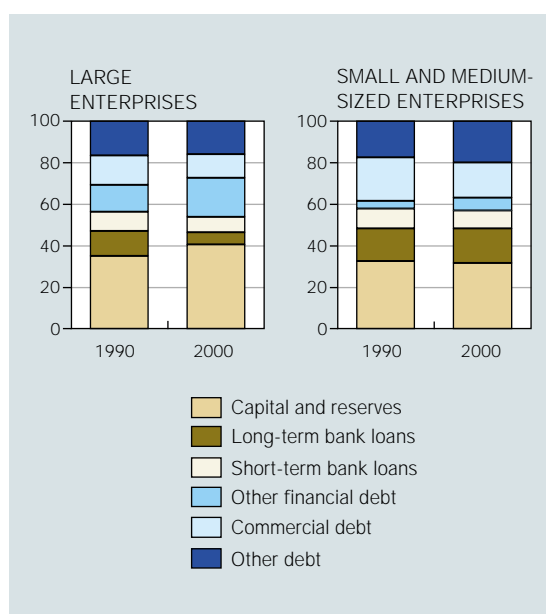
¹ A company is defined as having a low profitability position when its return on equity is lower than 5 p.c., a low liquidity position when its current ratio is lower than 1 and a low solvency position when its capital gearing indicator (own funds divided by balance sheet total) is lower than 30 p.c.

² See chart 10, footnote 1 for the definitions of large enterprises and SMEs.

³ The chart reads e.g. as follows : 51.8 p.c. of all large enterprises have, following our definitions, a low profitability, namely : 17.2 p.c. of all large enterprises have *only* a low profitability, 14.2 p.c. have a low profitability *and* a low solvency, 4.5 p.c. have a low profitability *and* a low liquidity and finally 15.8 p.c. of all large enterprises do not reach the thresholds for *all three* indicators.

CHART 12 – LIABILITY STRUCTURE OF BELGIAN CORPORATIONS¹

(Percentages of total liabilities)



Source : NBB (Central Balance Sheet Office).

¹ See chart 10, footnote 1 for the definitions of large enterprises and SMEs.

The three ratios were examined at the individual level of the some 210 000 SMEs and 15 000 large firms which submitted their annual accounts to the Central Balance Sheet Office for the year 2000 (Chart 11). The thresholds used to define corporations with low profitability, low liquidity or low solvency have been defined, respectively, as a return on equity lower than 5 p.c., a current ratio lower than 1 and a capital gearing ratio lower than 30 p.c. These limits may, of course, be disputed and, if a company exceeds one of them, this does not automatically correspond to a sign of weakness.

Among SMEs, 22.4 p.c. of the population combines low ratios for all three indicators while 15.8 p.c. of the large firms are in the same situation. These corporations are, a priori, more likely to experience problems during a cyclical downturn. These figures would obviously drop if some of the definitions were relaxed. More research on the validity of the thresholds used

and on the extreme values within the tails of the various distributions would be warranted to fine tune these indicators.

The effective exposure of credit institutions to the enterprise sector is a function of the relative importance of bank loans as a source of corporate financing. This debt component cannot be considered in isolation, as it is closely linked to the other components of enterprises' liabilities. Together, they reflect a variety of decisions taken in the past in answer to strategic, operational, financial or tax considerations.

As a group, Belgian SMEs have kept a stable liability structure over time (Chart 12). Between 1990 and 2000, the only significant shift has been from commercial debts to other financial debts, i.e. securities and loans that are not granted by a bank. In practice the latter are mainly intra-group loans and loans from the owners.

The liability structure of large Belgian enterprises has changed more substantially over the past decade. A combination of favourable stock market conditions and strong profitability allowed these corporations to increase the relative share of own funds, either by attracting new capital or by retaining earnings. In addition, the larger enterprises have been better able than the smaller ones to obtain external funds through other financial debts. This reflects a greater reliance on intra group loans, notably through the channel of the coordination centres established in Belgium by domestic and foreign corporations. It also illustrates the growing importance of money and capital markets in offering solutions for corporate finance. In terms of their balance sheet total, large firms have reduced their financing through bank loans by a third, with a simultaneous shift in the proportions of short-term and long-term loans.

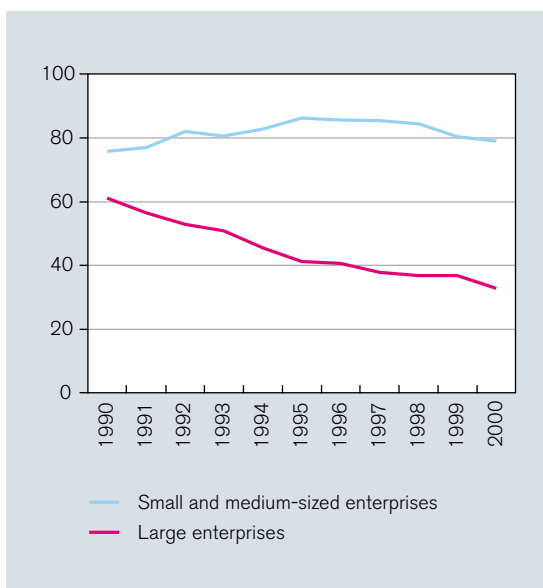
Overall, the pattern of dependence on bank loans in the case of large corporations has diverged greatly from that for smaller corporations. While the ratio of bank loans to capital

and reserves remained fairly constant over time at around 80 p.c. for SMEs, it fell from 61 p.c. in 1990 to 33 p.c. in 2000 for large corporations (Chart 13). Own funds collected by corporations serve as a buffer and are therefore one of the key variables considered by banks when taking their credit decisions. Reinforcing the capital base of SMEs is thus an important priority, not only for strengthening the financial structure of those enterprises but also for facilitating their access to credit. This improvement should be beneficial both for financial stability and for economic growth.

Bank loans are just one source of external financing, thus the capacity of corporations to service their debt has to be viewed in a broader perspective. To that end, an important indicator is the income gearing ratio defined as this ratio of financial charges to the sum of operational results and financial income. The lower this ratio, the higher the company's ability to cover its interest payments. Thanks to the fall in interest

CHART 13 – RATIO OF BANK LOANS TO OWN FUNDS FOR BELGIAN CORPORATIONS¹

(Percentages)

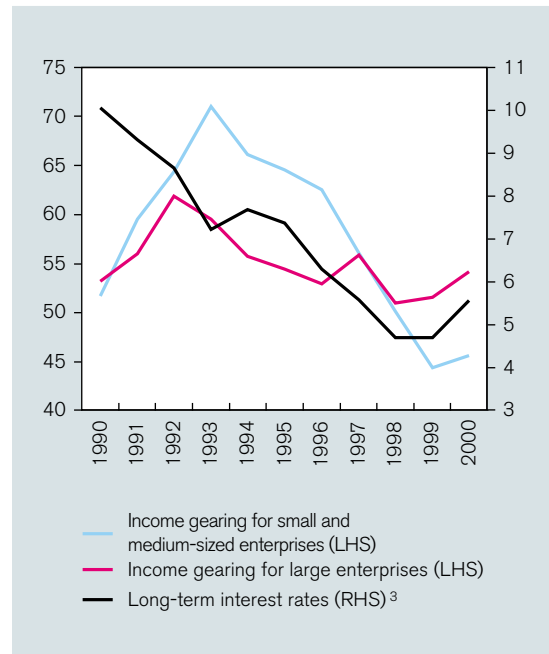


Source : NBB (Central Balance Sheet Office).

¹ See Chart 10, footnote 1 for the definitions of large enterprises and SMEs.

CHART 14 – INCOME GEARING AND INTEREST RATES^{1,2,3}

(Percentages)



Source : NBB (Central Balance Sheet Office).

¹ See chart 10, footnote 1 for the definitions of large enterprises and SMEs.

² Income gearing is defined as financial charges over the sum of operational result and the financial income.

³ Average annual interest rate on 5-year Belgian government bonds.

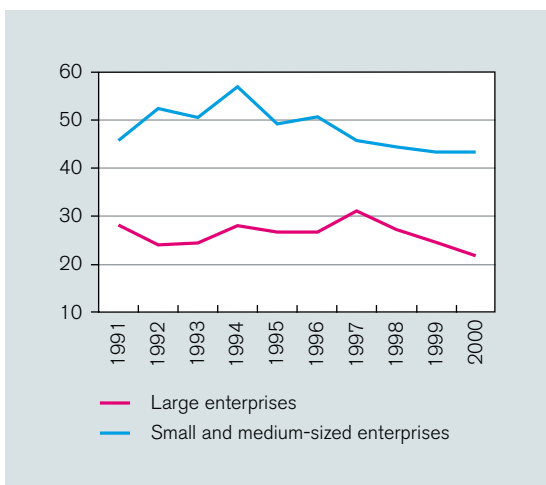
rates, this ratio has been decreasing over time for all types of companies, but the trend has been more marked for SMEs than for large corporations. In 2000, the former recorded a ratio of 45.6 p.c. and the latter a ratio of 54.2 p.c. (Chart 14).

In Belgium a significant proportion of bank loans are covered by collateral, usually in the form of mortgages. Although the ratio of real estate collateral to long-term bank loans has decreased slightly over the recent years, it still amounts to 21.9 p.c. for large corporations and to 43.3 p.c. for SMEs (Chart 15). In this context, the movement in commercial property prices can exert a significant impact on the capacity of firms either to obtain new loans or to service their existing ones.

In the recent past, several financial distress episodes have been triggered by large swings

CHART 15 – REAL ESTATE COLLATERAL IN RELATION TO LONG-TERM BANKS LOANS

(Percentages)

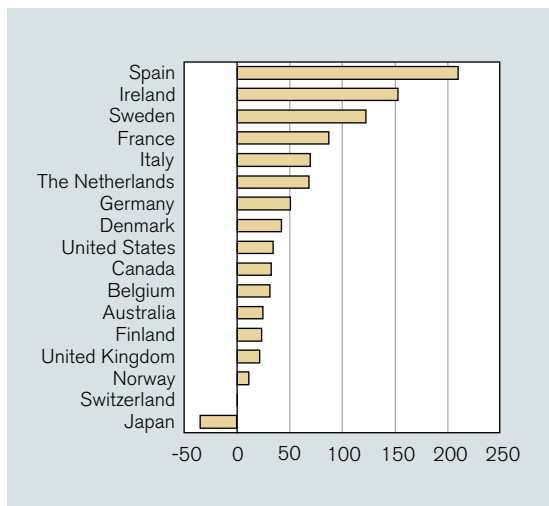


Source : NBB (Central Balance Sheet Office).

in commercial property prices, most notably in some Scandinavian countries and in Japan. Some industrial countries, in particular Spain and Ireland, are currently recording very strong increases in property prices. In comparison, the

CHART 16 – COMMERCIAL PROPERTY PRICE EVOLUTION

(Growth rate between the end of 1995 and the end of 2000, percentages)

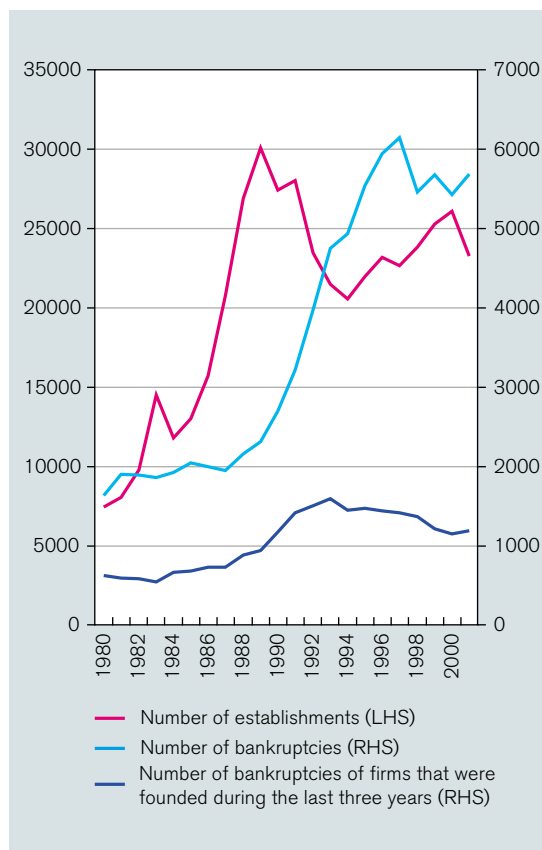


Source : BIS.

rise on the Belgian market has been rather limited. Between the end of 1995 and the end of 2000, it amounted to 32 p.c. (Chart 16).

Finally, an evaluation of the financial health of the corporate sector must include an analysis of the trend in the number of bankruptcies. This number has been fluctuating between 5000 and 6000 per year since the mid-nineties (Chart 17). This relative stabilisation follows a period of sharply increasing numbers of bankruptcies during the first part of the last decade. That acceleration seemed to be linked, with a time lag of three to four years, to the upsurge in the creation of new enterprises that characterised the late eighties. Indeed, recently established firms traditionally tend to be more fragile during their period of infancy and this vulnerability makes

CHART 17 – COMPANY ESTABLISHMENTS AND BANKRUPTCIES



Source : NBB.

them more prone to default during a downturn in activity, as was the case with the recession of 1993.

The renewed, steady increase in the number of businesses created from 1994 to 2000 does not yet appear to be combined with a new surge in bankruptcies. Nevertheless, the financial health of these recently created companies has to be closely monitored.

3.2 HOUSEHOLD SECTOR

The household debt-income ratio, as a first indicator of the ability of this sector to support its current level of indebtedness, has increased almost continuously since 1985, stabilising at the historically high level of 65 p.c. in recent years (Chart 18). However, individuals have also simultaneously benefited from a reduction in interest rates, which has been an important factor in giving them the confidence to take on more debts.

Indeed, other important measures of the degree of sustainability of household financial positions provide a more reassuring message. Both the income gearing and the capital gearing ratios have gradually decreased from the maximum observed in 1992. The first ratio has fallen from 6 p.c. in 1992 to 3.75 p.c. in 2001 while the second has dropped from 10.9 p.c. in 1992 to 9 p.c. in 2000.

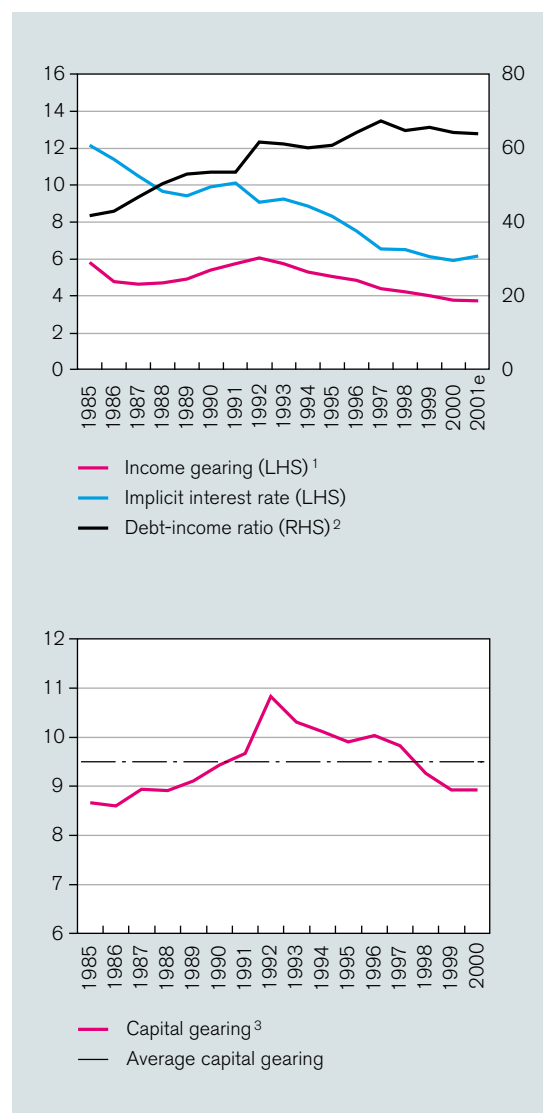
The lower levels reached by those two ratios engenders some confidence in the ability of households not only to service their debt but also to withstand some increase in lending rates.

It has to be recognised that a significant proportion of the increase in the wealth of Belgian households is due to the buoyancy of stock markets during the second half of the last decade. This has been the major driving force behind the sharp rise in the value of financial

asset portfolios which, in proportion to disposable income, went up from 375 p.c. in 1994 to 487 p.c. in 1999 (Chart 19). The downward trend in most equity prices since the turn of the century has helped to bring this ratio down to 443 p.c. in 2001, which is still a rather moderate fall compared with other countries.

CHART 18 – BELGIAN HOUSEHOLDS' KEY RATIOS OF INDEBTEDNESS

(Percentages)

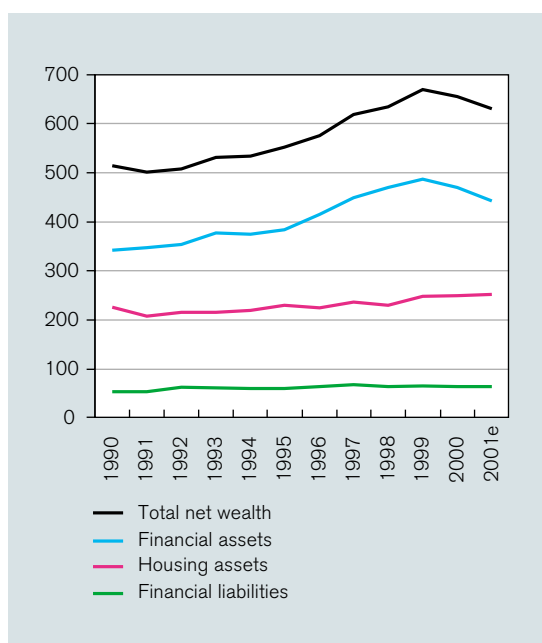


Source: NBB

¹ The income gearing is calculated as gross interest payments over disposable income.

² The debt-income ratio is calculated as financial liabilities over disposable income.

³ The capital gearing is calculated as financial liabilities over housing and financial assets.

CHART 19 – BELGIAN HOUSEHOLDS' WEALTH¹*(Percentages of disposable income)*

Source: NBB

¹ Total net wealth is calculated as financial assets plus housing assets minus financial liabilities.

However, these data give only an aggregate picture. The major drawback of the available indicators is that they do not provide information concerning the wealth distribution. The level of indebtedness may be quite uneven

from one household to another, and the major holders of financial assets are not necessarily the individuals who simultaneously have a high level of debt. In an international perspective, Belgian household debt looks relatively limited.

Compared with some other EU countries and with the US, the financial situation of Belgian households seems indeed fairly strong. Although such figures must be considered with caution, at the end of the year 2000 Belgian households had higher financial assets and lower liabilities, relative to their disposable income, than their foreign counterparts (Table 3). This wealth, to the extent that it can be mobilised when required, can serve as a buffer for servicing debts in the event of a reduction in income. Furthermore, Belgian households seem to be less vulnerable to unexpected large collapses in asset prices, as their portfolios are proportionally overweight in fixed-income assets, at the expense of equities and non-financial assets.

As in other countries, the major component of Belgian households' liabilities is in the form of mortgage loans. The rather subdued rate of growth of the mortgage market in 2001 sharply contrasts with the much faster progression recorded during the major part of the

TABLE 3 – NET HOUSEHOLD WEALTH IN AN INTERNATIONAL PERSPECTIVE*(End of year 2000, percentages of disposable income)*

	Belgium	France	Germany	UK	USA
Net Wealth	656	619	586	686	582
Assets	720	690	701	803	688
Non-financial assets	250	327	421	347	217
Financial assets	470	363	280	456	471
Equities	88	166	76	106	144
Fixed income assets	382	198	205	350	328
Liabilities	64	71	115	117	106
Mortgages	45	55	71	108	72
Other	19	16	44	9	34

Sources: OECD, NBB.

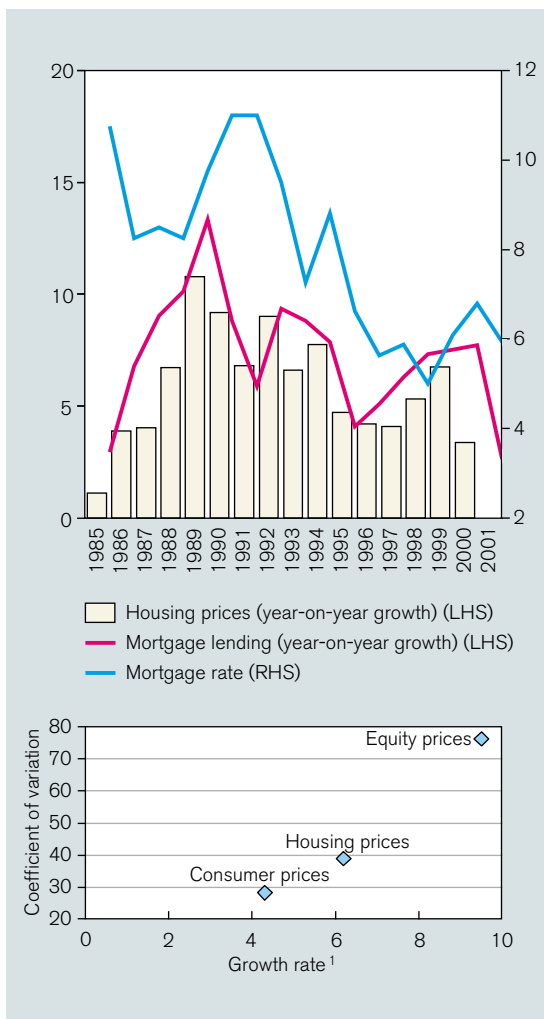
1990s. This deceleration can be attributed to the interaction of three elements. First, the deterioration in the economic climate and the greater uncertainty about economic growth had a detrimental impact on demand for mortgage lending. Second, the Flemish regional government's decision to reduce taxes on real estate transactions, starting from 2002, probably induced some households to postpone their house purchase. Finally, the deferred effect of an increase in interest rates has also played

a role. As is evident from Chart 20, mortgage rates appear to exert a decisive, if somewhat delayed, impact on the demand for this category of credit.

The recent rate increase is due not only to market developments but also to a revision in banks' credit policy. In previous years, banks frequently granted cheap mortgage loans in order to attract potential clients for their other financial products and services, but currently an increased emphasis on profitability per product is limiting the extent of such cross-subsidisation.

CHART 20 – HOUSING MARKET

(Percentages, unless otherwise stated)



Sources : NBB, Stadim.

¹ Calculated over the period 1985-2001.

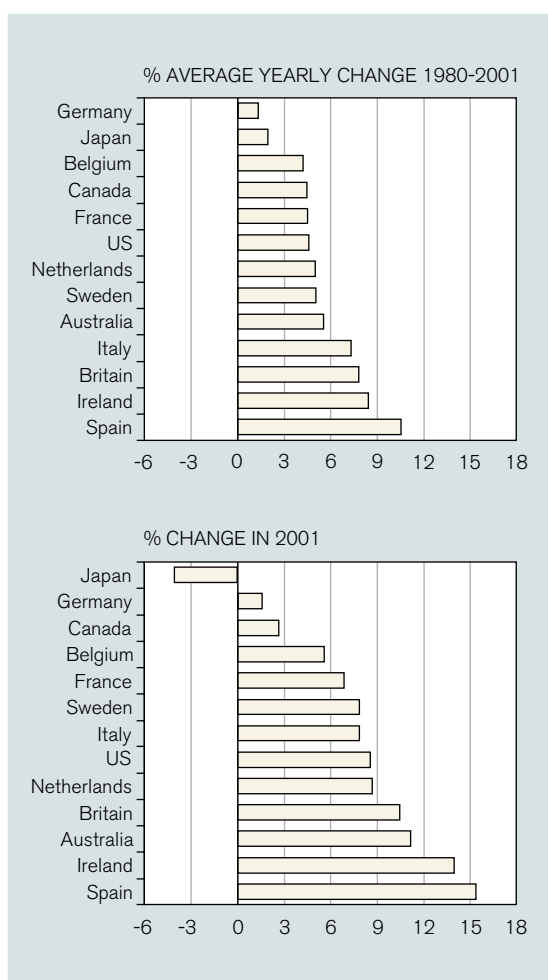
The upper level of chart 20 also illustrates the existing relation between housing price inflation and the growth in mortgage lending. The causality most probably operates in both directions. The higher the housing prices, the higher the amount needed for financing, while in turn, prices are driven by the total demand for loans. Since 1985, housing prices have been rising on average by slightly more than 6 p.c. a year. This rate lies between the growth in consumer prices and the rise in equity prices. The same intermediate position is observed for price volatility, as measured by the coefficient of variation. This reflects the dual nature of houses as investment goods and as non financial assets.

It is quite normal for real estate prices to rise faster than consumer prices, since they are generally measured on the basis of the average value of properties actually sold. These sale prices are not adjusted for quality improvements over time.

However, the rise in housing prices has remained below the growth in stock market indices. The Belgian tax system is, in fact, biased against speculative property deals, as such transactions are discouraged by a high level of registration and transaction taxes. For their part, purchases of owner-occupied houses are subsidised by the provision of mortgage interest tax relief.

**CHART 21 – HOUSING PRICE INDICES:
INTERNATIONAL COMPARISON**

(Percentages)



Source : The Economist.

Housing price inflation has been very uneven across industrial economies (Chart 21). For the period from 1980 to 2001, the average yearly increases in house prices amounted to 10.6 p.c. in Spain and 8 p.c. in the UK. Belgium recorded a moderate yearly price inflation of 4.3 p.c. Germany experienced a low price increase of 1.4 p.c. a year, which reflects the crisis in the sector after the unification boom. Taking the year 2001 alone, Belgium is ranked among the countries with a moderate rate of growth in housing prices.

4 DEVELOPMENTS IN THE BELGIAN BANKING SECTOR

The two previous chapters have reviewed some of the key elements which could affect the stability of the Belgian financial system, i.e. the recent international developments most likely to have an impact on banking business and the movement in the financial situation of Belgian corporations and households.

The financial position of the third non-financial resident sector, general government, has not been reviewed as such. This is certainly justified in terms of risks, as Belgian government bonds can be considered as nearly risk-free. However, this does not imply that financial developments in this third sector do not affect banks' activities. The adoption of a more stability-oriented fiscal policy, leading to a reduction in the public debt, has contributed towards a more stable macro-economic environment. It has also induced a substantial shift in Belgian banks' assets, from Belgian government bonds to claims on the private sector.

In this context, the third chapter will analyse ongoing changes in the risk profile of banks in order to single out areas warranting closer attention from market participants, bank managers and supervisory authorities.

For the reasons already presented in the introduction to this overview, the focus is on the banking sector. This certainly does not mean that credit institutions are the only major players in the financial system. Future issues of this FSR will address the situation of other financial intermediaries. However, the banking sector retains a much more prominent role in Belgium than in many other industrialised countries. The assets of domestic banks amount to around 300 p.c. of GDP in Belgium, compared with about 180 p.c. in the euro area and 100 p.c. in the USA (Table 4). A similar divergence is observed at the level of bank deposits. An inverse relationship

TABLE 4 – FINANCIAL STRUCTURE IN BELGIUM, THE EURO AREA AND THE USA

(Figures on a territorial basis, for the year 1999, percentages of GDP unless otherwise stated)

	Euro area	USA	Belgium
Total bank assets	181	99	303
Bank deposits	78	55	111
Debt securities issued by the non-financial corporate sector	4	26	8
Stock market capitalisation ...	90	193	77
Number of credit institutions..	8,351	8,417	119

Sources: NBB, ECB, OECD, IMF, BIS, International Federation of Stock Exchanges.

exists for capital market activities. Thus, in terms of stock market capitalisation, Belgium, with a percentage of 77 p.c., is lagging far behind the euro area (90 p.c.) and the USA (193 p.c.).

Another key characteristic of the Belgian banking sector is its high concentration. True, there were still 112 banks active in Belgium at the end of 2001. However, the 4 major groups collect 76 p.c. of all domestic bank deposits and grant 79 p.c. of all domestic bank credits. This market structure is obviously a key factor to bear in mind when reviewing the stability of the Belgian banking sector.

The analysis will be based mainly on accounting data covering balance sheets, profit and loss accounts and off balance sheet items. The chapter will successively cover credit risks, interest rate and market risks, liquidity risks and business risks, which are the major risks faced by banks in the exercise of their activities. Other risks, such as operational or legal risks, will only be implicitly discussed when relevant.

4.1 CREDIT RISKS

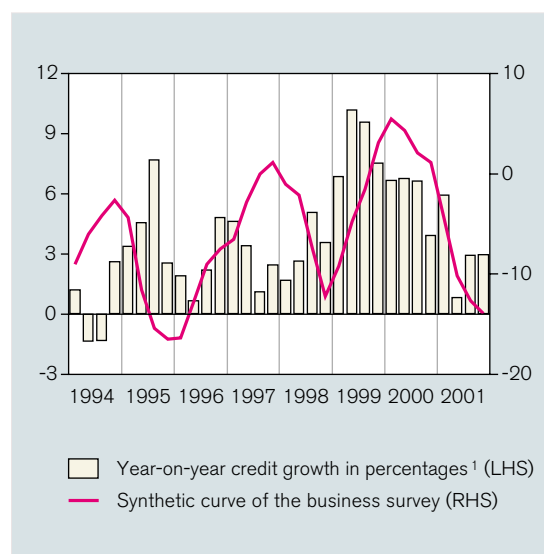
Loans to the corporate sector generally constitute the chief component of Belgian banks' exposure to credit risk. On the one hand, these

credits are prone to default, unlike claims on the general government. On the other hand, compared with credits to households, they are more concentrated, which increases the likelihood of large individual losses.

The business cycle may affect both the volume and the quality of these corporate credits. A worsening of the economic climate will prompt companies to defer investments and, hence, reduce their demand for new loans. Simultaneously, in an economic downturn the risks previously accepted in a more buoyant environment will materialise in the form of increasing loan losses, leading to a more cautious approach to lending by banks.

Both effects probably explain the deceleration in the growth of credit granted by Belgian banks to domestic enterprises in 2001 (Chart 22). Similar declines in loan growth figures were also recorded in a number of other European countries. Furthermore, such a decline appears not to be exceptional in recent history.

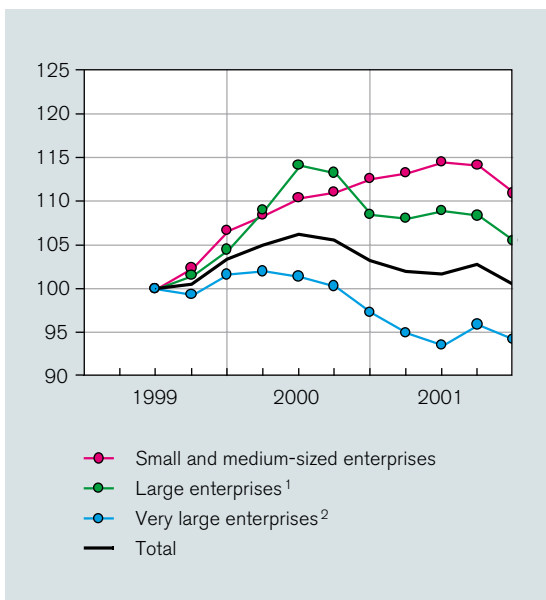
CHART 22 – LINKS BETWEEN THE BUSINESS CYCLE AND THE GROWTH OF BANK CREDITS TO ENTERPRISES ESTABLISHED IN BELGIUM



Source: NBB.
¹ Flow figures are corrected for exchange rate differences and sectorial reclassifications.

CHART 23 – OUTSTANDING AMOUNTS OF CREDIT LINES OPENED BY BELGIAN CREDIT INSTITUTIONS TO BELGIAN CORPORATIONS

(Indices end June 1999 = 100)



Source : NBB (Credit Register).

¹ Adjusted for the exceptional increase in credit lines opened to the financial leasing industry in the third quarter of 2001.

² Turnover of more than 37.2 million euro during two consecutive years.

It has been argued by some analysts that the supply effect may lately have been reinforced by a change in banks' strategy on corporate finance, more specifically for the SMEs' segment. The trend in the amounts of credit lines opened by Belgian credit institutions to domestic companies (as opposed to the amount of bank credits actually used by those companies) may be used as a rough measure of the overall importance of the supply effect, but does not enable us to distinguish between precautionary and strategic motivations. While the volume of credit lines opened was effectively reduced by more than 5 p.c. between June 2000 and December 2001, this chiefly concerned large and very large corporations (Chart 23). A downward adjustment also took place for SMEs towards the end of 2001, but it succeeded a period of persistent growth, so that, at the end of 2001, the total amount of credit lines opened to that category of corporations was still more

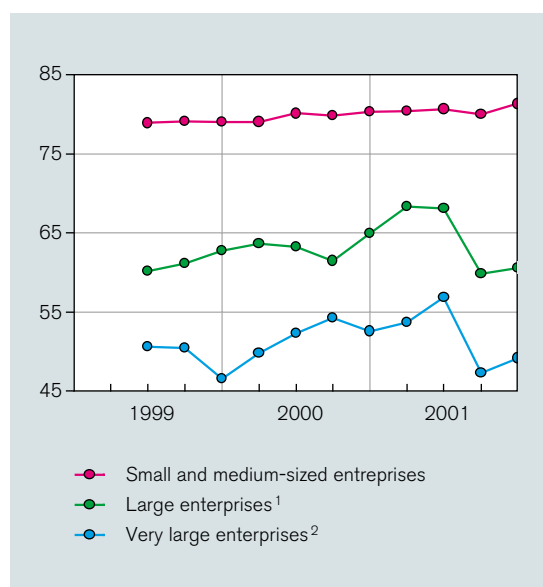
than 10 p.c. higher than the figure recorded at mid 1999.

The reduction in lines made available to large customers could be partially explained by banks' decisions to cut down excessive unused lines in view of the more stringent enforcement, by the supervisory authorities, of capital requirements applied to such lines. The relative size of these unused lines has traditionally been much bigger for large and very large corporations, as is evident from the degree of utilisation of loans granted by Belgian credit institutions (Chart 24).

The same set of data can also be used to monitor the extent to which banks' corporate clients might be constrained in their source of financing by their credit limits. Notwithstanding the cut in their lines, the major corporations have reduced the degree of utilisation of their credit lines to around 60 p.c. for large companies and to below 50 p.c. for very large ones. In the case of SMEs, the degree of

CHART 24 – DEGREE OF UTILISATION OF CREDITS GRANTED BY BELGIAN CREDIT INSTITUTIONS TO RESIDENT ENTERPRISES

(Percentages of total credit lines)



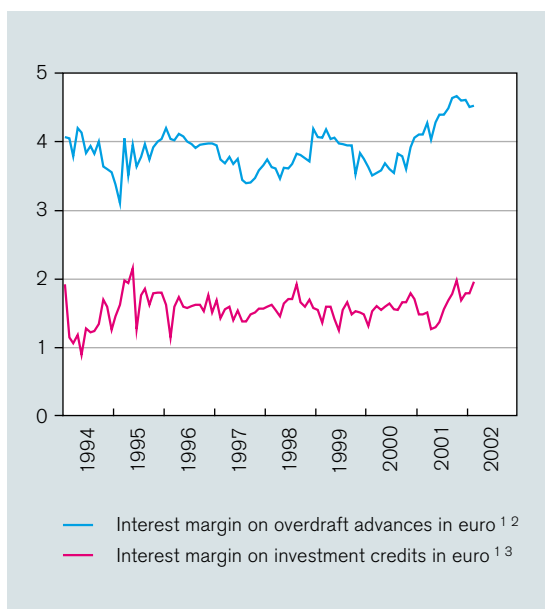
Source : NBB (Credit Register).

¹ Adjusted for the exceptional increase in credit lines opened to the financial leasing industry in the third quarter of 2001.

² Turnover of more than 37.2 million euro during two consecutive years.

CHART 25 – INTEREST SPREADS ON SHORT AND LONG-TERM CREDITS

(Percentages)



Source : NBB.

¹ Until end 1998 in BEF.

² Calculated as the difference between the interest rate on overdraft advances and the reference rate on 3-month Belgian Treasury certificates.

³ Calculated as the difference between the interest rate on investment credit and the reference rate on 5-year Belgian linear bonds.

utilisation has remained fairly stable, fluctuating around 80 p.c. Even if no significant increase has been recorded, this high percentage reveals that small enterprises have less room for manoeuvre in their credit relations with banks.

Banks can also modify their credit policy through a change in the interest spreads added to market rates in order to fix the pricing of their loans. Spreads on both short-term credit (overdraft advances) and long-term lending (investment loans) increased during 2001, indicating that short- and long-term market interest rate decreases were not passed on in full to bank customers (Chart 25). Through this re-pricing, conditions on corporate credits have in fact been brought more in line with economic fundamentals. Indeed cross-subsidisation strategies had previously induced banks to propose loans with very thin margins, not always reflecting the true cost and riskiness of the operations. While the economic rationale of this policy change is clear, it may have made credit conditions more difficult at a time of weakening in economic activity. Some determinants of loan rates are further discussed in box 1.

BOX 1

RELATIONSHIPS BETWEEN BANKS AND FIRMS AND OTHER DETERMINANTS OF LOAN RATES IN BELGIUM

Information problems are pervasive in financial markets. Business managers seeking external funds have more information than do providers of external funds about the use of the borrowed funds and the risk involved in the firm's proposed projects. Influential theoretical work by Diamond (1984) used asymmetric information arguments to explain the emergence and existence of financial intermediation. According to Diamond, banks endogenously emerge as specialists in selecting and monitoring projects. Although with the launch of the euro direct tapping of capital markets has increased substantially, local bank credit remains an important financing source for non-financial firms in Europe in general, and in Belgium in particular (see table 4). It is therefore important to understand the factors determining the loan rates set for firms by Belgian financial intermediaries. Changes in firms' access to loans and in interest rates may influence the inflation and growth of an economy, which can in turn affect the stability of financial markets.

Loan rates in Belgium and other countries have been investigated in two complementary ways. The first relies on aggregate data relating to "standardised" contract forms, such as

short-term credit and long-term investment credit, based upon a regular survey of banks. These survey data allow examination of the impact of some general determinants of average spreads. Bruggeman and Wouters (2001) analyse data for the period January 1993 to September 2000 from a monthly *survey* of about forty Belgian financial institutions conducted by the NBB. They investigate some determinants of loan rates given that banks appear to play a very important role in the transmission of monetary shocks to the real economy. They analyse whether spreads of loan interest rates over the risk-free rates are influenced by bank-specific characteristics such as size, liquidity or capitalisation or by macroeconomic factors, captured by the business cycle. Whereas Bruggeman and Wouters find that spreads on short-term and long-term loans to firms do appear to move counter cyclically, bank specific characteristics do not have a big impact on spreads. Only bank liquidity has a significant influence on the spread on short-term loans. One explanation proposed by Bruggeman and Wouters for the weak influence of bank-heterogeneity on loan interest rates is tight competition in the market for credit to firms, especially for investment credits.

A second approach to investigating the determinants of loan rates is based on *detailed data on individual loan contracts*. This approach has the advantage that it is based on loans actually granted. More importantly, it allows examination of how loan rates hinge on the intensity of bank-firm relationships, where intensity may be measured by the duration and scope of services purchased from the bank by the firm. Both duration and scope help the bank to acquire information about the firm and to overcome the asymmetric information problems between bank and borrower. Indeed, the theoretical literature on the duration of bank-firm relationships consistently assumes that the repeated provision of banking services over time reveals information about the firm's type. Interestingly, however, this literature generates conflicting predictions about the effect of duration on the interest rate charged to the borrower. Boot and Thakor (1994) argue that loan rates will decline as a relationship matures, because savings from the bank's improved knowledge of the borrower are passed on to the borrower. On the other hand, Sharpe (1990) and von Thadden (2001) predict that loan rates will increase with the duration of the bank-firm relationship. The intuition here is that the bank's improved knowledge may generate a lock-in problem, which creates switching costs for the borrower. This enables the bank to charge above-cost interest rates as the relationship continues. Degryse and Van Cayseele (2000) present evidence based on one Belgian bank's loan contracts with firms in 1997. They measure the duration of a financial relationship as the number of years that the bank and the firm have been interacting at the moment that the loan rate is decided. Their results show that firms with a longer financial relationship pay a higher interest rate on their loans, which is in line with the predictions of Sharpe and von Thadden. Degryse and Van Cayseele also take into account the interactions between duration and the scope of the relationship, where scope is measured by a dummy variable defined as "broad" whenever the firm takes up a substantial fraction of its loans at that bank, has a significant turnover on its current account at that bank, or buys at least two other products at that bank. Degryse and Van Cayseele find that although loan rates increase with the duration of the relationship, the extent of the increase is weaker when the scope is broad. Thus, at least for this bank in the year under consideration, the lock-in effect seemed to dominate however some gains from the bank's improved knowledge appeared to be passed on to the borrower.

It is essentially the worsening economic climate, rather than the revisions in banks' pricing policy, which has contributed to reducing credit growth during 2001 through its effect on the overall quality of loan portfolios. Indeed, there seems to be a negative correlation, although a loose one, between GDP growth and the amount of banks' credit loss provisions. However, this inverse relation is largely superseded, on the one hand, by a downward trend in banks' provisions since 1993 and, on the other hand, by successive peaks related to specific credit events. They relate, in particular, to provisions made on Eurotunnel loans and on the real estate lending portfolios of some banks in the third quarter of 1995, provisions for the dioxin crisis in 1999 and the credit loss provisions for a number of bankruptcies in the IT sector at the end of 2000. The amount of loan loss provisions expressed as a percentage of claims on customers increased again during

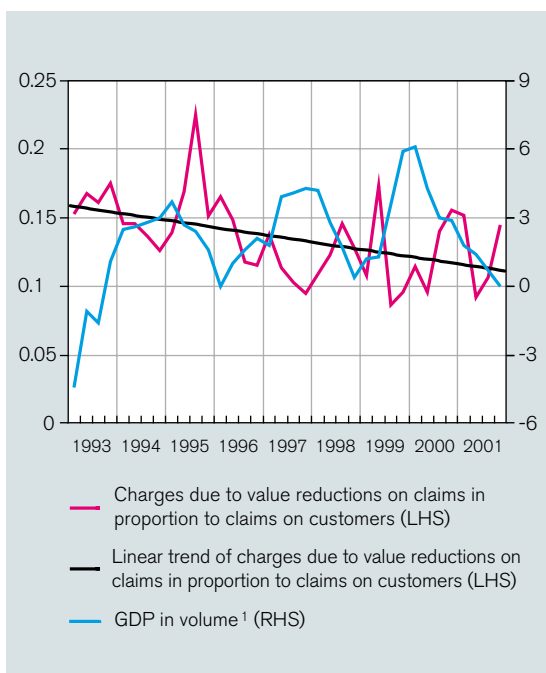
the last two quarters of 2001, as a number of credit problems came to the surface at major companies (Chart 26). The present stream of loan loss provisions seems, nevertheless, to be rather low, certainly considering the current position in the cycle. The importance of a prudent provisioning policy might therefore be underlined, bearing in mind that there is usually a time lag before the business cycle works through into loan loss provisions and credit losses. This pattern is reinforced by Belgian accounting principles and tax rules which do not allow the early setting aside of anticipatory loan loss provisions.

Past peaks in provisions suggest that the degree of riskiness of banks' exposure to corporate credit may be strongly influenced by a concentration of loans on a single company or industry. It is not easy to detect, a priori, those categories of lending which are more at risk. While some sectors, such as the real estate sector, are traditionally more vulnerable to fluctuations in the economic cycle, others may be hit by unexpected shocks that will weaken their financial position, e.g. the telecom and airline industry. Data from the Central Register for Corporate Credit provide a useful complement to the analysis of the overall pattern of credit growth, as they offer a sectoral breakdown of banks' credit lines to corporations, covering not only domestic but also foreign enterprises.⁷

In line with the moderate growth of aggregate bank lending to enterprises in 2001, the growth of credit lines granted to several of these more risky sectors has been subdued (Table 5). The major exception is the telecom sector, to which banks' credit lines increased by 21.7 p.c. in 2001, mainly due to a rise in

CHART 26 – CREDIT LOSS PROVISIONS AND THE BUSINESS CYCLE

(Quarterly seasonally adjusted figures, percentages)



Source : NBB.

¹ Percentage changes compared to the corresponding quarter during the previous year.

⁷ In order to emphasise the changes in credit relationship between Belgian banks and their domestic corporate clients, especially SMEs, data on aggregate credit to enterprises used at the beginning of this section (Charts 22 to 24) cover resident companies only. In contrast, the data in table 5, aimed at analysing sectoral credit exposures of banks, cover all enterprises, domestic as well as foreign. However, the data from the Central Credit Register used for the extended sectoral analysis are only available for credit lines opened to corporations and not for credit actually used by corporations.

TABLE 5 – CREDIT LINES OPENED BY BELGIAN CREDIT INSTITUTIONS TO SOME SPECIFIC INDUSTRIES¹*(Data on a company basis. The figures include credit lines opened by Belgian credit institutions to resident as well as foreign companies)*

	Annual changes		Outstanding amounts end 2001, percentages of regulatory capital ²	Outstanding amounts end 2001, percentages of total credit lines
	Average 1999 and 2000	2001		
Telecommunication sector	8.7	21.7	13.3	1.5
Other sectors of the new economy	15.8	-13.2	17.8	2.0
Airline and tourism industry	12.3	-14.6	13.1	1.5
Real estate sector	13.0	2.1	92.3	10.4

Source: NBB (Credit register).

¹ Other sectors of the "new economy" encompasses the sub-sectors of production of electrical and electronic appliances and information technology; the "airline and tourism industry" comprises primarily the air transport, freight, travel agencies and tour operators sub-sectors; the "real estate sector" comprises construction and the renting and sale of real estate.

² Regulatory equity capital is the total of own funds that is used for calculating the solvency coefficients to be complied with under the Basle Accord.

loans extended to foreign telecom companies, which currently account for 60 p.c. of total lines granted by Belgian banks to this sector. During the same period, there has been a decline in the opening of credit lines, as well as in the actual provision of credits to other sectors related to the new economy, such as the IT sector.

The sizeable credit lines to the real estate sector grew by only 2.1 p.c. in 2001, accounting for 10.4 p.c. of total credit lines and 92.3 p.c. of banks' regulatory capital at the end of the year. In 2001, the exposure to the airline, travel agency and tourism industry recorded a year-on-year decrease of 14.6 p.c. and amounted to 13 p.c. of Belgian banks' regulatory own funds in December 2001. The bulk of these exposures are credits towards cargo handling companies and other auxiliary services related to the airline industry. The sharp decrease in these lines is also related to the bankruptcy of the national carrier Sabena.

In conclusion, one might state that the reduction in credit growth in 2001 has curbed the build-up of corporate credit exposure in banks' portfolios. Furthermore, the economic downturn has not yet led to a strong upward adjustment in loan loss provisions, as the credit accidents

of the last quarters of 2001 can probably be considered as stand alone events. Nevertheless, the current level of provisioning is rather low by historical standards.

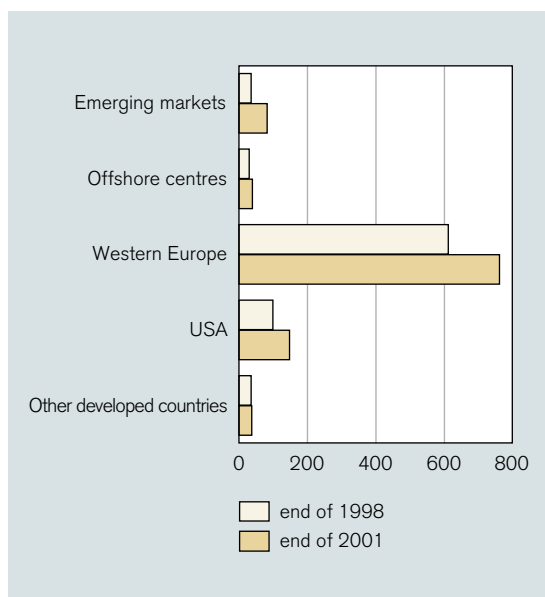
Belgian banks are also exposed to potentially large credit risks through their foreign operations. This exposure is one of the most obvious channels through which the international developments described in the first chapter may affect financial stability in Belgium. These can be monitored by referring to the international consolidated banking statistics compiled by the Bank for International Settlements (BIS). These BIS statistics record the gross on-balance-sheet claims that Belgian banking groups' domestic and international offices hold on entities located in foreign countries. Those external claims of Belgian banks cover assets concerning the public sector, banks and corporations⁸.

Total foreign claims rose by more than 30 p.c. between December 1998 and December 2001.

⁸ In order to provide a better picture of the aggregate total international exposure, the BIS statistics include local currency claims on local residents, and adjust for risk transfers to take account of guarantees given by residents of other countries. This set of risk transfer instruments is, however, not complete as it does not cover credit derivatives.

CHART 27 – COUNTRY RISK

(Exposure as a percentage of total regulatory capital, data on a consolidated basis)



Sources : BIS, CBF.

Compared to the 14 p.c. overall growth of bank balance sheets over the same period, this percentage is quite high, reflecting the steady increase in the internationalisation of Belgian banks. Claims on Western Europe account for the lion's share of this exposure as they represented, at the end of 2001, around 75 p.c. of total Belgian banks' exposure to foreign countries, equivalent to more than 750 p.c. of their total regulatory capital (Chart 27). Claims on the USA are much less significant, amounting to about 15 p.c. of the total. Exposures to other groups of countries are even lower. While claims on other developed countries did not increase during the last three years, credits to developing countries and transition economies went up from 33 p.c. of regulatory capital at the end of 1998 to 84 p.c. at the end of 2001.

An evaluation of these country risk exposures should not only be based on the absolute value of the loans but should also take into account the probability of default. To calculate such a

risk-adjusted measure, the size of the exposures has been multiplied by an estimation of the sovereign default probability attached to those exposures⁹.

This probability has been approximated by the average annual default probability associated with the sovereign foreign currency ratings attributed to each country. These ratings assess the relative likelihood that a sovereign will default on its obligations, and set a ceiling for the rating of all other foreign currency denominated debts contracted by domestic entities. As such, they measure country risks and do not take into account more specific business or commercial risks associated with private debtors.

On top of this bias, the method has some other shortcomings. The small number of countries makes it more difficult to rate sovereign debtors than corporations, so that the probability of default associated with each sovereign rating might not be completely accurate. Another bias comes from the fact that the method does not take into account the correlation between individual defaults within countries. Furthermore, in deriving the rate of loss from ratings, a zero recovery rate is implicitly assumed, which will lead to an overestimation of credit risks. Finally, total exposure is biased by the fact that the consolidated banking statistics take only partial account of off-balance-sheet items.

The method has been applied to the set of emerging countries to which Belgian banks have the largest exposure. For this sample of countries, Table 6 provides a general overview, at the end of December 2001, of the default probability (as derived from the ratings), the on-balance sheet credit exposures and the sovereign risks calculated by multiplying the

⁹ See Buckle and Cunningham in the June 2000 Financial Stability Review of the Bank of England for a full description of the method applied.

TABLE 6 – SOVEREIGN RISKS FOR A SELECTED NUMBER OF COUNTRIES

(Data as per December 2001)

	Percentage	Million EUR	
	Default probability	Exposure	Sovereign risks
Latin America			
Mexico	0.56	462	2.6
Brazil	4.48	2,638	118.2
Argentina	7.47	1,635	122.2
Chile	0.25	402	1.0
Venezuela	5.13	339	17.4
Asia			
Korea	0.36	1,420	5.1
Indonesia	6.58	1,174	77.2
India	1.77	586	10.4
Philippines	1.64	621	10.2
Malaysia	0.36	210	0.8
Thailand	0.56	188	1.1
China	0.08	946	0.8
Eastern Europe			
Czech Republic	0.25	14,129	35.3
Hungary	0.08	4,573	3.7
Poland	0.25	7,942	19.9
Turkey	4.48	662	29.6
Russia	3.88	458	17.8

Sources: BIS, Moody's.

first two variables. The table shows that the pattern of sovereign risks does not fully match the pattern of the exposure. The high exposure to the Czech Republic does not translate into high sovereign risk as a result of a low default probability. Sovereign risks for Brazil, Argentina and Indonesia are in fact much higher.

These sovereign risks can in some cases change quite rapidly, as has been illustrated by the case of Argentina. To give some idea of the variation in the vulnerability of Belgian banks to shocks from emerging markets, Chart 28 shows how those risks, expressed in p.c. of regulatory capital, have developed over time in the main Central and Eastern European countries and in

other key emerging economies. The three major changes concern the Czech Republic, Poland and Argentina. The higher sovereign risks associated with the first two countries are due to an increase in credit exposure, while in the case of Argentina it is the downgrading in the rating which has been the main determinant of the increase in risks.

Although the overall exposures to sovereign risks of the banking sector as a whole may appear to be quite limited from this analysis, attention should nevertheless be paid to the fact that aggregate figures may disguise the potential concentration of these exposures to a single country or region within one particular bank.

CHART 28 – CHANGE IN SOVEREIGN RISK TO SOME EMERGING MARKETS

(Percentages of total regulatory capital)



Sources : BIS, Moody's, CBF.

4.2 INTEREST RATE AND MARKET RISKS

Interest rate risk is quite different in nature from credit risk. While the latter depends on the identity of the counterparty, the former is a function of the structure of banks' assets, liabilities and off-balance-sheet items. Interest rate risk refers

to any significant rate variation which directly affects the conditions for maturity transformation activities.

A risk that is closely linked to, but distinct from, interest rate risk, is market risk. On the one hand, market risk is broader, as it is not only related to variations in interest rates, but also to movements in exchange rates or share prices. On the other hand, when measured through its impact on banks' reported accounts, market risk is more restricted. Indeed, it just takes into account the effect of interest rate variations on the trading book, only balance sheet items which has to be marked to market. This full fair value rule applies neither to the securities' portfolios held for investment purposes, about 87 p.c. of total portfolios, nor to other banks' balance sheet items, which are mostly composed of non-tradable assets and liabilities. To manage their market risks, financial operators have developed specific tools. One such instrument is the Value at Risk, which is discussed in more detail in Box 2.

For the purpose of maturity transformation activities, banks record substantial net debit positions at the short end of the maturity ladder and net credit positions for longer term maturities. This mismatch between the average maturity of assets and liabilities makes credit institutions particularly vulnerable to shifts in the yield curve. These effects operate through various channels.

First, changes in the slope of the yield curve will directly affect banks' profitability by broadening or reducing differentials between interest paid on predominantly shorter term liabilities and rates received on mostly longer term credits. Second, in the case of a general shift in the curve, the financing cost of the credit institution's short-term debts will be adjusted more rapidly than the returns on their longer term assets. Third, short-term rate changes will also influence banks' interest margins, as the difference between rates charged on assets and the cost of non-remunerated or low-remunerated

sight and savings deposits will widen or shrink; this is known as the endowment effect. Fourth, long-term rate variations will also modify the value of banks' securities' portfolios, generating capital gains or losses.

These various effects are summarised in table 7. They are all the more difficult to disentangle as they operate in opposite directions and at a different pace. Moreover, some of them can be delayed, as is the case for capital gains on

BOX 2

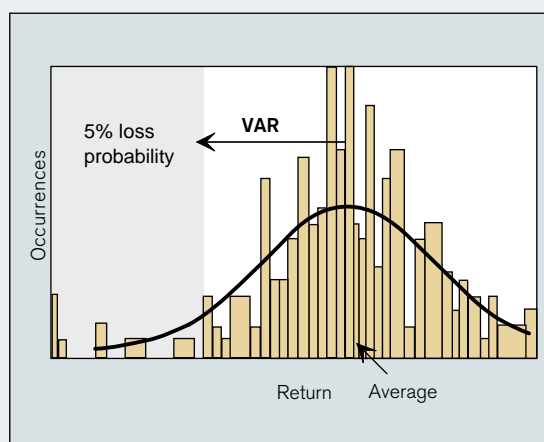
BOX 2: MEASUREMENT OF MARKET RISK THROUGH VALUE AT RISK

Market risk refers to the variability of portfolio values due to changes in market prices, such as interest rates, foreign exchange rates, or stock indices. The benchmark for managing this risk has become the Value at Risk (VaR). The main advantage of these models is that they integrate the risks across all assets and summarise in one single number the potential losses to a bank due to given changes in market values.

Definition and parameters

The VaR of a portfolio can be defined as the worst-case loss expected over a holding period within a certain probability set out by a confidence interval. The chart illustrates how the VaR can be derived from the histogram of portfolio returns. The choice of confidence level should reflect the degree of risk aversion and the cost of a loss exceeding the VaR. A wider confidence interval reduces the probability that the model will fail to predict large losses. Market practice varies between 95 p.c. and 99 p.c. The holding period should reflect the time needed to adjust or liquidate the portfolio. The Basle Committee has required a 99 p.c. interval over a 10-day period, meaning that the VaR is the size of the loss, during a period of 10 days, that is likely to be exceeded in only 1 p.c. of cases. The resulting VaR is then multiplied by a safety factor of 3 to provide the minimum regulatory capital.¹

MEASURING VALUE AT RISK



¹ This at first sight rather arbitrary factor has been justified by Stahl (1997) using Chebyshev's inequality.

Techniques

Different methods have been put forward to obtain the frequency distribution of portfolio returns, as plotted in the above chart¹. The main techniques applied by banks are historical simulation, the variance-covariance approach and Monte Carlo simulation. Historical simulation uses past asset portfolio returns. This method is relatively simple to implement and it takes into account fat tails often observed in the actual distribution of returns. However, historical returns are not always a good indicator of future returns, and computation difficulties may arise for large portfolios with complicated structures. The variance-covariance approach presumes that the returns follow a particular distribution, usually a normal one. A parametric distribution is presumed to have the advantage that it is very suitable for analysis, since measures such as marginal and incremental risks can easily be derived. However, it does not take account of fat tails, underestimating risks for large confidence intervals. The Monte Carlo simulation uses randomly generated returns, which can be obtained either by assuming a parametric distribution or by bootstrapping from historical data. This is a very powerful method since it alleviates several technical difficulties. Unfortunately, computer and data requirements are onerous. In Belgium most banks make use of the first two methods, although it is expected that the last method will gain in importance.

Some limitations

VaR indicators are subject to some pitfalls that have to be fully understood by users in order to avoid any misinterpretation. Like other models, VaR measures are subject to *model risks* which need to be evaluated by back testing, i.e. comparing historical VaR measures with actual losses. Another drawback of VaR models based on historical data is that they assume that past return and volatility are good indicators of future changes of these variables. This could imply that the VaR fails to identify unusual shocks or structural changes, possibly leading to severe losses. These *stability risks* highlight the importance of stress testing. Both back testing and stress testing are required by the Basle Committee as a condition to be satisfied when using internal models. More recently, it has been argued that VaR does not always react correctly to the addition of risks, thus creating *aggregation risk*. Normally, the aggregation of portfolios should only reduce risk, or at most leave it unchanged. However this does not always seem to be the case for VaR. Therefore, some argue in favour of using a complementary measure, like the expected shortfall, i.e. the average loss that a portfolio can suffer when it exceeds the VaR.²

VaR in Belgium

In Belgium, market risk is considered as a less important source of financial instability compared to other risks, e.g. credit risk. This is illustrated by the fact that only 5 p.c. of total regulatory capital of Belgian banks serves as a buffer for market risk. Table 1 shows the maximum average VaR, expressed in p.c. of total regulatory capital, for the trading books of the three major Belgian banks: KBC, Fortis and Dexia. Comparison between the individual

¹ See Jorion (2001) for an extensive overview.

² See Artzner et al. (1999).

banks is rather difficult since some of the underlying assumptions made by the banks are different. Overall market risk exposure across individual banks appears to be rather low.

TABLE: VALUE AT RISK

(Consolidated data, 2001)

	Maximum VaR ¹ / Regulatory Capital
KBC ²	0.18 p.c.
Fortis ³	0.13 p.c.
Dexia: first 9 months (without Artesia BC)	0.25 p.c.
last 3 months (with Artesia BC)	0.30 p.c.

Sources: Published annual accounts and NBB calculation.

¹ Maximum Value at Risk (99 p.c. confidence interval, 10-day holding period).

² VaR related only to market risks entailed by variations in interest rates.

³ 1-day holding period.

investment portfolios, which can be realised immediately or kept latent on banks' balance sheets.

In 2001, the movement in interest rates tended to benefit Belgian banks. The yield curve shifted downwards and steepened, which is one of the most favourable scenarios, even if it also reduced the size of the endowment effect (Chart 29). Meanwhile, in early 2002 a rise in long-term rates eliminated most of the capital gains generated by the 2001 increase in bond market values.

While these shifts in interest rates are a well-known constraint for Belgian banks, the

introduction of the euro, which implied the end of the fixed exchange rate policy in Belgium, has contributed to reducing the volatility of short-term rates (Chart 30).

A detailed view of the successive mismatches faced by Belgian credit institutions in the various segments of the maturity ladder is presented in Chart 31. The profile of the different net positions showed little change between the end of 2000 and the end of 2001, indicating that the banks' transformation activity is relatively stable. Apart from the structure of assets and liabilities, this chart also shows the off-balance-sheet

TABLE 7 – YIELD CURVE CHANGES

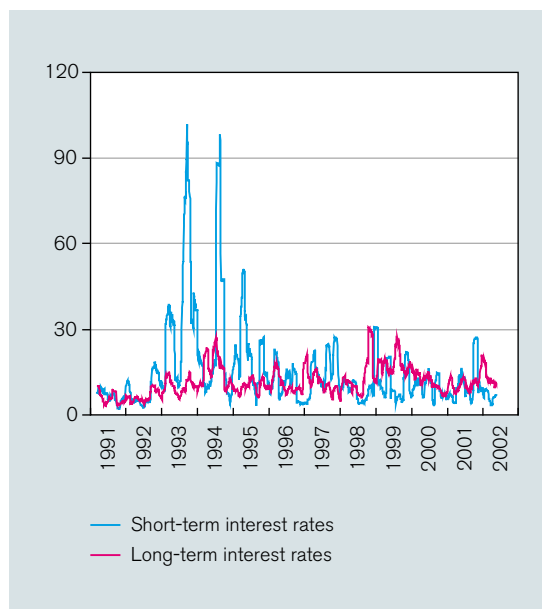
Key changes in the yield curve	Nature of the main effect	Impact on profitability	
		Upward change	Downward change
Changes in the slope of the curve ..	General conditions of maturity transformation	Positive	Negative
General shift in the curve	Different speeds of adjustment for debit and credit rates	Negative	Positive
Move in short-term rates	Endowment effect	Positive	Negative
Move in long-term rates	Capital gains or losses on investment portfolios	Negative	Positive

transactions, mostly in derivative products, which similarly affect interest rate positions. In fact, it is exclusively for the longer maturities – more than 1 year – that these off-balance-sheet products compensate for part of the gap between assets and liabilities. In contrast, at the short end of the yield curve, positions in derivatives enlarge the position resulting from on-balance sheet operations. This seems to indicate that in this segment of the curve derivatives are used for trading much more than for hedging.

Other balance sheet components on which banks can rely to even out their positions are items with undetermined maturities. In particular, sight and savings deposits are relatively stable resources in terms of both price and quantity, so banks can use them in the financing of longer term assets. However, this stability cannot be taken for granted, and banks have to make behavioural assumptions in order to estimate the

CHART 30 – HISTORICAL 30-DAY VOLATILITY OF BELGIAN LONG- AND SHORT-TERM INTEREST RATES¹

(Daily figures)

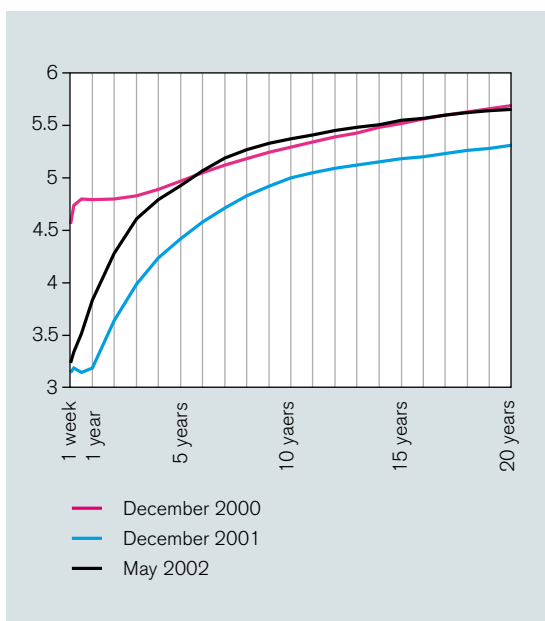


Source: NBB.

¹ The historical 30-day volatility is calculated as the annualised standard deviation of the daily percentage changes in the end of day returns on the benchmark 10 year bond (long-term) and the indicative interest rate on 3-month Treasury certificates (short-term).

CHART 29 – YIELD CURVE IN EUROS¹

(Percentages)



Source: NBB.

¹ Monthly averages of the reference rates on the secondary market for Treasury certificates issued by the Belgian State for periods shorter than or equal to one year and for linear bonds for the other maturities.

fraction of those liabilities that might be withdrawn under normal and stress conditions. The choice of such behavioural assumptions is certainly one of the difficult issues facing banks' risk managers. Any changes in the incentives for customers to hold such savings deposits can have a strong impact on the banks' balance sheet structure.

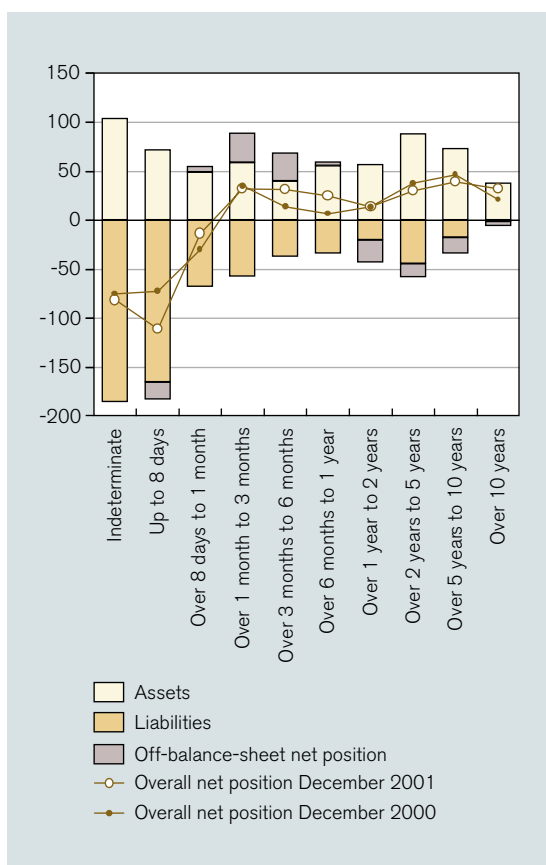
4.3 LIQUIDITY RISK

Financial institutions provide their customers with liquidity insurance.¹⁰ However, by insuring others against liquidity risk, banks become exposed to it. This liquidity risk is defined as the likelihood that a bank is unable to fund its portfolio

¹⁰ See Diamond and Rajan (2001).

CHART 31 – NET MATURITY POSITIONS IN NATIONAL CURRENCY ACCORDING TO THE RESIDUAL TERM TO THE NEXT INTEREST REVIEW DATE

(December 2001 data on a company basis; billions of euro)



Source: NBB.

of assets or to unwind this portfolio at a reasonable cost to meet short-term obligations.

One possible starting point for assessing the liquidity position is the above maturity ladder approach, after correction for floating rate items for which the time to the next interest review date – used as the classification criterion for Chart 31 – differs from the time to final maturity.¹¹

However, this approach does have some shortcomings. Apart from the issue of assets and liabilities with undetermined maturities, the maturity ladder does not provide information on the

true sources of liquidity available to banks. Some long-term assets (e.g. government bonds) are more liquid than some short-term liabilities (e.g. overdrafts). Likewise, banks can draw on existing credit lines or open new ones at relatively short notice on the interbank market.

The three central elements of Belgian banks' liquidity management are access to the interbank market, the holding of liquid securities and relations with a stable core of depositors. To put these three components in perspective, Table 8 presents a synthetic bank balance sheet structure. The situation at the end of 2001 is compared both with the corresponding figures for the euro area and with the situation prevailing at the end of 1995.

On the asset side, securities represented 28.9 p.c. of the balance sheet total of Belgian banks at the end of 2001 compared to 27.8 p.c. six years before. They therefore remain a much bigger component of banks' assets than in the euro area, where this portfolio is just 18 p.c. On the liability side, customers have been moving away from debt instruments, especially bank bonds, towards deposits which amounted to 43.9 p.c. of Belgian banks' liabilities at the end of 2001 compared to 36.6 p.c. in the euro area. On the interbank market, Belgian credit institutions have brought the overall level of their operations more into line with the situation observed in the euro area, while keeping a higher negative differential between their borrowing (31.8 p.c. of liabilities) and their lending (24 p.c. of assets). For each of these three developments, some additional structural changes are worth mentioning.

While the overall size of bank securities portfolios has remained fairly stable in relative terms, a clear shift has taken place away from Belgian government bonds towards foreign government

¹¹ Floating rate items represented, at the end of 2001, 16,7 p.c. of total assets and 1,6 p.c. of total liabilities.

TABLE 8 – SYNTHETIC STRUCTURE OF BANKS’ ASSETS AND LIABILITIES

(Percentages of balance sheet total, Belgian data on a company basis, euro area data on territorial basis)

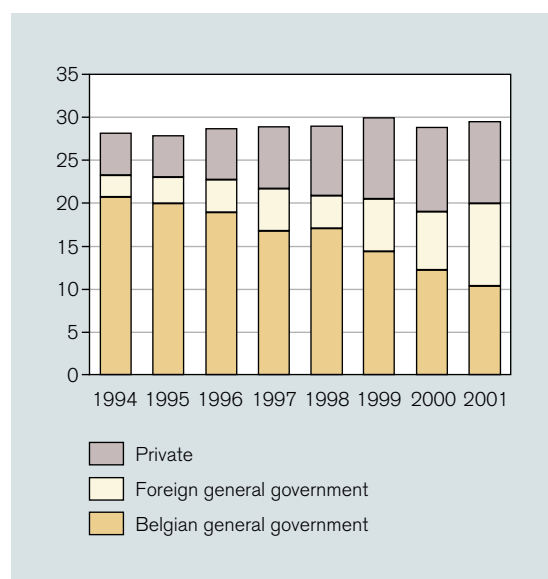
	Belgium				Euro area	
	December 1995		December 2001		December 2001	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Interbank positions	33.0	40.7	24.0	31.8	26.6	30.9
Securities and debt instruments	27.8	16.0	28.9	9.8	18.0	18.4
Customer credits and deposits	33.3	34.6	35.8	43.9	43.1	36.6
Other assets and liabilities	5.9	8.6	11.3	14.5	12.3	14.1
Total	100	100	100	100	100	100

Sources: NBB and ECB.

and private bonds (Chart 32). This development is attributable mainly to the creation of EMU, which stimulated diversification by eliminating FX risks. As a result, banks have gained ready access to some deep and very liquid foreign markets, which should further enhance the liquidity of their securities portfolios.

CHART 32 – SECURITIES PORTFOLIOS OF BANKS

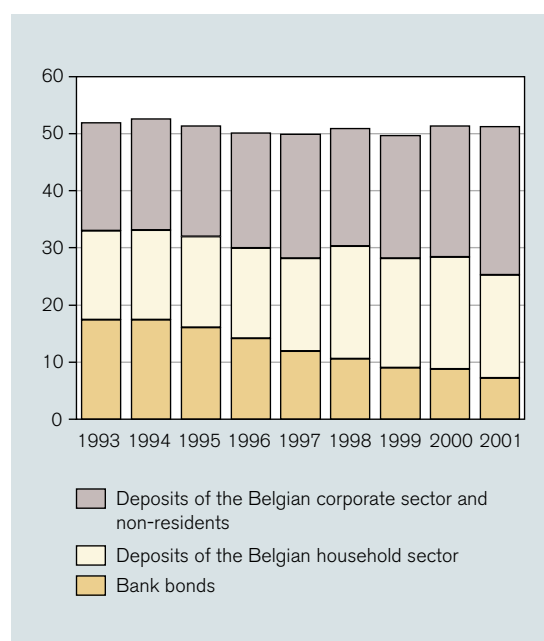
(Percentages of total assets, data on a company basis)



Source: NBB.

CHART 33 – DEPOSIT AND BOND FUNDING

(Percentages of total liabilities, data on a territorial basis)



Source: NBB.

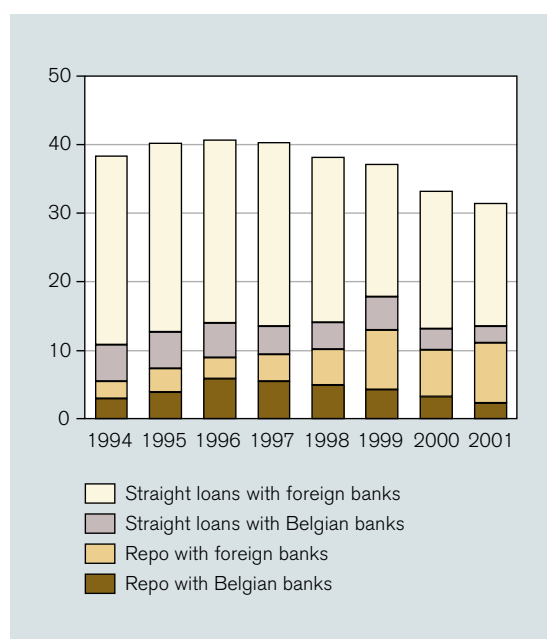
Since 1993, deposits collected from customers and bank bonds (the so-called “Kasbons/Bons de caisse”) have together represented a relatively constant part of credit institutions’ liabilities, amounting to slightly more than 50 p.c.

(Chart 33). However the composition of those resources has gradually changed. Bank bonds, which still represented 17.4 p.c. of total liabilities in 1993, shrank to 7.3 p.c. in 2001. This fall was only partially offset by an increase in resources collected in the form of household deposits, whose share in total liabilities increased from 15.6 p.c. to 17.9 p.c. It is in fact the third, more volatile funding component, collected from corporations and non-residents, which has gained greatly in importance, increasing from 18.9 p.c. to 26 p.c. of total liabilities. These various developments indicate that the funding obtained by credit institutions outside the interbank market is liable to stronger fluctuations than in the past.

Finally, the interbank market plays an important role in redistributing liquidity shortages and surpluses among banks. As can be inferred from table 8, net reliance on the interbank market remains greater in Belgium than in the euro area (7.8 p.c. of the balance sheet total compared to

CHART 34 – COMPONENTS OF INTERBANK FUNDING

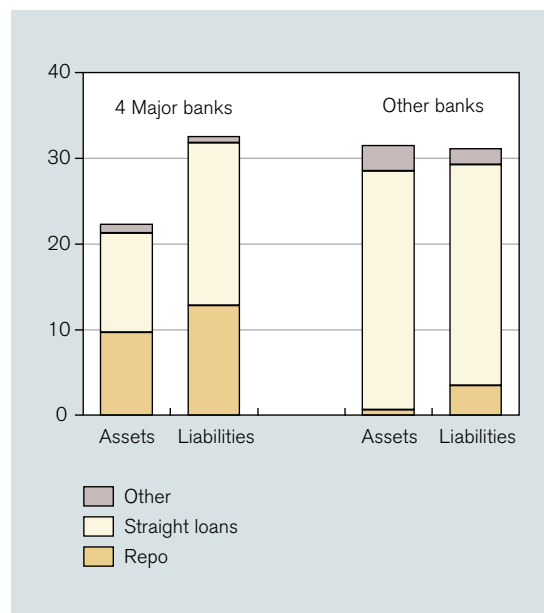
(Percentages of total liabilities, data on a company basis)



Source: NBB.

CHART 35 – INTERBANK TRANSACTIONS: DISTINCTION BETWEEN LARGE AND OTHER BANKS

(Percentages of balance sheet total, data on a company basis)



Source: NBB.

4.3 p.c., at the end of 2001). The gross level of these transactions has gradually decreased due to several factors, e.g. the introduction of the euro which reduced the number of currencies traded by Belgian banks, the centralisation by several large foreign banks of the treasury management operations previously performed via their Belgian subsidiaries, and the wave of mergers and acquisitions in the Belgian banking sector which significantly reduced the volume of domestic transactions (Chart 34). Simultaneously, the proportion of secured operations has been increasing, a first boost having been provided by the reform of the Belgian money market in the early nineties and a second one by the development of the euro interbank market since 1999.

The structure of interbank transactions differs significantly between the four largest banks and the others (Chart 35). On the one hand, the net recourse to this market is attributable to the four largest banks, as the net position of other banks

is practically in equilibrium. On the other hand, repo transactions are basically contracted by the four major groups, while the other banks rely almost entirely on unsecured operations.

The development of collateralisation not only changes the conditions in which liquidity management operates, it also does much to promote the stability of the financial system by reducing potential contagion risks. Indeed, by linking together individual credit institutions, the interbank market has the potential to transmit shocks originating in one individual bank to the rest of the system. Collateralisation provides security for those transactions. However, to fulfil this stabilising function, the repo market has to be underpinned by strong legal support, especially when operators engage in cross-border deals involving several national laws. An article in this Financial Stability Review is devoted to this issue.

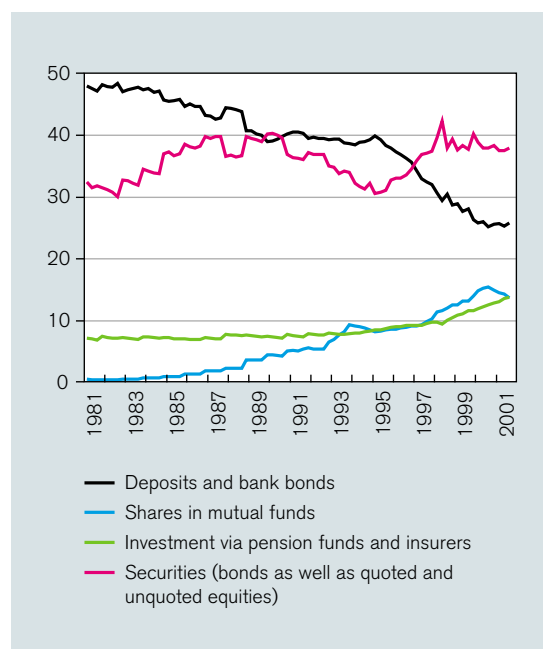
4.4 BANKS' PROFITABILITY AND BUSINESS RISKS

The above-mentioned credit, interest rate, market and liquidity risks remain, to a large extent, closely linked to the more traditional banking activities of deposit taking and credit granting. Other risks might be generated by structural developments in the financial system that will induce banks to enter new markets and develop new products. One of the most important long-term trends affecting banks' activities in Belgium as well as in other European countries is the gradual decrease in the share of credit institutions in the intermediation of households' financial savings (Chart 36).

This sharp reduction, in relative terms, in Belgian households' assets held in the form of demand and savings deposits or bank bonds over the last two decades has been offset by an upsurge in households' investment in mutual funds, pension funds and insurance companies. The ageing of the population, the greater financial wealth of

CHART 36 – BELGIAN HOUSEHOLDS' FINANCIAL ASSETS

(Percentages of total assets)



Source: NBB.

individuals and wider disclosure of financial information are giving a strong stimulus to this quest for higher returns and more active asset management. These factors are furthermore reinforced by various tax devices which favour the acquisition of financial assets through the intermediation of institutional investors.

Changes have been much less pronounced for the other category of private clients, the corporate sector. Although some major Belgian enterprises have been in a position to replace bank credit by other sources of funds – e.g. capital market financing – SMEs, which constitute the bulk of banks' corporate clients, still rely very much on bank loans for their activities.

These structural developments have resulted in a shift in banks' activities from deposit collection to asset management and, to a much smaller extent, from lending to investment banking. In other words, banks have partly replaced their

classic function of financial intermediation by a more advisory role. This development has been accompanied by the transfer of risks to final investors which can be considered as positive from a macroprudential perspective.

At the same time, the dwindling intermediation margin on traditional bank products and the need to recoup the cost of extensive branch networks on a broader range of services have led several banks to increase the scale and scope of their activities. Through mergers and acquisitions they have tried to form larger entities, often diversifying into bancassurance.

From an economic point of view, these developments have to be evaluated on the basis of the potential added value created by the combination of these different activities. In any case, supervisors have to adapt to choices made by the market. In this context, the development of bancassurance should, a priori, contribute towards a better diversification of risks in each supervised

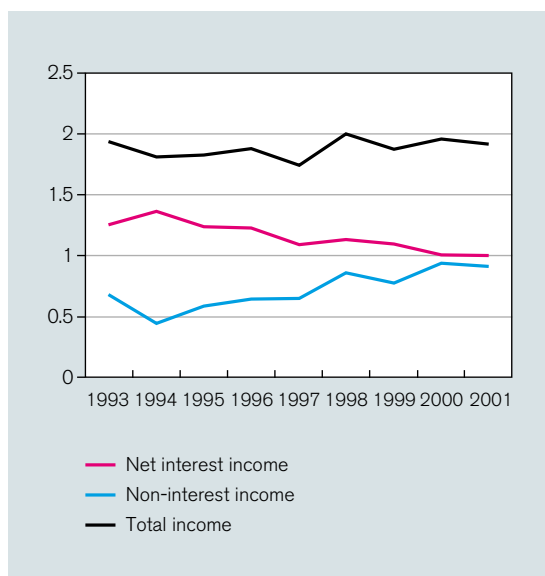
institution. However, those large financial conglomerates are also more complex to organise and this raises monitoring issues. Moreover, the better risk diversification within each institution probably goes hand in hand with concentration into a smaller number of firms in the financial system as a whole. The economic and supervisory issues concerning conglomerates are analysed in an article of this Review.

The effects of these changes in banks' strategies can best be gauged by the change in the composition of total operating income. Net interest and non-interest income both accounted for approximately half of banks' total operating income in 2001, whereas net interest income still made up about 75 p.c. of the banking product in 1994. The widening of the range of products and services offered by banking institutions have compensated for the decrease in the overall intermediation margin of banks, as measured by net interest income in p.c. of total balance sheet, which went down from 1.36 p.c. in 1994 to just 1 p.c. in 2001 (Chart 37). To the extent that banks' new activities are not weighing down balance sheets, they should allow profitability to improve. Between 1996 and 2000, the Return on Assets (RoA) of Belgian banks indeed sharply increased, moving from 0.31 to 0.56. The slowdown in economic activity and, in particular, the poor performance of stock exchanges have interrupted this progression, with RoA falling to 0.38 in 2001. The comparison with 2000, however, is somewhat biased by an extraordinary gain which was recorded during that year by a large bank on the sale of its stake in a French credit institution.

These developments in RoA are mirrored by the variations in the Return on Equity (RoE), which increased from 11.7 p.c. in 1996 to 20.8 p.c. in 2000 and dropped back to 14.0 p.c. in 2001. This parallel evolution is a sign that banks' leverage has been relatively stable, at around 37. This level is relatively high compared to that for other countries, which can be justified by the important proportion of interbank lending and

CHART 37 – BELGIAN CREDIT INSTITUTIONS' INTEREST AND NON-INTEREST INCOME

(Data on a company basis, percentages of average balance sheet total)



Source : NBB.

TABLE 9 – PROFITABILITY AND SOLVENCY OF CREDIT INSTITUTIONS GOVERNED BY BELGIAN LAW

(Data on a consolidated basis, percentages)

	1996	1997	1998	1999	2000	2001
Return on Assets ¹	0.31	0.32	0.31	0.46	0.56	0.38
Return on Equity ¹	11.7	12.1	11.3	17.4	20.8	14.0
Leverage ²	37.7	37.8	36.5	37.8	37.1	36.8
Risk weighted assets vis-à-vis total assets ³	35.1	36.0	37.9	38.5	39.1	34.8
Solvency ratio	11.8	11.5	11.3	11.9	11.9	12.9
Idem on a social basis	10.3	9.9	9.6	9.7	10.2	10.7

Sources: NBB and CBF.

¹ Returns are measured by profits after tax.

² Obtained by dividing Return on Equity by Return on Assets.

³ Total of credit risk weighted assets outside the trading portfolio, on a company basis.

government securities in Belgian banks' assets. As a consequence, the ratio of risks weighted assets, as specified in the Basle Capital Accord, to total assets is lower than in the rest of the EU and even further decreased from 39.1 p.c. in 2000 to 34.8 p.c. in 2001.

This reduction, combined with stable leverage has in turn resulted in an improvement of the Basle capital or Cooke ratio. This ratio, which provides an international standard and risk sensitive measure for banks' solvency positions, has also tended to edge upwards in recent years. A careful interpretation of the movement in this ratio is required, as in its current definition it only covers credit risk and market risks and therefore does not address explicitly all the other risks which banks face. Moreover, the risk weighting of banks' assets is quite crude with little differentiation. These shortcomings have induced the Basle Committee on Banking Supervision to proceed to a revision of the Basle Accord. The current solvency ratio of Belgian banks is therefore liable to change according to the provisions of the forthcoming new Accord. Preliminary estimates, based on limited quantitative impact studies, seem to indicate that on average the Belgian banking system might not be significantly affected by the new requirements.

The level of the solvency ratio on a consolidated basis – 12.9 p.c. at the end of 2001 – appears significantly higher than the same ratio on a company basis, which reached 10.7 p.c. at the same time. This difference is linked to the deduction of banks' investments in subsidiaries which is required in the calculation of solvency ratio on a company basis in order to avoid the double counting of regulatory capital. The main components of banks' regulatory capital, which serves as a buffer to protect depositors and other non-subordinated creditors, are analysed in more detail in Box 3.

While banks, through the development of non-interest income generating activities, have succeeded in compensating for the erosion in their interest margin without increasing their exposure to credit risks, this strategy is not without its drawbacks. In particular, three important issues should be mentioned.

First, the new activities, particularly in the fields of asset management and investment banking, might be more vulnerable to operational risks, including processing, execution or delivery errors or fraud through market manipulation, insider trading or falsified accounts. Apart from their direct costs, such events could potentially damage the reputation of the credit institution. Some

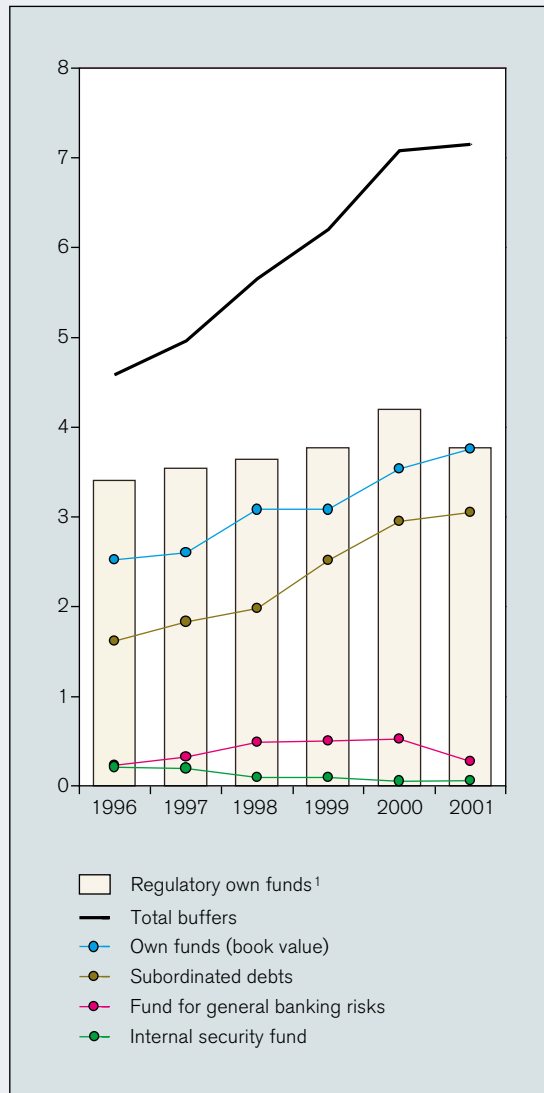
BOX 3

BOX 3: MAIN COMPONENTS OF BELGIAN BANKS' REGULATORY CAPITAL

Belgian credit institutions' balance sheets include a number of items that can enhance solvency and thus protect depositors and all other non-subordinated creditors against risks. Besides regulatory capital, two other categories of reserves should be mentioned. First value adjustments and provisions are intended to cover losses which will very probably occur. Second, latent capital gains on securities portfolios, which are an important component of

CHART - MAIN SOLVENCY ENHANCING INSTRUMENTS OF BELGIAN CREDIT INSTITUTIONS

(Data on a company basis, percentages of total liabilities)



Source : NBB.

¹ As defined by the Basle Capital Accord to fulfil the own fund requirements.

Belgian banks' assets, might also constitute (after deduction for latent losses) a buffer if risks should materialise. The actual size of those net latent capital gains is not disclosed, as securities in banks' investment portfolios are not valued on a marked to market basis.

However, banks' solvency is mainly based on their regulatory capital. The items that can be included in this regulatory capital have been classified into three components. First, core, so-called tier-I, regulatory capital components may include the own funds as recorded in the accounts and other disclosed reserves such as the fund for general banking risks. Second, for the computation of the regulatory own funds for credit risk requirements, this tier-I capital may be supplemented up to a maximum of 50 p.c. by tier-II components such as subordinated debts and undisclosed reserves, e.g. the internal security fund. Third, tier-II components in excess of this 50 p.c. threshold and the net results on trading operations may be incorporated (as tier-III) in regulatory capital, but merely to cover the banks' market risks. To calculate solvency ratios on a company basis, the total of those three components is corrected for banks' investments (both via claims and participations) in subsidiaries that are also engaged in banking or other financial activities, in order to avoid the double use of the subsidiaries' own regulatory capital.

The two major items of regulatory capital, i.e. accounting own funds and subordinated debts, have both recorded a strong increase in recent years. Between 1996 and 2001, the former went up from 2.52 to 3.76 in percentage of Belgian banks' total liabilities while the latter increased from 1.61 p.c. to 3.05 p.c. The two other items, the internal security fund and the fund for general banking risks are, proportionally, much less important. A gradual substitution has, however, taken place between those two funds from 1996 onwards, driven by the fact that the fund for general banking risks is recognized as tier-I capital while the internal security fund may only be included in tier-II capital.

While the total buffers provided by these four items have increased significantly, in the aggregate, since 1996, the growth of regulatory own funds on a company basis has been far from commensurate. This gap is largely attributable to the wave of mergers and acquisitions in the Belgian banking sector in recent years. On the one hand, to finance these operations it has been necessary to issue fresh capital or new subordinated debts, which largely explains the strong increase in the gross components of regulatory own funds. On the other hand, the investment in subsidiaries made by means of those new funds has to be deducted in order to calculate the net regulatory own funds on a company basis.

of the problems are due to the potential conflict, under certain circumstances, between the interests and duties of a bank as a creditor and as an advisor.

Second, initiating new activities might also prove costly as banks have to acquire new competences, either directly by hiring specialised staff

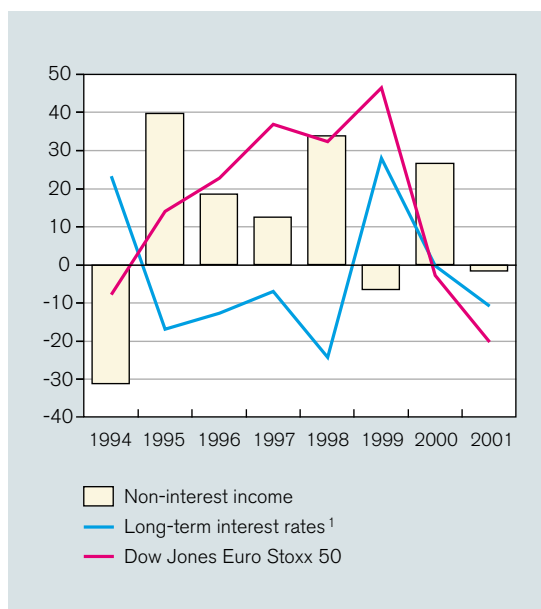
or indirectly by resorting to external service providers. The former trend explains why banks' restructuring efforts are only partially mirrored in the evolution of labour costs, which still amounted to 38.3 p.c. of bank revenues in 2001 compared to 44.5 p.c. in 1993 (Chart 38). This latter development is probably also one of the factors at the root of the regular increase in

banks' non labour costs, although other elements, such as the Y2K investments or the introduction of the euro also played a role. These costs went up from 25.8 p.c. of bank revenues in 1993 to 30.8 p.c. in 2001. This steady rise in non-labour operating expenses has, to a large extent, compensated the reduction in personnel costs so that the decline in the cost-income ratio was limited to 1.2 p.c. between 1993 and 2001.

Finally, the new sources of income are often quite volatile as they are highly dependent on financial market price movements. In particular, Belgian banks' non-interest income seems to be driven by changes in long-term interest rates as emphasised by the clear negative correlation existing between the two variables (Chart 39). Long-term rate variations affect not only trading results, but also gains or losses on the proceeds of the realisation of securities investment portfolios. During most of the observation period, Belgian banks were in a position to realise large capital gains on these portfolios thanks to the downward trend

CHART 39 – MOVEMENT IN NON-INTEREST INCOME VIS-A-VIS LONG-TERM INTEREST RATES AND EQUITY PRICES

(Annual percentage changes)

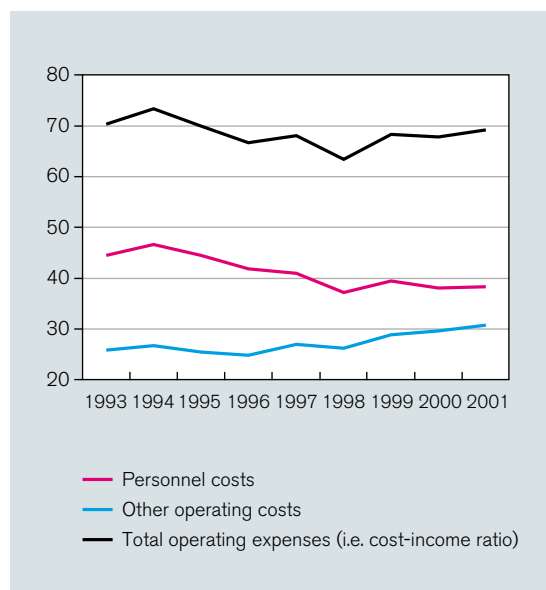


Source: NBB.

¹ Reference rate for 10 year linear bonds.

CHART 38 – TREND IN THE COSTS OF BELGIAN BANKS

(Data on a company basis, percentages of banking proceeds)



Source: NBB.

in long-term interest rates. This inverse relation between long-term interest rates and non-interest incomes was not observed in 2001. This was probably attributable to the sharp fall in equity prices which had a negative effect on net commission incomes, the latter being strongly dependent on stock market performance.

It follows that the possibility for Belgian banks to continue compensating for the narrowing of their intermediation margins through a further increase in non-interest income cannot be taken for granted. True, the development of these new activities testifies to the adaptability of the banking sector to its changing environment. However, it has to be kept in mind that this strategic diversification has, until recent years, been realised in the general context of a decline in interest rates and an increase in stock prices, which will not always prevail in the future.

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FINANCIAL CONGLOMERATES

1 INTRODUCTION

Financial conglomerates – the combination of banking, insurance and securities activities – have become an important component of a rapidly evolving financial landscape. In Belgium, even more than in many other industrialised countries, the growth of financial conglomerates over the past decade has been remarkable: the four largest Belgian banking institutions all now belong to this category. European regulators are currently drafting a Financial Conglomerates Directive to deal with special regulatory issues that arise with this form of organisation.¹

This paper explores the emergence of financial conglomerates and their implications for financial stability and regulation. It adopts a broad approach, analysing Belgian experience within a larger, international context. It also combines consideration of industry-level factors influencing conglomerate formation with firm-level incentive effects. The starting point of the analysis is the observation that financial conglomerates represent a special case of “general” conglomerates, which have existed for many years and have been extensively studied. Both general and financial conglomerates may create value through diversification (or through exploiting synergies), or they may destroy value through cross-subsidisation of unprofitable divisions. Yet, the forces driving conglomerate formation are not identical for general and financial conglomerates. In addition, regulation of financial institutions creates a special concern with the riskiness of financial conglomerates.

Section 2 surveys general conglomerates and evaluates experience in the light of factors predicted to influence the rise or decline of this type of organisation. Section 3 documents the rise of financial conglomerates, analyses differences

between financial and general conglomerates, and describes a process of endogenous financial conglomerate formation. Section 4 identifies the potential implications of financial conglomerates for financial stability, analyses the case for regulating conglomerates separately from stand-alone financial institutions, and reviews the currently proposed Financial Conglomerates Directive.

2 GENERAL CONGLOMERATES

2.1 THEORY

Conglomerates can be defined as the combination of different activities, with more or less industrial synergies, under a common “financial umbrella.” Conglomerates are most often formed in order to take advantage of revenue diversification. Since the degree of diversification within a firm is actually a continuous variable, determining at what level a corporation has become a conglomerate is somewhat a matter of definition. On the other hand, it is often straightforward to establish that some firms have become more diversified, thus more like conglomerates, or more “focused”, therefore less like conglomerates.²

The revenue diversification achieved by conglomerates does not add value in a world with perfect

¹ The definition of financial conglomerates for the purposes of the Directive differs slightly from the definition that we employ. According to the Directive, financial conglomerates are institutions combining insurance activities with banking and/or security activities. The reason for grouping banking and securities together in the Directive is that regulatory treatment of the banking/security combination has already been harmonised by previous regulations.

² A “refocusing strategy” is commonly interpreted as a reduction in the diversity of activities of a firm, in terms of the number of different industrial segments in which the firm operates. Refocusing represents, therefore, a move away from conglomeration.

capital markets à la Modigliani-Miller (1958). In this world, where everybody is assumed to have equal access to capital markets and where firms are assumed to be run in the interest of shareholders, only positive net present value projects are funded. It is indeed optimal in such a world to let individual investors combine individual securities to bear risk as they see fit and to let firms access capital markets whenever they need cash.

The real world differs from that of Modigliani and Miller in at least two ways: (i) due to asymmetric information, external finance is more costly than internal finance (see for example Myers and Majluf, 1984); (ii) due to the separation between ownership and control, agency problems arise in the management of companies (see for example Jensen and Meckling, 1976). As stressed by various authors (for example Rajan et al., 2000 or Scharfstein and Stein, 2000), these considerations have implications concerning the effect of conglomerates:³

- Problem (i) implies one rationale for conglomerates: they are a vehicle for the stabilisation of cash flows in a world of imperfect capital markets. Indeed, if cash flows are less volatile, there is less of a need to rely on external finance to fund new investment projects, which raises firm value by lowering the cost of funding.
- Problem (ii) however implies a potential “conglomerate curse”: the availability of internal finance may create rent-seeking behaviour among division managers, which results in the head office subsidising “bad” divisions at the expense of “good” ones. This is connected to the general “entrenchment” problem of management, or the status quo bias

against profitable new ventures, which conglomerates make easier to perpetuate.

This simple approach suggests various predictions:

- (1) *Conglomerates can add or subtract value; in the latter case, this leads to the observation of “conglomerate discounts,” that is, a market capitalisation of the conglomerate which is lower than the sum of the market capitalisation of its underlying divisions, were they to be run as “stand-alone businesses.”*
- (2) *Conglomerates should be expected to exist in environments where capital markets are “more imperfect.”*
- (3) *Conglomerates should also be expected to exist in environments where agency problems are more severe (because of poorer corporate governance).*
- (4) *Conglomerates should be expected to decline in importance when capital markets and/or corporate governance rules improve.*

2.2 INTERNATIONAL EVIDENCE

The above predictions are basically borne out by international evidence. If we first consider *cross-country comparisons*, there is evidence of less efficient capital markets in Continental Europe (even though there is some heterogeneity across countries) relative to Anglo-Saxon countries (see Laporta et al., 1998). One has also historically witnessed a much higher presence of conglomerates in Continental Europe than in Anglo-Saxon countries (see the book edited by Barca and Becht, 2001). This has been part of the more important role of “large blockholders” as the preferred corporate governance arrangement in Continental Europe, while dispersed stock ownership is more prevalent in Anglo-Saxon countries.

³ While this paper focuses on capital markets, the presence of labour market frictions such as firing costs also leads to a similar trade-off from conglomerate formation, with a potential benefit (revenue diversification) and a potential cost (cross-subsidisation) from conglomerate formation.

Moving now to the analysis of time trends, we have been witnessing in recent years a move towards greater capital market efficiency, thanks to the deregulation of financial intermediaries, the elimination of cross-border capital controls, and better regulation concerning transparency and corporate governance. All of these trends have reduced the attractiveness of conglomerates as a way to get around capital market inefficiencies, and it is therefore no surprise that their role has decreased worldwide. Indeed, there has been a move away from (often national) conglomerates towards international “focused corporations.” Some radical transformations include for example the Finnish corporation Nokia, which has transformed itself from a diversified conglomerate to a world-leading telecommunications company; and the French corporation Suez, which has evolved from a diversified conglomerate to a (Lyonnaise-des-Eaux- and Tractebel-based) utility company with world ambitions.

The area where debates have been fiercest concerns the existence of conglomerate discounts on the stock market. Several studies have found evidence consistent with conglomerate discounts, and some have related the evidence explicitly to the existence of cross-subsidisation.⁴ This wisdom has however recently come under challenge, with the criticism that the methods used for calculating conglomerate discounts in the above studies embody an implicit assumption that the characteristics of conglomerates are identical to those of stand-alone firms in related industry segments.⁵ Several recent studies have demonstrated that when differences in characteristics between conglomerates and stand-alone firms are taken into account, the conglomerate discount is reduced significantly and sometimes turns into a surplus.⁶ Thus, cross-subsidisation would not appear to be the main source of conglomerate discounts, when they are observed. Two potential sources seem to be relevant:

- The first suggests that the discount may just be a statistical artifact, linked to the extent

that firms *choose* to become conglomerates. If, prior to a conglomerate merger, the acquiring firm or the target firm is valued at a discount relative to other firms in the industry (because, for example, it has lower productivity), then a “conglomerate discount” will be observed even if formation of the conglomerate actually creates value. Several studies have found that acquiring and/or target firms often have lower value than their competitors prior to merger.⁷

- The second source of conglomerate discount on the stock market is more relevant for our discussion, since it is related to the effect of conglomerates on *risk reduction*: since activity diversification reduces risk, the impact of conglomerate formation on both equity *and* debt holders should be considered. Stock prices should fall when risk is reduced, and the value of debt should rise.⁸

2.3 BELGIAN EVIDENCE

The above predictions are also broadly supported by the Belgian experience. Indeed, Belgium has traditionally combined a poorly liquid and small-sized stock market with dominant blockholders

⁴ See Lang and Stultz (1994), Berger and Ofek (1995), Rajan et al. (2000), and Scharfstein and Stein (2000).

⁵ The methodology involves estimating an imputed market value for a conglomerate as a weighted average of the median values of stand-alone firms in industries corresponding to the conglomerate's segments and comparing the imputed value with the actual market value of the conglomerate in order to determine the size of the discount.

⁶ See Graham et al. (2002), Maksimovic and Phillips (2002), and Villalonga (2001).

⁷ These results suggest that understanding the process of conglomerate formation is an essential ingredient for assessing the extent to which diversification creates or destroys value. Theories of endogenous conglomerate formation are developed to varying degrees in Campa and Kedia (2000), Maksimovic and Phillips (2002), and Villalonga (2001).

⁸ Equity can be considered as a call option on the firm, with a strike price equal to the face value of the firm's debt. Option pricing theory thus implies that there is a positive relationship between the firm's riskiness and the price of equity. Mansi and Reeb (2001) show that once the joint impact of diversification on debtholders and equity holders is taken into account, diversification does not separately lead to a valuation discount.

and the prevalence of conglomerates, although they have experienced significant discounts⁹. Historically, the Société Générale de Belgique (SGB) has been a dominant conglomerate in Belgian history, and in the last decades conglomerates like the Groupe Bruxelles Lambert (GBL) and Almanij have also been very important.¹⁰

Moreover, Belgium has followed the recent international trend in terms of deconglomeration:¹¹ after SGB's "absorption" into the French conglomerate Suez in 1988, one has witnessed its gradual refocusing – through the Suez partnership with Lyonnaise des Eaux – with greater emphasis on utility subsidiaries¹² (Electrabel, Distrigaz, Tractebel) and a looser association with other business lines (for example the sale of the SGB stake in Generale Bank to the Fortis bancassurance group). Similarly, one has

witnessed somewhat of a refocusing of GBL, with the sale of its Petrofina stake to Total, and the sale of the Banque Bruxelles Lambert stake to the ING bancassurance group.

3 FINANCIAL CONGLOMERATES

3.1 THE RISE OF FINANCIAL CONGLOMERATES

Banking sectors throughout the industrialised world have undergone a transformation in recent years, marked by expansion of bank activities beyond those traditionally associated with banking. One of the earliest indicators of activity expansion has been the growth of banks' non-interest income relative to interest income. Later developments have included: a rise in off-balance sheet relative to on-balance-sheet activities; increased use of traded financial instruments, often quite sophisticated; and a broadening of activities to include securities and insurance.¹³

The formation of financial conglomerates – signifying the combination of at least two of the

⁹ See for example Siaens and Walravens (1993).
¹⁰ See the chapter by Becht et al. on Belgium in the book by Barca and Becht (2001).
¹¹ For detailed anecdotal evidence, see Delvaux and Michielsen (1999).
¹² Even though the combination of water, waste management and energy realised by Suez can still be seen as a form of conglomerate.
¹³ See Allen and Santomero (1999) for discussion and evidence of these developments in an international context.

TABLE 1 – CROSS-INDUSTRY MERGERS AND ACQUISITIONS FROM 1990-1999 BY SECTOR OF ACQUIRING FIRM¹

Europe			Belgium		
	Number of deals	Average value per deal ²		Number of deals	Average value per deal ²
Banks			Banks		
Within border	204	233.6	Within border	10	2.3
Cross-border	90	172.9	Cross-border	5	133.3
Insurance			Insurance		
Within border	83	403.4	Within border	2	57.7
Cross-border	38	671.5	Cross-border	4	235.5
Securities			Securities		
Within border	233	281.7	Within border	8	n.a.
Cross-border	84	303.2	Cross-border	2	n.a.

Source: Security Data Corporation (Reported in Group of Ten report on Financial Consolidation).
¹ Includes joint ventures and alliances.
² In millions of USD.

TABLE 2 – EUROPEAN FINANCIAL INSTITUTIONS "M & A ACTIVITY BY INDUSTRY SEGMENT" 1990-99*(Percentages, based on the sum of all target institutions' market value of equity just before acquired)*

Target Institution	Acquiring Institution					
	Commercial Bank	Securities Firm	Life Insurance Company	Property and Casualty Insurance Company	Insurance Brokerage	Total Financial
Commercial bank	51.1	6.8	5.0	0.0	0.2	63.2
Securities firm	2.4	6.7	0.8	0.2	0.0	10.2
Life insurance company	5.4	3.9	12.9	0.3	0.2	22.6
Property and casualty insurance company	0.1	0.2	0.5	0.5	0.0	1.3
Insurance brokerage	0.3	0.1	2.3	0.0	0.1	2.7
Total financial	59.2	17.7	21.5	1.0	0.5	100.0

Source: Lown et al. (2000).

TABLE 3 – VALUES OF THE TARGETS OF FINANCIAL INSTITUTIONS M & A ACTIVITY, 1985-99*(Top figures are the sum of all target institutions' market value of equity just before being acquired, in billions of USD; figures in parentheses are the percentage of the total)*

Target Institution	Europe: Acquiring Institution				United States: Acquiring Institution			
	Commercial Bank	Securities Firm	Insurance Company	Total	Commercial Bank	Securities Firm	Insurance Company	Total
Commercial bank	377.4 (48.6)	33.2 (4.3)	49.4 (6.4)	460.0 (59.2)	489.2 (56.1)	6.7 (0.8)	73.5 (8.4)	569.4 (65.3)
Securities firm	22.8 (2.9)	50.8 (6.5)	11.5 (1.5)	85.1 (11.0)	23.5 (2.7)	114.3 (13.1)	16.1 (1.8)	153.9 (17.6)
Insurance company	40.2 (5.2)	33.0 (4.2)	159.0 (20.5)	232.2 (29.9)	0.6 (0.1)	31.2 (3.6)	117.4 (13.5)	149.2 (17.1)
Total	440.4 (56.7)	116.9 (15.0)	219.9 (28.3)	777.3 (100.0)	513.3 (58.8)	152.2 (17.4)	207.0 (23.7)	872.5 (100.0)

Source: Lown et al. (2000).

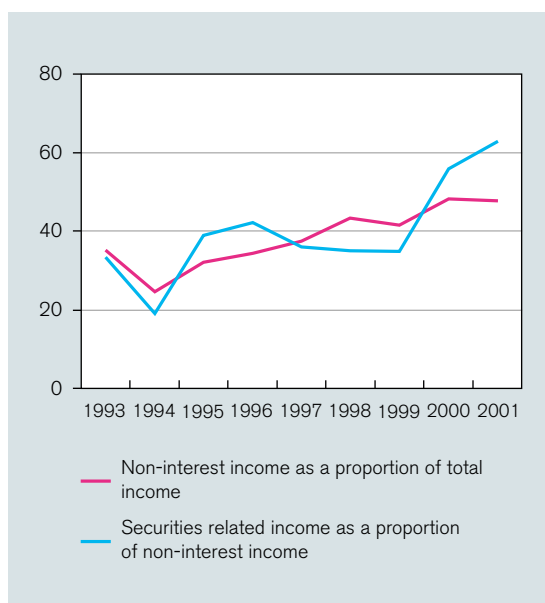
activities of banking, securities, or insurance – represents the ultimate step in the broadening scope of bank activity. While a few spectacular examples of financial conglomerates are familiar to most people (e.g., Citigroup/Travelers Insurance/Salomon Smith Barney; UBS/Warburg/Paine Webber; Crédit Suisse/First Boston/Winterthur Insurance; ING/Barings/Aetna; Deutsche Bank/Bankers Trust/Scudders Investment; Dresdner Bank/Allianz), the phenomenon of conglomerate formation extends considerably beyond these institutions. Table 1 reports that from 1990-1999 there were 732 cross-industry mergers and

acquisitions (including joint ventures and alliances) in the financial sector in Europe. Tables 2 and 3 provide additional detail on the values of financial-sector mergers by sectors of acquiring and target firms for Europe and the U.S. during the period 1985-1999.

The experience of the Belgian banking sector conforms to international trends. Chart 1 illustrates the growth of non-interest income as a proportion of total income in the banking sector from 1993-2001. Whereas non-interest income accounted for 35 p.c. of total banking sector

CHART 1 – NON-INTEREST INCOME AND SECURITIES RELATED INCOME COMPONENTS

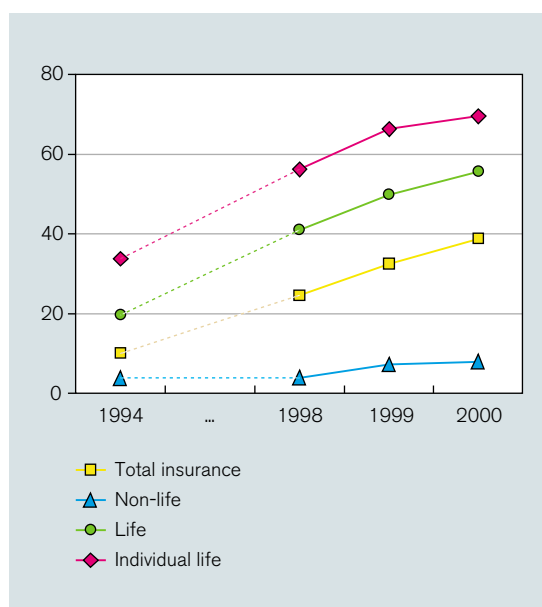
(Percentages, data on a company basis)



Source: NBB.

CHART 2 – SHARE OF BANKS IN DISTRIBUTION OF INSURANCE CONTRACTS

(Percentage of premiums)



Sources: UPEA, Various issues of Assurinfo.

income in 1993, it represented almost 48 p.c. in 2001. Securities-related components of non-interest income also progressed during this period, accounting for almost 63 p.c. of non-interest income in the banking sector in 2001 compared with 33 p.c. in 1993.

Especially notable in the Belgian financial sector are the expansion by banks into insurance activities and the formation of bancassurance groups. Chart 2 and Table 4 provide evidence of the increase in the market share of bank-distributed insurance contracts.

TABLE 4 – PROFIT SHARES AND BELGIAN MARKET SHARES OF BANKING AND INSURANCE IN FIVE BANCASSURANCE GROUPS

(Year 2000, percentages, data on a consolidated basis)

Group	Banking share of group profit ¹	Insurance share of group profit ¹	Insurance market share ²	Life insurance market share	Non-life insurance market share	Banking share ³
Fortis	54.4	53.6	27.2	34.6	13.6	30.7
Dexia-Artesia	96.8	3.2	3.1	4.3	0.9	22.2
KBC ⁴	73.2	28.6	11.7	13.3	8.7	20.5
ING ⁵	41.4	58.5	5.0	6.0	3.2	10.4
Axa Royale Belge			12.4	8.7	18.9	2.5

Sources: UPEA, Groups' annual reports, NBB.

¹ Sum of profit shares may be less than (or greater than) 100 p.c. because a portion of profit (or loss) is attributed to the holding company rather than to the business lines.

² As percentage of premiums collected in Belgium.

³ As percentage of deposits.

⁴ Profit excludes capital gain from the sale of the stake in CCF.

⁵ Profit shares for BBL were 97.4 p.c. for banking and 2.6 p.c. for insurance.

TABLE 5 – COMPOSITION OF THE MAIN FINANCIAL CONGLOMERATES ACTIVE IN BELGIUM

Main banking entities			Main insurance entities				
Name	Ranking ¹		Name	Life insurance ranking ²		Non-life insurance ranking ²	
	Company	Group		Company	Group ³	Company	Group ⁴
Fortis		1	Fortis		1		2
Fortis Bank (Générale de Banque + CGER + Crédit à l'Industrie)	1		FB Assurances ⁵ (CGER Assurances + Alpha Life)	1/5		16/95	
Banque de la Poste	13		Fortis AG	3		1	
Belgolaise	26						
Dexia – Artesia ⁶		2	Dexia – Artesia ⁶		7		9
Dexia Banque (Crédit Communal) ...	3		LAP	8		11	
Artesia Banking Corporation	5		Mega / Mega life	12		33	
Bacob Bank	6		Belstar	31			
Crédit Agricole	12		Elvia Assurances	37		37	
Eural	17		Corona	43		62	
Parfibank	37		Eural Unitas	53			
KBC		3	KBC		4		4
KBC Bank (Kredietbank + Cera)	2		KBC (ABB + Omniver / Leven) ..	4		3	
Centea (HAS + Spaarkrediet)	9		Fridea (Fidelitas + Delphi / Delphi Leven)	27		21	
CBC Banque (Crédit Général)	10						
Antwerpse Diamantbank	64						
Krefima	90						
BBL – ING (Belgium)		4	BBL – ING (Belgium) ...		5		8
BBL	4		BBL Life/BBL Insurance	7		81	
Private Kas Bank	31		Patriotique	10		10	
Dipo	40		RVS	26		48	
Banque d'épargne Patriotique	44						
Axa – Royale Belge		5	Axa – Royale Belge		3		1
Axa Banque (Anhyp + Ippa) ⁷	7		Royale Belge	6		2	
			Axa Belgium	11		5	
			UAB	16		45	
			Royale Belge 1994 ..	23		9	
			La poste	n.			
			De Kortrijkse	30		39	
			L'Ardenne Prévoyante	51		47	

Sources: NBB, Jaumain C. (2000), UPEA.

¹ Based on clients' assets (debts to clients and securitised debts) on a territorial basis end 2000.² Based on the premiums received for direct activities in Belgium in 1998: excluding companies only active in reinsurance.³ SMAP-OMOB is ranked 2nd and AGF Belgium Insurance is ranked 6th.⁴ SMAP-OMOB is ranked 3rd, AGF Belgium Insurance 5th, Winterthur 6th and Mercator & Noordstar 7th.⁵ CGER-ASLK Insurances and Alpha Life were integrated in FB Assurances in 1999.⁶ The merger between Dexia Bank and Artesia was announced in March 2001.⁷ The integration of Anhyp and Ippa into Axa Bank occurred in 2000.

Chart 2 reveals a remarkable advance of bancassurance in the distribution of insurance contracts, especially in the area of life insurance. As of the year 2000, 39 p.c. of total insurance premiums were collected through bancassurance networks, with the percentage at just below 70 for individual life insurance contracts. When only premiums for new insurance contracts are considered, this percentage jumps to 76.7. Table 5 presents the composition of the five large bancassurance groups.

3.2 ARE FINANCIAL CONGLOMERATES DIFFERENT?

Some of the lessons from the analysis of general conglomerates reviewed in section 2 can be applied directly to financial conglomerates. First, activity diversification may create value; however, severe incentive problems may cause conglomerates to destroy value. Second, accurate assessment of the extent to which a conglomerate raises or lowers value requires understanding the process of conglomerate formation.

Synergies across activities may be significant in financial conglomerates. If synergies exist, then

the formation of financial conglomerates can create value even in the absence of capital market imperfections. A final distinctive feature of financial conglomerates that requires our analysis to be extended beyond that of Section 2 is that regulation of banks and other financial firms introduces a concern with the riskiness of financial conglomerates.

Synergies enjoyed by financial conglomerates may take the form of cost or revenue synergies.¹⁴ Both types of synergy arise from the existence of generic capabilities that give a financial conglomerate a comparative advantage in offering a range of services (Santomero and Eckles, 2000). Examples of such capabilities include bank branch distribution systems; IT systems; unique information on individual customers; inside information on corporate customers acquired through lending relationships; sophisticated risk management technology; and expertise in financial management. Cost synergies are revealed by economies of scope in the provision of multiple goods, but they may also include economies of scale. Branch distribution networks, IT systems and risk management technology offer sources of economies of scale, whereas distribution systems and customer data banks may lead to economies of scope. Revenue synergies may arise from the cross-selling of products, from customer benefits derived from “one-stop shopping,” and from knowledge of individual customers, which allows more accurate assessment of their product demand.¹⁵

The analysis in section 2 noted that diversification benefits only matter for general conglomerates when capital market imperfections exist (e.g., when individual investors cannot optimally diversify). As regards financial conglomerates, regulatory concern with risk-taking in financial institutions may cause financial regulators to value activity diversification per se, if diversification lowers the variability of profit.¹⁶ A question of empirical interest, then, is whether financial conglomerates lower the variability of returns relative to stand-alone firms.¹⁷ We return to this question below.

¹⁴We make a distinction between *revenue synergies*, or revenue “scope efficiencies,” which reflects a situation where the total revenue from selling multiple products is greater than the sum of the revenue from each of the stand-alone products, and *revenue diversification benefits*, which imply that revenue variability is lower when activities are combined.

¹⁵Another potential benefit from the formation of financial conglomerates, and which may also arise with general conglomerates, is a gain in X-efficiency (i.e., movement toward the production possibilities frontier). Studies of the effect of consolidation in the financial sector on X-inefficiency have yielded mixed results. See Berger (2000) for a discussion.

¹⁶In view of the fact that there is also a potential for diversification to destroy value, regulators will probably consider the risk-return trade-off. A potential conflict of interest nevertheless exists between bank shareholders, who may be opposed to activity diversification if it lowers profitability, and depositors, who are represented by the regulator and who would favour diversification if it lowers profit variability.

¹⁷Banks' activity diversification via financial conglomerates also carries risks for regulators: increased complexity (regulation of multiple activities), as well as the potential for financial institutions to become “too big to fail”, which raises the risk of large potential accidents.

3.3 ENDOGENOUS FORMATION OF FINANCIAL CONGLOMERATES

What explains the rise of financial conglomerates at a time when general conglomerates are vanishing? Deregulation undoubtedly provides part of the answer. For example, in 1989 the Belgian Banking and Finance Commission granted to Belgian banks a derogation from a 1935 royal decree preventing banks from holding participations in commercial and industrial firms. As of 1993 credit institutions were allowed to hold participations in insurance firms (see NBB, 2001). This latter decision paved the way for the formation of bancassurance groups.

Yet, more than financial deregulation is at play in the rise of financial conglomerates. During the past two decades banks have faced stiff competition on both the asset and the liabilities sides of the balance sheet. This competition has resulted directly from the development of financial markets. On the one hand, the advent of mutual and money market funds and life insurance/savings products has led to disintermediation of bank deposits and an increase in banks' cost of funds. On the other hand, developing capital markets – both in terms of traded instruments and entry of non-banking firms offering finance – have provided many firms access to cheaper sources of funding than bank loans. All of these developments have exerted downward pressure on bank profit. Banks have responded by engaging in financial innovation and by developing new businesses. The range of responses is reflected in the expansion of banking activities described in Section 3.1.^{18, 19}

This process suggests a number of predictions:

- (1) *Improvement in capital markets may be expected to lead some financial institutions to form financial conglomerates.*
- (2) *The ways in which banks expand their activity in response to increased competition depend upon country-specific factors.*

- (3) *As capital markets develop, the activities of financial intermediaries will become more complex.*

Prediction 1 stands in contrast to the prediction that capital market development causes general conglomerates to decline. While improvements in capital markets lower the diversification benefit for financial conglomerates just as for general conglomerates, these changes imply additional effects on banks (worsening of competitive positions, as well as opportunities opened by advanced technologies for information gathering and risk management to offer new, more complex, products). These developments increase banks' incentives to form conglomerates.

Tax advantages of life insurance and other long-term savings products have provided an important catalyst in Belgium and in some other European countries for the development of bancassurance groups. The limited size of European capital markets also leaves less room for banks to branch into securities than in the U.S. and UK, where capital markets are larger. U.S. banks have not yet expanded significantly into insurance activities (Citigroup being the exception to this rule), despite removal in 1999 of activity restrictions that had been put in place by the Glass-Steagall Act of 1933. On the other hand, growth of U.S. financial conglomerates combining banking and securities activities has been more significant. As noted recently by a governor of the U.S. Federal Reserve Board (see FRB, 2002): “[T]he [U.S.] market has not perceived bank and insurance underwriter mergers to have the same attractiveness as bank and securities firm mergers.” The determinants of cross-country differences in financial activity

¹⁸ Allen and Gale (1997, 1999) and Allen and Santomero (1999) develop a theory linking financial market development to the activities in which banks engage.

¹⁹ Other potential responses by banks to competition include expanding the scale of traditional banking or developing market niches. Both of these types of responses have also been observed.

diversification is an open question for further research.

Allen and Santomero (1999) argue that the financial innovation embarked upon by banks to counteract their shrinking traditional banking business has led them into complex transactions such as derivatives, swaps, and securitisations, requiring the use of increasingly sophisticated techniques of risk management. According to Allen and Santomero (p. 19), “[m]uch of what modern financial intermediaries do is to interface between individuals and increasingly complex financial markets.” The increased complexity of financial intermediaries is an important feature to consider in assessing the implications of financial conglomerates for financial stability.

3.4 EMPIRICAL EVIDENCE FOR SYNERGIES AND DIVERSIFICATION BENEFITS

Empirical evidence on financial conglomerates should be interpreted with care. Relatively few empirical studies of financial conglomerates exist, due to lack of data. In addition, very little research has used European data. Of the empirical results that have been reported concerning financial conglomerates, several come from studies that simulate conglomerate formation using data on stand-alone firms in differing industries. Simulation studies can provide some predictions regarding the effects on profitability and on profit variability of combining banking and non-banking activities; however, they cannot capture any positive effects of synergies created by mergers or any negative effects from increased risk-taking, if conglomerate formation amplifies risk-taking behaviour.

Bearing these caveats in mind, we may summarise the empirical results. Considerably more research in banking has addressed the questions of economies of scale and scope than questions of revenue synergies or of diversi-

fication benefits. Despite the number of cost studies, no strong empirical evidence has been found for economies of scale or economies of scope in banking.²⁰ In addition, virtually no direct tests of revenue synergies have been undertaken.

Several studies have nevertheless examined the effects of banks' activity diversification on profitability. Changes in profitability associated with activity diversification may result from changes in the cost or the revenue functions, or they may simply reflect an average of the profitabilities of the stand-alone activities. (The profitability effects that are identified through merger simulation studies arise from the latter source.) Results regarding the effects of diversification on profitability are mixed: some combinations of activities would appear to raise profitability while other combinations would lower profitability.²¹

The clearest advantage of financial conglomerate formation identified by the literature appears to lie in the area of diversification benefits, yet even here results vary. Simulation studies suggest that diversification by banks into some activities may reduce risk while other activities may increase risk. One result that nevertheless appears to be reasonably consistent is that the banking-life insurance combination does not increase risk with respect to stand-alone banking and may actually lower risk. No such agreement exists concerning the combination of banking and securities or banking and property and casualty insurance. (See box below.)

²⁰ Because of the limitations of these studies, we cannot conclude that cost synergies do not exist. For example, they may appear only with a lag or with additional data from financial conglomerates. In addition, the results regarding economies of scope are probably less robust than those for economies of scale, since economies of scope are difficult to measure. See Berger et al. (1999) for a review of the literature on economies of scale and scope.

²¹ De Young and Roland (2001) find that replacement of traditional lending by fee-generating activities has been associated with increased profit in U.S. banks. Gallo et al. (1996) report that high levels of mutual fund activity are associated with higher profits among U.S. bank holding companies. Merger simulation studies have reported mixed effects of diversification on profitability. (See the box below.)

BOX 1

RESULTS FROM SIMULATED BANK, INSURANCE, AND SECURITIES FIRM MERGERS

Most of the results relating to the effects on risk of mergers of banks with non-banks derive from simulations using U.S. data. These merger simulation results are sensitive to a number of factors: the type of data (market vs. accounting); the measure of profitability (ROA vs. ROE); the measure of risk (standard deviation of ROA or ROE, coefficient of variation or Z-score);¹ and whether industry-level or firm-level data are used. In addition, none of the merger simulation studies provides a test of robustness or statistical significance of results. For all of these reasons, results must be interpreted with caution.

Because industry-level data tends to yield biased measures of risk,² we discuss here only studies that have employed firm-level data. Boyd and Graham (1988) and Boyd et al. (1993) use U.S. firm-level data (accounting and market) from 1971-1984 and 1971-1987, respectively, to simulate mergers for banking and securities firms, banking and life insurance companies, and banking and property and casualty insurance companies. Lown et al. (2000) conduct a similar study (using accounting data) for the period 1992-1998. All of these studies compute firm-level returns on assets (ROA) and equity (ROE) for each of the activities under consideration. The median ROA or ROE for the firms within an industry is used as the measure of expected return for that industry. Median industry standard deviations of ROE are computed similarly and are used as a measure of risk. A second indicator of risk is the Z-score, a measure which incorporates expected returns, return variability, and the equity-to-assets ratio and is inversely related to the probability of bankruptcy.³ The higher the Z-value, the lower is the probability of bankruptcy.

Boyd and Graham and Boyd et al. simulate large numbers of random, pair-wise mergers between banks and firms for each of the bank/non-bank activity pairs. For each merged pair of firms they compute the profitability and risk variables, using the time series of the combined firms. The median values of these variables taken over all of the mergers of a given combination of activities are used as the indicators of profitability and riskiness for this type of merger. Lown et al. take the largest ten banks and the largest ten firms in each non-bank activity and examine all possible pairwise bank/non-bank mergers of these firms.

A merger is assumed to combine the balance sheets of the two firms. Boyd et al., who allow for varying portfolio weights of non-bank activities in mergers, find (using accounting data) that property and casualty insurance firms may be combined with banks without increasing riskiness, as long as the portfolio weight of the property and casualty activity is low. On the

¹ Combining banking with another activity may increase risk relative to banking alone because of high variability of returns in the non-banking activity or a strong positive correlation between the two activities.

² Industry level data reflects intra-industry averaging and thus understates risk relative to firm-level data.

³ The Z-score measures the number of standard deviations below the mean that a firm's profit must fall in order for the value of equity to become negative.

other hand, Boyd and Graham and Lown et al. report that mergers of banking with property and casualty firms increase risk.⁴ When market data are used, both Boyd and Graham and Boyd et al. find that combining banks with property and casualty firms decreases risk.

All three of the merger simulation studies report that bank/life insurance company mergers reduce risk, when risk is measured either by the standard deviation of ROE or by the Z-score. (All three studies find that these mergers lower profitability only slightly.) These results are also supported by Whalen (2000), who analyses data from a small set of U.S. bank holding companies with foreign subsidiaries that sell and underwrite life insurance.⁵

With respect to the combination of banking and securities activities, all three of the merger simulation studies conclude that the probability of bankruptcy rises (as does profit) with bank/securities mergers. Santomero and Chung (1992) also undertake a simulation study (using a different methodology) of banks and securities firm mergers using market data from 1985-1989. They report that whereas mergers of banks and regional securities firms could lower risk, mergers between banks and large securities firms increase risk. On the other hand, an analysis by Kwan (1998) of U.S. bank holding companies with subsidiaries that were allowed to engage in limited securities activities found a lowering of riskiness with diversification.

Finally, Allen and Jagtiani (1999) simulate “universal banks,” via three-way mergers between banks, insurance, and securities firms. They conclude that expansion by banks simultaneously into both types of these non-bank activities lowers risk.

⁴ All three studies report that profitability falls slightly with this type of merger.

⁵ U.S. bank holding companies have been allowed since 1984 to acquire foreign subsidiaries that underwrite life insurance for non-U.S. residents. See Whalen (2000) for a discussion.

4 FINANCIAL CONGLOMERATES AND FINANCIAL STABILITY

4.1 THE MAIN GOALS AND PRINCIPLES OF PRUDENTIAL REGULATION²²

In order to address the impact of conglomeration on financial stability and the appropriate regulatory response, it is important to start from the question: what is special about financial institutions that warrants regulation? A key specificity of financial institutions concerns the nature of its *claimholders*, in particular *depositors* in the

case of banks and *insurees* in the case of insurance companies.

Indeed, typical corporations have liabilities held by debt holders and by equity holders. The latter ones are “in control” in good times and the former ones in bad times. In *non-financial companies*, debtholders – which are often banks – are expected to play an important disciplining role on management in the case of financial distress, in order to avoid “gambling for resurrection”

²² See also Dewatripont and Tirole (1994) and Morrisson (2001) for detailed discussions of these points.

in particular. This requires expertise, and it is often a role played by banks (indeed, only large firms with the best reputation – backed by rating agencies – can get disintermediated debt).

By contrast, several financial institutions have liabilities held by *dispersed non-experts*: bank liabilities are held by depositors, and insurance company liabilities are held by insurees. In such cases, there emerges a need for a *debtholder representative*, which is a fundamental role for the regulator.²³ This is the more true the more the institution is allowed to take risks – for example, there is less need for regulating money market funds, which only invest in very safe and liquid securities²⁴ – and the more this can contribute to contagion or *systemic risk*, a key regulatory challenge.

This last argument means that *banks* in particular are in need of a representative: beyond their essential role in payment systems, another function of theirs is to provide liquidity for individuals, through demand deposits. Indeed, avoiding systemic risk through self-fulfilling panics²⁵ has required insuring deposits at least partially, which further reduces depositors' incentives to become expert in assessing the risks taken by their bank. Systemic risk considerations also provide one of the objectives in regulating securities firms: their debtholders typically do not lack expertise, but the extent of risks involved in the business – and the consequent rapidity with which fortunes can change – mean that safeguards have to be introduced, and once again public regulation provides one way of doing it.

How does the regulator act as debtholder representative? First, by imposing two sets of constraints on financial institutions, which serve to ensure their solvency and to avoid systemic externalities: (i) limits on the structure of their liabilities, in the form of “capital requirements”; (ii) limits on the riskiness of their asset portfolio. Second, by threatening a “get-tough-policy” when these are not respected, with the regulator taking control and possibly closing or selling the

financial institution. This broadly mimics the role of debt as a contingent control arrangement in non-financial firms, where control over the firm switches to creditors in bad times. In the case of banks, regulation is moreover aimed at limiting the ability of shareholders to “play with the money of the deposit insurance fund”, something their debtholders/depositors care about insufficiently if they feel at least partially protected by deposit insurance.

This general combination of capital requirements, asset restrictions and control shift to the regulator in case of violations of the above rules is common to the regulation of banks, securities firms and insurance companies. Specifics differ between types of institutions, of course. For example, regulation takes into account the fact that the asset side differs between institutions: banks have a special role in bearing *credit risk*; securities firms are in the business of taking *market risk*; and insurance companies specialise in *liability risk*. Regulation therefore tries to measure credit risk in the case of banking activities and market risk in the case of securities activities, and requires each type of institution to hold capital in proportion to their level of “risk-weighted assets”.²⁶

Finally, it should be pointed out that an important feature of regulation is the practice of computing total capital requirements by *summing* the requirements associated to individual

²³ While these regulators are civil servants, it is not inconceivable to have “private representatives”: for example, dispersed shareholders have representatives through the Board of Directors.

²⁴ Beyond making sure they do invest solely in such types of assets.

²⁵ See the classic Diamond and Dybvig (1983) analysis of rational, self-fulfilling panics.

²⁶ For example, in the case of banking regulation, the requirement is to hold capital of at least 8 % of risk-weighted assets. Since 1988, assets are weighted by the general credit riskiness of borrowers (e.g. sovereign debt versus interbank debt versus residential mortgages versus other types of debt), while off-balance sheet activities are moreover reinterpreted through the computation of “notional principals” (for contingent and/or future credit arrangements or derivative operations). Regulatory changes currently being discussed aim at measuring more accurately individual credit risks through the use of independent credit ratings as well as the possibility of relying on banks' own risk assessment exercises.

elements of the asset side of the financial institution. Although regulators are obviously aware of the potentially positive diversification effects linked to the size or composition of the portfolios held by financial institutions, the difficulty in measuring them has so far largely prevented regulation from taking diversification into account. Indeed, how to measure and incorporate diversification effects is an ongoing area of regulatory investigation. This absence of a rule for incorporating diversification effects is useful to keep in mind when considering the issue of financial conglomerate regulation.

4.2 REGULATING FINANCIAL CONGLOMERATES

Section 3 has stressed the impact of conglomeration on the variability of income generated by financial institutions. In order to evaluate the regulatory treatment of conglomerates, it is useful to distinguish the impact of conglomeration on (i) incentives of the conglomerate with respect to regulatory constraints, and (ii) general effects of conglomeration on risk-taking behaviour.

Financial conglomerates and regulatory constraints

A natural worry for regulators is the extent to which conglomeration could weaken the safeguards put in place through regulatory requirements. The set of potential problems can be divided into “regulatory arbitrage,” “internal contagion effects,” and “complexity and lack of transparency effects:”

- Two important forms of *regulatory arbitrage* are: “multiple gearing,” whereby the same capital issued by the conglomerate is being counted “twice,” for example as a way to satisfy both banking and insurance capital requirements; and “excessive leveraging,” which occurs when the conglomerate issues debt

and gives the proceeds as equity to its regulated subsidiary.

- The risk of “*internal contagion*” could arise in a conglomerate for example when problems at the insurance end of the business drag down the capital resources of the sister bank. This risk is higher the higher the earnings volatility of the line of business that is merged into the financial institution. And it is worsened in the case of bancassurance when problems in the insurance arm of the conglomerate translate into incentives to try and take advantage of insured banking deposits through a “gamble for resurrection” strategy. These problems are of the same type as the cross-subsidisation of bad divisions by good ones in general conglomerates, a risk that is stressed in section 2 for the case of general conglomerates.
- A third set of problems is the likely impact of conglomeration on the *complexity of transactions and associated lack of transparency of accounts* of the financial institution. This implies a harder task for auditors and regulators. One should indeed keep in mind that speed is often crucial in preventing financial disasters: things tend to quickly get out of hand once the situation deteriorates, because management and shareholder incentives naturally become very distorted when insolvency looms.

Financial conglomerates and risk-taking behaviour

Beyond the specific problems connected to existing financial regulation, what is the general impact of conglomeration on risk-taking behaviour? While empirical evidence is not fully conclusive,²⁷ we have seen in section 3 that it is

²⁷ The same is true for theoretical arguments, as stressed for example by Boot and Schmeidts (2000).

reasonable to start from the premise that the combination of banking activities with life insurance activities does not increase variability of returns relative to stand-alone banking. As for the combination of banking and securities or banking and property and casualty insurance, it is less conclusive, but it does not necessarily point to an increase in variability.

Let us however stress two caveats: first, the fact that these results arise from simulation exercises that abstract from the challenges posed by conglomeration that have been detailed in the above subsection; and second, the fact that such simulation exercises also have to abstract from the difficulties that conglomerates face in terms of risk management. Indeed, proper risk management at the conglomerate level typically necessitates merging the very different risk-management “cultures” that focus on the specific risks involved in banking, security dealing or insurance.

The regulation of financial conglomerates

How does the regulation of cross-activity financial intermediation deal with the issues detailed in the previous two subsections? In the European Union, we already have in place a specific regulation, inspired by OECD-wide regulation, of institutions that simultaneously perform banking and security activities. The idea behind this regulation is that of a “level-playing field”, aimed at ensuring that a merger between two stand-alone entities is neutral in terms of meeting capital requirements. A current proposal for a Financial Conglomerates Directive concerns the combination of banking/securities and insurance activities. It is based on the same idea of a level-playing field in terms of capital requirements. It also stresses the need for adequate risk-management procedures at the conglomerate level, with adequate reporting to supervisory authorities, and it calls for coordination between the banking and insurance supervisors, with the appointment of a supervisory coordinator.

The proposed Financial Conglomerates Directive therefore rightly stresses the downside of conglomeration in terms of regulatory risks:

- Preventing regulatory arbitrage is an explicit goal of the regulation, which introduces safeguards against multiple gearing and excessive leveraging (through the partial deduction from capital of the participation in subsidiaries).
- Similarly, the regulation aims at limiting the risks of internal contagion and the problems linked to complexity and lack of transparency by insisting on proper risk management procedures and on tight cooperation between banking and insurance regulators. Note, however, that the extent to which the regulation will be successful here will only be learned through experience.

While regulatory risks may be properly addressed, can one argue that the potential benefits of conglomeration in terms of risk diversification are underestimated? This would be true if, under these conditions, conglomeration could be expected to reduce the riskiness of returns. Indeed, the proposed regulation does not take such a reduction into account: the “level-playing field” abstracts from portfolio risk considerations, simply summing capital requirements over bank loans (and off-balance transactions) and insurance contracts. On the other hand, we have seen in section 4.1 that this follows the regulatory practice applied to stand-alone financial activities: no portfolio considerations are taken into account there either, whether in banking, security or insurance activities; and the same is true for the regulation of institutions that combine banking and security trading activities, since their “banking book” and “trading book” are treated separately. Extending this principle of stand-alone activity regulation to banking/securities and insurance conglomerates is thus consistent with the overall regulatory regime. The absence of conclusive empirical evidence concerning diversification effects explains the cautious attitude of regulators.

5 CONCLUSION

This paper has analysed the formation of financial conglomerates and their implications for financial stability. It highlights several messages. First, financial conglomerates are on the rise at the same time that general conglomerates are declining. Whereas improvements in capital markets and in mechanisms of corporate governance diminish the importance of general conglomerates, the combination of financial deregulation, potential synergies, and developing financial markets stimulate financial conglomerate formation. Second, Belgian experience with

respect to general and financial conglomerates conforms to international trends, although bancassurance is more developed in Belgium than in most other countries. Third, financial conglomerates present a number of regulatory challenges. Although activity diversification via financial conglomeration may well provide the benefit of lower return variability, new risks are created – such as regulatory arbitrage and intra-firm contagion – that may call into question the effectiveness of existing regulatory constraints. The proposed Financial Conglomerates Directive, which foresees separate regulation of financial conglomerates, aims to limit the newly emerging risks.

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THE OVERSIGHT RESPONSIBILITIES OF CENTRAL BANKS ACCORDING TO THE CORE PRINCIPLES FOR SYSTEMICALLY IMPORTANT PAYMENT SYSTEMS

1 INTRODUCTION

Payment infrastructures play a crucial and unique role in maintaining stable and efficient financial markets. There are many reasons for this role, all relating to the essential and basic function of payment or securities settlement systems, namely to transfer value between financial intermediaries and users.

Large value payment systems are the typical channel through which systemic shocks can be transmitted, as it is through these systems that liquidity shortages and, to a lesser extent, credit problems, materialise in the most direct way. Payment infrastructures underpin most, if not all, financial markets and one can hardly imagine any efficient money or capital market without a payment infrastructure to back it. In order to ensure the optimal allocation of financial resources, thereby creating the conditions for a sound development in the real sphere, financial markets need to rely on safe and stable payment systems. Even if inefficient infrastructures do not actually generate a financial crisis, they have as effect that such a crisis, once it occurs, is likely to spread to the rest of the market.

Factors such as wide differences in settlement practices or national dissimilarities in the institutional and legal environment tend to create a heterogeneous landscape of payment infrastructures. While payment and securities settlement systems vary greatly, the core function, the transfer of payments or financial assets, remains the same everywhere. Moreover, all payment or securities settlement systems, irrespective of which market they are serving, or the country in which they are established, face the same basic question: how should risks be dealt with? To address this fundamental question while taking into con-

sideration the diversity of existing infrastructures, central banks have devoted considerable effort to identifying and analysing these risks in order to design measures, practices and processes that eliminate or contain the likelihood of disruption.

These efforts have led to the design of 10 Core Principles for systemically important payment systems, and the attribution of 4 responsibilities to central banks in the application of those core principles. The second chapter will present the main considerations which presided over the design of those principles. Chapter 3, which constitutes the core of this article, will successively review the conditions for application of the 4 responsibilities in Belgium.

The NBB's oversight activities relate to systems located in Belgium, such as the domestic retail payment infrastructure, and the domestic Real Time Gross Settlement system (RTGS).

However, the oversight activities also cover major international systems, such as SWIFT and Euroclear. Given their nature and size, these systems' importance for systemic stability reaches beyond the domestic dimension, and hence the NBB's oversight activities have entailed international co-operation with other central banks.

2 THE CORE PRINCIPLES FOR SYSTEMICALLY IMPORTANT PAYMENT SYSTEMS

2.1 THE APPROACH TAKEN BY CENTRAL BANKS

In view of the importance of payment and securities settlement systems, the central banks of the

G-10¹ set up a high level committee, back in 1980, devoted exclusively to payment and settlement issues. Much of the central banks' analytical work relating to payment systems, and to their role in promoting financial stability, has taken place under the umbrella of this G-10 committee, and its successor, the Committee on Payment and Settlement Systems (CPSS). Over the last decade, the CPSS has gradually tackled all issues relating to payment systems of potential importance for systemic risk.

The concept of RTGS payment systems was analysed, and after the G-30 recommendations of 1989, work began on securities settlement systems, dealing successively with Delivery versus Payment (DVP) arrangements, cross-border securities settlement, a disclosure framework for Central Securities Depositories (CSDs), clearing of exchange traded derivatives, and clearing arrangements for over the counter (OTC) traded derivatives. Another area of activity concerned retail payment systems, where a CPSS working group surveyed the various arrangements in the G-10 countries, as well as the different forms of central bank involvement.

The CPSS also focused much attention on the foreign exchange settlement risk², the so-called Herstatt risk³. It devoted several reports to this issue, surveying industry practices, analysing the risks, and identifying the relevant policy options, including action to be taken respectively by individ-

ual banks, industry groups, and central banks. These reports were very instrumental in raising the industry's awareness of the issue of foreign exchange settlement risk, and provided the impetus for initiatives such as the creation of the CLS Bank⁴.

A common feature of all these efforts has been the emphasis on the various risks faced by payment and securities settlement systems, be they credit risks, settlement risks, liquidity risks or legal risks. Box 1 lists and describes these various risks on the basis of definitions taken from the CPSS report on Core Principles for systemically important payment systems and from the CPSS/IOSCO⁵ report on Recommendations for securities settlement systems.

2.2 THE DESIGN OF THE CORE PRINCIPLES

At the end of the nineties, after a decade of work on the various specific aspects and types of payment systems, it was felt that the time was ripe for consolidating the results of these analyses, which were scattered among various reports. At the same time, in the wake of the financial crises in South-East Asia, where the importance of a sound payment infrastructure was demonstrated in real life, there was a clear call from the international financial community for the CPSS to come up with general, basic principles for sound payment systems, that would be valid worldwide, echoing to some extent what the Basle Committee on Banking Supervision had achieved with its core principles for banking supervision.

For this purpose, the CPSS set up a Task Force, which was composed not only of the traditional CPSS members, but also included representatives of central banks from a number of non G-10 countries, as well as from the IMF and the World Bank⁶.

The work of the Task Force resulted in the drafting of "Core Principles for systemically important payment systems". This report is an important

¹ G-10 is composed of Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, Switzerland, United Kingdom, United States.

² A bank's actual exposure – the amount at risk – when settling a foreign exchange trade equals the full amount of the currency purchased, and lasts from the time a payment instruction for the currency sold can no longer be cancelled unilaterally until the time the currency purchased is received with finality.

³ In 1974, the failure of Bankhaus/Herstatt created foreign exchange settlement losses for a number of its international counterparties.

⁴ CLS stands for Continuous Linked Settlement, CLS Bank was set up to eliminate settlement risks in FX markets

⁵ IOSCO is the International Organisation of Securities Commissions

⁶ A similar task force for developing standards for securities settlement systems was set up jointly by the CPSS and IOSCO. The present article focuses on the standards for payment systems. In a future issue of this Financial Stability Review, we will come back to the standards for securities settlement systems.

BOX 1

RISKS IN PAYMENT SYSTEMS

Settlement risk:	A general term used to designate the risk that settlement in a transfer system will not take place as expected. This risk may comprise both credit and liquidity risk.
Credit risk:	The risk that a party within the system will be unable fully to meet its financial obligations within the system either when due or at any time in the future.
Liquidity risk:	The risk that a party within the system will have insufficient funds to meet financial obligations within the system as and when expected, although it may be able to do so at some time in the future.
Legal risk:	The risk that a poor legal framework or legal uncertainties will cause or exacerbate credit or liquidity risks.
Operational risk:	The risk that operational factors such as technical malfunctions or operational mistakes will cause or exacerbate credit or liquidity risks.
Pre-settlement risk:	The risk that a counterparty to a transaction for completion at a future date will default before final settlement. The resulting exposure is the cost of replacing the original transaction at current market prices and is also known as replacement cost risk.
Principal risk:	The risk that the seller of a security delivers a security but does not receive payment or that the buyer of a security makes payment but does not receive delivery. In such an event, the full principal value of the securities or funds transferred is at risk.
Systemic risk:	The risk that the inability of one of the participants to meet its obligations, or a disruption in the system itself, could result in the inability of other system participants or of financial institutions in other parts of the financial system to meet their obligations as they become due. Such a failure could cause widespread liquidity or credit problems and, as a result, could threaten the stability of the system or of financial markets.

step by central banks towards a common, internationally accepted view on the principles for payment systems, and on the role of central banks. The report explicitly states that

the safety and efficiency of payment systems are public policy objectives that should be pursued by central banks. It also introduces the concept of systemically important payment

systems, these being systems that have the potential to create systemic risk in case of dysfunction. This mainly concerns large value payment systems.

The report came up with ten principles as well as four central bank responsibilities. The Governing Council of the ECB adopted these Core Principles and central bank responsi-

BOX 2

THE CORE PRINCIPLES AND CENTRAL BANK RESPONSIBILITIES

Core Principles for systemically important payment systems

- I. The system should have a well-founded legal basis under all relevant jurisdictions.
- II. The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it.
- III. The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.
- IV* The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.
- V* A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.
- VI. Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.
- VII. The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.
- VIII. The system should provide a means of making payments, which is practical for its users and efficient for the economy.
- IV. The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.
- X. The system's governance arrangements should be effective, accountable and transparent.

* Systems should seek to exceed the minima included in these two Core Principles.

Responsibilities of the central bank in applying the Core Principles

- A.** The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.
- B.** The central bank should ensure that the systems it operates comply with the Core Principles.
- C.** The central bank should oversee compliance with the Core Principles by systems it does not operate and it should have the ability to carry out this oversight.
- D.** The central bank, in promoting payment system safety and efficiency through the Core Principles, should co-operate with other central banks and with any other relevant domestic or foreign authorities.

bilities as the oversight standards for the Eurosystem.

2.3 A SHORT OVERVIEW OF THE TEN CORE PRINCIPLES

These principles are meant to reflect the right way of addressing the various risks that can arise in payment systems. In fact, the 10 Core Principles can be regarded as the 6 Lamfalussy standards⁷, one of which was split into two separate standards, supplemented by three “new” principles. These three “new” principles relate to efficiency of payment systems, governance, and the nature of the assets used for settlement.

Core Principle I deals with legal risk. When judging whether a payment system has a sound legal basis one has to determine which legal framework governs the system's payments and operations. Crucial issues to be addressed concern the bankruptcy laws as well as the legal arrangements for collateral and for settlement finality.

Core Principles II and III are closely related. They point to the fact that the risks which participants incur through their participation in the

system must be clear and transparent to them, and that it is also necessary to have a clear definition of who is responsible for coping with these risks, and how that is done. The risks that participants may incur depend on the design and the functioning of the payment system. In order to conform to core principles II and III, it is therefore important to have sound, transparent, and well-documented procedures. There is also a need for adequate monitoring procedures.

Core Principle IV deals with another cornerstone of payment systems' design: the timing of finality. A settlement is final when it is unconditional and irrevocable. Systems should provide final settlement at the day of value, at the minimum for the end of the day, but preferably before. This requires a proper legal framework (see principle I) but also clear system rules and procedures.

Core Principle V applies only to systems that settle on a multilateral net basis. It aims at containing the potential domino effect of the failure of one

⁷ The Lamfalussy standards are the minimum standards for interbank netting schemes, as laid down in the report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten countries, 1990.

participant. The system must be able to survive in case of failure of the most important participant (in terms of settlement obligation), and must be able to complete the daily settlement on time.

Core Principle VI focuses on the assets used for settlement. In order to minimise credit and liquidity risks, it is preferable to use central bank money. It should be noted that the Core Principles in general, and this principle in particular, are specifically aimed at cash payment systems, and do not address securities settlement systems, for instance. The specific characteristics of securities settlement procedures are such that not all of the core principles, among them principle VI, can be extended from payment to securities settlement systems⁸.

Core Principle VII is quite straightforward, and covers operational risk. Given the liquidity and credit risks that participants might incur as a consequence of dysfunctions in the operation of payment systems, the importance of this Core Principle is obvious.

Core Principle VIII is something of an innovation in the standards set by central banks. A system should be efficient in different respects: it should meet the needs of the users as far as possible, while taking into account the context of the economy in which it is operating. Another aspect of efficiency means that the system should operate in a cost-effective way. This is one of the areas where pricing policies can be relevant.

Core Principle IX looks at fair and open access to payment systems. Read in conjunction with the other Core Principles, it means that access rules should be motivated by concerns for safety and

efficiency. They must not be based on attempts to restrict access for purely commercial reasons, or on attempts to create closed clubs or monopolies.

Finally, Core Principle X is linked, in a way, to all other Core Principles. Given their importance for the safe and efficient functioning of the system, effective, accountable and transparent governance arrangements are a necessary condition for long-term compliance with the other principles. It is hard to imagine how procedures complying with the Core Principles could be set up without the backing of adequate governance provisions.

3 CENTRAL BANK RESPONSIBILITIES AS DEFINED IN THE CORE PRINCIPLES REPORT

In addition to the ten Core Principles, the report also lists four central bank responsibilities in relation to payment systems. While the central banks had already assumed most of these responsibilities to a large extent, their role often tended to be merely implied. The Core Principles report has the merit of explicitly stating what these responsibilities should be.

3.1 RESPONSIBILITY A: THE CENTRAL BANK SHOULD DEFINE CLEARLY ITS PAYMENT SYSTEM OBJECTIVES AND SHOULD DISCLOSE PUBLICLY ITS ROLE AND MAJOR POLICIES WITH RESPECT TO SYSTEMICALLY IMPORTANT PAYMENT SYSTEMS

In the field of payment systems, this responsibility reflects the general consensus on the way central banks should conduct their monetary and financial policies. Two points are crucial here: central banks need to arrive at a clear definition of their policy objectives with respect to payment systems, and they should disclose

⁸ This is reflected by the wording of Recommendation 10 of the CPSS/IOSCO Recommendations, which deals with the settlement asset used for securities settlement (*“Assets used to settle the ultimate payment obligation arising from securities transactions should carry little or no credit risk or liquidity risk. If central bank money is not used, steps must be taken to protect CSD members from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.”*). Clearly, there is more room here for other arrangements, such as settlement in the books of a limited purpose bank, than is the case with core principle VI.

these publicly. The NBB has disclosed its policy on payment systems oversight in a public statement, issued in December 1999. It has also described its role and major policies with respect to payment systems in several of its annual reports. Furthermore, it intends to complement and refine its policy statements in future issues of this new Financial Stability Review.

When defining the objectives and role of a central bank in relation to payment systems, it might be useful to distinguish between payments oversight (see responsibility C) and banking supervision.

Payment and securities systems oversight is clearly distinct from banking supervision in many respects. A first important distinction comes from the fact that oversight addresses systems and the risks associated with their operation, whereas prudential bank supervision addresses individual institutions and the risks they assume in the course of their activities.

Obviously, the risks materialising in payment systems, which in most cases are interbank structures, will affect the individual banks and, in that sense, also create a risk for the various participants in the system. However, these risks should be prevented, contained or eliminated by designing sound and efficient payment systems, and cannot be tackled through the supervision of individual institutions.

The roles of overseer and bank supervisor are different and complementary. They have to be fulfilled in a way that is optimal for fostering financial stability; this is underscored by the different approach that those two prudential authorities have adopted. Over the last decade, bank supervisors have developed a commonly agreed, internationally accepted set of rules and regulations. The best known example of this approach is the Basle Accord on capital requirements. Although it leaves room for national discretion, this set of rules has generally been laid out in a very detailed and comprehensive form.

This differs substantially from the way overseers have developed their internationally agreed standards. These standards operate at a broad level, they are general in nature and they do not enter into detailed prescriptions, as is the case in banking supervision. Usually, the detailed arrangements for the implementation of a standard are left to national discretion, in recognition of the fact that there are often various possible methods.

Another difference concerns the instruments used. As a rule, bank supervisors have a whole arsenal of legal instruments -such as authorisation of activities, withdrawal of banking licences, financial sanctions- provided for them by law. The situation is somewhat different for payment system overseers. Although some of them may also rely on authorisations, prior approvals or financial sanctions, most central banks use moral suasion as their main enforcement tool. This means that central banks mainly resort to their "moral authority" to achieve adherence to the standards. This may cover a wide range of possible action, such as informal or formal contacts (at board level, if necessary) with the system operator, or public statements by which participants are made aware of potential problems.

This disparity in instruments used by supervisors and overseers is in part related to differences in market structure. A bank supervisor is usually responsible for the control of a number of competing institutions. In such a situation, all supervised institutions must receive equal treatment. This can best be achieved by a detailed set of rules that do not leave too much room for interpretation and discretionary implementation. For overseers, the situation is somewhat different. In most cases, payment systems operate in more concentrated markets and may even have some kind of natural monopoly within individual countries. Therefore, there is less concern for a totally unified and detailed international set of rules, and there is room for discretion and interpretation at the national level when implementing international standards.

To the extent that the international (or national) competition for payment or securities settlement systems is growing (for instance in the euro area with respect to Securities Settlement Systems), there might be a need for more detailed rules for implementing the standards, in order to maintain a level playing field between competing systems subject to different overseers.

3.2 RESPONSIBILITY B: THE CENTRAL BANK SHOULD ENSURE THAT THE SYSTEMS IT OPERATES COMPLY WITH THE CORE PRINCIPLES

A central bank can either choose to be operationally involved in payment systems, or let the private sector operate those systems, in which case the central bank will confine its role to oversight (see responsibility C). Central banks have traditionally played an important role in running payment systems, and in most countries they are the operator of the RTGS system. In Belgium, the NBB operates ELLIPS, the RTGS system, as well as UCV-CEC, the automated clearing house (ACH) for retail payments, and the NBB clearing system, the Central Securities Depository (CSD) for Belgian government securities.

The NBB's Oversight Unit is currently conducting a formal assessment of compliance by ELLIPS with the core principles, as well as a similar evaluation of the conformity of UCV-CEC with six of the core principles judged relevant for retail payments by the Eurosystem. It is also planning to assess the NBB clearing system on the basis of the CPSS/IOSCO recommendations.

⁹ It should be noted that the situation is somewhat different for securities settlement systems. There is no specific provision in the Treaty concerning this activity, even if the ESCB, through its mission to contribute to the stability of the financial system, has an interest in the smooth functioning of securities settlement systems. In fact, for the oversight of securities settlement systems, the role of the various national central banks differs from one country to the other, according to national legislation and arrangements.

3.3 RESPONSIBILITY C: THE CENTRAL BANK SHOULD OVERSEE COMPLIANCE WITH THE CORE PRINCIPLES BY SYSTEMS IT DOES NOT OPERATE AND IT SHOULD HAVE THE ABILITY TO CARRY OUT THIS OVERSIGHT.

The oversight of payment as well as of securities settlement systems basically comes down to two different, but mutually interacting activities:

- the definition of standards, best practices and principles which these systems should adhere to. In the case of systemically important payment systems, these are the ten Core Principles;
- the implementation activities, ensuring that the systems subject to oversight respect the standards and principles set by the overseer.

The explicit emphasis on the central bank's role in payment systems oversight is a relatively new development. Although, in many cases, central banks were in charge of oversight for years, that function often took a rather indirect form. In the EU, the provisions of the Maastricht Treaty have indisputably assigned responsibility for the oversight of payment systems to central banks.

Indeed, the Treaty on the European Union stipulates that the ESCB has, among its basic tasks, to "promote the smooth operation of payment systems". As such, this provision does not make any distinction between large value and retail payments. So, in contrast to the situation in some other countries, the oversight activity of the Eurosystem is not restricted to systemically important payment systems (SIPS). This position is justified on the grounds that the safe and efficient functioning of retail payment systems is instrumental in maintaining the general public's confidence in payment systems and instruments, and, more generally, in the currency⁹.

In the case of the NBB, a member central bank of the Eurosystem, the provisions of the EU-Treaty are supplemented by the Act on the Organic Statute of the National Bank of Belgium of 22 February 1998 (“the Organic Law”). According to Article 8 of the Organic Law, “the Bank keeps watch over the smooth functioning of clearing and payment systems and assures itself of their efficacy and solidity”.

This provision constitutes the domestic legal basis for the Bank’s oversight, the facilities it provides for systems, and the operations which it can execute with or in relation to such systems. As explicitly stated in the explanatory notes to the NBB’s Organic Law, this responsibility encompasses securities settlement systems as well as cash payment systems.

Within the Eurosystem, an arrangement on how to organise the oversight on cash payment systems was agreed by the Governing Council¹⁰.

The basic lines of this arrangement can be summarised as follows:

- for large value payment systems, the Governing Council decides on the policy stance;
- the implementation is taken care of by the NCB where the system is established;
- for cross-border systems, the Governing Council decides on who plays the role of lead overseer, there is the presumption that this should be the NCB where the system is established;
- for retail payment systems, both the policy stance and the implementation of it are responsibilities of the NCB where the system is established. In some cases (e.g. cross-border effects or an impact on monetary policy) the Governing Council can decide on the policy stance.

As stated before, the NBB itself operates a number of systems: ELLIPS, UCV-CEC and the NBB clearing system. The NBB also has a commercial relationship, as competitor or customer, with most of the systems which are subject to oversight. To avoid any form of conflict of interests, the oversight activities were strictly segregated from the operational activities (Chinese walls).

The NBB oversees a wide range of systems established in Belgium. Some of them, e.g. SWIFT, Euroclear and Europay, have an international dimension. One can divide these systems into three categories: retail payment systems, securities settlement systems, and service providers.

Retail payment systems: Banksys and Europay

Banksys, a company owned by Belgian banks, operates a large part of the retail payments infrastructure, including both the Automated Teller Machine (ATM) and Point of Sale (POS) networks. It is involved in almost all card payments in Belgium by processing credit card transactions, operating the domestic debit card scheme (“Bancontact Mister Cash”) and operating the e-money scheme (“Proton”). The NBB oversight of Banksys focuses primarily on its operational availability, reliability and security.

Europay, which is owned by a large number of European member banks, is active in the field of international card-based payments. Europay promotes credit card (“Eurocard-Mastercard”), debit card (“Maestro” and “Cirrus”) and e-purse (“Clip”) products. It offers interchange and settlement of card-related payment transactions for its members. The NBB’s oversight of Europay focuses mainly on the security of the instruments which Europay supports, as well as on the safe functioning of the settlement activities organised by Europay.

¹⁰ECB, The role of the Eurosystem in the field of payment system oversight, June 2000.

Securities settlement systems: Euroclear, Clearnet and CIK

Euroclear is an International Central Securities Depository (ICSD), settling eurobonds and domestic bonds for international participants. The Euroclear system is operated by Euroclear Bank, a Belgian limited purpose bank which is owned by Euroclear plc, whose shareholders are the 120 major system participants (80.83 %), the former Sicovam shareholders (16.17 %) and Euronext (3 %). Euroclear bank confines itself to activities relating to securities settlement. Given the international consolidation process in which Euroclear is involved (by taking over the French and Dutch CSDs), a framework has been set up for international co-operation between overseers. Currently, the NBB's oversight activity vis-à-vis Euroclear is concentrated on the implementation of the CPSS-IOSCO standards (which one could describe as "the Core Principles for securities settlement systems").

Clearnet, created by merging the clearing houses of the Paris, Amsterdam and Brussels stock exchanges, is the sole central counterparty for the clearing of all Euronext transactions. This credit institution, which is governed by French law, has taken over BXS Clearing (the former Belgian central counterparty) and is a subsidiary of the Euronext group. The French, Dutch and Belgian authorities involved in the supervision and oversight of the Euronext clearing activities have concluded a protocol governing the co-ordinated performance of their tasks.

CIK acts as a central depository for Belgian private sector securities. It is a limited liability company under public law, established under the terms of the Belgian Royal Decree no 62 of 10 November 1967 facilitating the circulation of securities. It operates two settlement systems, settling Euronext Brussels cash market transactions on the one hand, and OTC trades on the other hand. The National Bank of

Belgium acts as the settlement agent for the cash side. The NBB's oversight activities focus on, among other things, the settlement model to be set up in the context of the Euronext and Clearnet integration.

Service Providers: SWIFT

SWIFT (the Society for Worldwide Interbank Financial Telecommunications) is a co-operative corporation, based in Belgium, offering facilities for the highly secure exchange of financial and related messages between its users. A growing number of RTGS systems in the world rely on SWIFT for their messaging, and SWIFT provides the connectivity between various exchanges and their users. SWIFT is very active in promoting global standards (be they messaging standards in the strictest sense or operational standards) for the financial sector, and serves as the de facto industry forum. For the specific characteristics of the oversight concerning SWIFT, see box 3.

3.4 RESPONSIBILITY D: THE CENTRAL BANK, IN PROMOTING PAYMENT SYSTEM SAFETY AND EFFICIENCY THROUGH THE CORE PRINCIPLES, SHOULD CO-OPERATE WITH OTHER CENTRAL BANKS AND WITH ANY OTHER RELEVANT DOMESTIC OR FOREIGN AUTHORITIES.

This responsibility deals with international co-operation between central banks as well as with co-operation between central banks and other authorities. The international co-operation is motivated by the strong international dimension of most payment systems.

Firstly, many payment systems settle, either directly or indirectly, operations with foreign participants. In these cases, the working of the system may be affected by the supervisory regime

under which the foreign participants are established.

Secondly, many domestic systems, in particular securities settlement systems, have established international links between themselves, through which payments or securities can be transferred. This implies that the efficient and safe functioning of any of the systems depends upon the other systems, as problems and shocks arising in one system can very quickly spread to other systems, and to market operators linked to them.

Thirdly, a number of participants in payment or securities settlement systems have developed considerable correspondent banking or custody activities, typically with foreign institutions. In a number of cases, such activities may become very extensive, and develop into what is often called quasi systems. These quasi systems create an additional layer of payments, on top of the payments/settlements processed by the traditional systems themselves. This entails a myriad of payments, with cross-border payments accounting for a large share.

Fourthly, there are systems which have as their core activity the settlement of cross-border transactions in different currencies. The best examples are the ICSDs, such as the Belgian based Euroclear and the Luxembourg based Clearstream.

This international dimension of payment infrastructures raises the problem of defining which central bank is the relevant authority competent for overseeing a system, and how international co-operation between overseers should be organised.

In 1990, the Lamfalussy report looked into this issue in the case of cross-border and multi-currency netting schemes. It put forward a number

of principles, which can be summarised as follows:¹¹

- netting systems should be subject to oversight by an authority that accepts primary responsibility to do so;
- there should be a presumption that the “host-country” central bank (in whose market the system is located or operating) will undertake this responsibility but, in certain cases, it could be mutually agreed that another authority would undertake the primary responsibility;
- the responsible authority should review the design and operation of the system as a whole and consult with other central banks and supervisory authorities that may have an interest in the system’s prudent operation;
- in the absence of confidence in the soundness of the design or management of a cross-border or multi-currency netting or settlement system, a central bank should discourage use of the system by institutions subject to its authority.

These principles, initially designed for netting schemes, have developed into a general benchmark for international co-operation between overseers, regardless of the type of system overseen (netting scheme, gross settlement system, securities settlement system, etc.). The central bank, which has the primary responsibility for oversight, has often been called the “lead” overseer. The arrangements for international co-operation in the oversight of Euroclear and SWIFT are based on this principle of lead oversight.

The practical implementation of this principle can be illustrated by the Memorandum of Understanding (MoU) concluded between the Dutch, French and Belgian authorities, for co-ordinating their oversight activities after the integration of Necigef in the Euroclear group. This integration in the Euroclear group, together with the earlier take-over of Sicovam (renamed

¹¹ The report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten countries, p. 7.

Euroclear France) and the planned take-over of the activities of CIK is meant to offer an integrated settlement platform for Euronext. This MoU was signed between the Nederlandsche Bank (DNB), the Stichting Effectentoezicht (STE), the Conseil des Marchés Financiers (CMF), the Banque de France (BdF), the Banking and Finance Commission (CBF) and the National Bank of Belgium. It sets up a “Euronext Settlement Committee”, serving as a forum for discussions on issues related to the integration of the settlement of Euronext transactions and acting as an advisory body to the lead overseer. The MoU designates the NBB as lead overseer of Euroclear, because this system is governed by Belgian law and has been designated by the Belgian authorities as the agreed system under the Settlement

Finality Directive. Likewise, the lead supervisor is the CBF, since the system is operated by a bank (Euroclear bank) which is incorporated and established in Belgium. Both the NBB and the CBF have to inform the other signatory parties to the MoU on issues that are relevant from the perspective of their responsibilities, and have to obtain their advice. This procedure is meant to avoid duplication of oversight efforts that would arise if each authority were to address its concerns directly to Euroclear, without any form of co-operation with other competent authorities.

A similar structure of co-operation, with the NBB as lead overseer, was set up several years ago for the oversight of SWIFT. The practical functioning of this arrangement is described in box 3.

BOX 3

THE OVERSIGHT OF SWIFT BY THE NATIONAL BANK OF BELGIUM, AS LEAD OVERSEER, AND THE G-10 CENTRAL BANKS OF THE COMMITTEE ON PAYMENT AND SETTLEMENT SYSTEMS (CPSS)

Central banks are responsible for fostering financial stability and the soundness of financial infrastructures. Because of this, there is central bank oversight of SWIFT. SWIFT is overseen because of its critical importance to the smooth functioning of the worldwide financial system, in its role as a major provider of messaging and processing services, particularly to clearing, payment and securities settlement systems.

The oversight of SWIFT is based on a special arrangement agreed by the central banks of the G-10 countries. Under this arrangement, the National Bank of Belgium (NBB), the central bank of the country in which SWIFT's headquarters are located, acts as lead overseer of SWIFT, supported by other G-10 central banks. The NBB is responsible for the day-to-day oversight relationship with SWIFT. In most of its oversight activities, the NBB is supported by representatives of G-10 central banks.

Although there are differences in scope and means of oversight activity at different G-10 central banks, it is their common understanding that the oversight of SWIFT should focus primarily on the security and operational reliability of the SWIFT infrastructure. Concretely, the objective of the oversight of SWIFT is to confirm that SWIFT has put in place appropriate structures, processes, risk management procedures and controls to effectively manage the risks it may pose to financial stability and to the soundness of financial infrastructures. The

central bank team that oversees SWIFT (the “overseers”) reviews the security and operational reliability of the SWIFT infrastructure on a regular basis. The attention for security and operational reliability is defined in its broadest sense, which implies that governance, management and operations of SWIFT can also be reviewed.

In order to carry out their oversight activities, the overseers need timely access to all the information from SWIFT that they judge relevant. SWIFT has committed itself to providing the information requested by the overseers.

The fieldwork of the overseers is carried out by a team composed of experts from several G-10 central banks with various backgrounds: payment systems policy, IT, legal and risk management, and is chaired by the NBB. The group has reviewed public and internal SWIFT documents and has been given presentations from SWIFT management and staff to foster discussions with the management of SWIFT. The group has not audited SWIFT’s activities, but the findings of SWIFT’s internal and external security auditors, and the group’s discussions with these security auditors, have been an essential input to the oversight activities.

Based on the fieldwork done by overseers, a team of senior representatives from a selection of G-10 central banks, chaired by the NBB, has met the SWIFT senior management and SWIFT board representatives at least twice a year, to discuss issues that may arise as part of the oversight process, and to make recommendations, suggestions and proposals to SWIFT. These meetings also give SWIFT the opportunity to explain any relevant measures it has taken or plans to take in response to the overseers’ suggestions. Overseers place great importance on the constructive nature of the dialogues with the SWIFT board and senior management.

Notwithstanding this description of the current oversight arrangements, the G-10 central banks are not precluded from organizing the oversight of SWIFT in a different way in the future.

This oversight does not grant SWIFT any certification, approval or authorisation; SWIFT continues to bear the responsibility for the security and reliability of its systems, products and services.

However, a distinction has to be made in legal terms between the role of lead overseer of Euroclear and lead overseer of SWIFT.

In the case of Euroclear, the NBB has “direct” competence, based on Article 8 of the Organic Law of the Bank, as Euroclear is a Securities Settlement System based in

Belgium. In such case, the primary responsibility of a domestic overseer with respect to the systems established within its jurisdiction clearly applies.

For SWIFT, the NBB competence is of an “indirect” nature. It is based on the critical functions that this institution, established in Belgium,

performs as a service provider for Belgian and international payment, securities settlement and clearing systems. In this context, the co-operative oversight arrangements that have been set up, imply that the NBB plays a central role as domestic overseer of SWIFT and co-operates with other central banks of the G-10, which are responsible for the oversight of their own domestic payment systems. However, the indirect character of the NBB competence implies that, in contrast to the situation in the case of Euroclear, the NBB does not solely bear the whole responsibility for the oversight of SWIFT. According to the terms of the co-operative oversight arrangement concluded within the CPSS, “the NBB acts as lead overseer, supported by the central banks of the CPSS”.

4 CONCLUSION

Payment infrastructures are of paramount importance for maintaining stable and efficient financial markets. The responsibilities of central banks with regard to financial stability have led them to develop a wide variety of initiatives, many of them relating to payment systems and payment infrastructures. These central bank activities culminated in the CPSS report “Core Principles for systemically important payment systems”, identifying 10 Core Principles and 4 central bank responsibilities. The 10 Core Principles deal with the risks inherent in payment systems, such as legal risks, credit risks, liquidity risks and operational risks, as well as issues such as governance, transparency, access criteria and efficiency. The central bank responsibilities form the basis for setting central bank policies in the field of payment systems.

The first responsibility covers the central banks' definition of payment systems policies

and the disclosure of those policies. In this respect, it is important to make a distinction between payment systems oversight and prudential banking supervision. Whereas the former focuses on systems and on risks inherent to their operation, the latter focuses on individual banks and on the risks which they incur. The two roles are separate but complementary.

The second central bank responsibility concerns the systems operated by central banks themselves, and stipulates that these have to comply with the Core Principles.

The third central bank responsibility concerns systems that are not operated by central banks: the latter should oversee compliance of these systems with the core principles. This oversight activity is composed of two mutually interacting activities: setting standards, and ensuring their implementation by the various systems. This explicit emphasis on the central banks' oversight task is relatively new; although central banks have practised oversight for years, this was often done in a rather indirect way.

The fourth central bank responsibility concerns co-operation with other central banks and relevant domestic or foreign authorities. The principles for international co-operation, which were set in the Lamfalussy report, have developed into a general benchmark, and have led to the introduction of a “lead” overseer system. In the case of the National Bank of Belgium, these central bank responsibilities relate, among others, to infrastructures that have a worldwide dimension, such as SWIFT and Euroclear. This means that the NBB oversight of these systems is motivated by their role with respect to international financial stability, and that it entails international co-operation with other authorities, based on the Lamfalussy principles.

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FINANCIAL COLLATERAL AND LEGAL UNDERPINNINGS OF FINANCIAL STABILITY

1 INTRODUCTION

The use of financial collateral, involving the transfer of a financial asset from one counterparty to another in order to ensure payment in the case of default on an obligation, has grown rapidly during the last two decades. In Belgium and in Europe, collateral is now widely used in wholesale financial transactions, such as inter-bank lending, derivatives transactions, and payment and settlement systems. This instrument makes a positive contribution to the functioning of financial markets and has been amply analysed by market practitioners. However, only more recently, authorities have begun examining the legal and financial risks associated with financial collateral and their implications for financial stability. It is, in particular, a striking point that the design of legal documentation, which plays an important role in the enforceability of financial collateral, has generally been left to professional organisations.

Increased involvement by authorities has become vital, in view of the importance of financial collateral in current financial markets. Moreover, the increased emphasis placed on sound risk management techniques in the design of new capital adequacy requirements by the Basel Committee on Banking Supervision should further boost the use of collateralisation. Although the new Basel II accord has not yet been finalised, it is expected to allow for a much broader recognition of credit risk mitigation techniques, including collateral, than the 1988 Basel I requirements did. This is closely in line with the objective to make the new capital adequacy rules more risk sensitive.

In order to play a positive role in the preservation of financial stability, financial collateral must be

supported by indisputable legal arrangements. Over time, market participants have become aware of the key importance of legal certainty for financial collateral agreements, especially in periods of crisis, and have recognised that harmonisation of EU legal rules would not be achieved solely by market forces. This has led participants and professional organisations, through their participation in the "Forum Group on Collateral"¹, to make an active contribution towards the preparation of an EU Directive on Financial Collateral.

This article is organised as follows. Section 2 briefly describes major credit risk mitigation techniques and identifies the key characteristics of financial collateral. Section 3 examines economic roles served by financial collateral, risks involved in the use of collateral and supervisory issues raised by the growing collateralisation of financial operations. Section 4 discusses the contributions made by the recent EU Directive on Financial Collateral in reducing legal risks associated with this instrument.

2 COLLATERAL AND OTHER CREDIT RISK MITIGATION TECHNIQUES

Collateral is one of several existing types of instruments for mitigating credit risk. Each instrument has advantages and disadvantages with respect to different types of transactions.

¹ The Commission constituted this group in the autumn of 1999, and chose its members from among a list of experts on collateral from banks and legal firms proposed by several European financial services organisations.

The most classic example of a credit risk mitigating technique is the guarantee. This is a contract under which a third party promises the lender to repay a loan on default by the counterparty or on the occurrence of a specified credit event. Banks may be involved on either side of such contracts, either as the credit protection seller when they provide a guarantee to other lenders, or as the credit protection buyer when they obtain a guarantee from a third party to cover one of their own loans.

Insurance contracts offer another way of transferring credit risks. Credit insurance has long been provided by specialist companies, typically to cover trade credit. More recently, several US insurance companies have marketed surety bonds backing performance of financial obligations. Netting, which can be bilateral or multilateral, is another widely used credit risk mitigation technique.

A range of newly developed and versatile credit derivative techniques – including credit default swaps, credit options, and credit linked notes – also allow the transfer of credit risk from the lender to third parties. In addition, credit derivatives can be used to transfer risks associated with a portfolio of borrowers as well as with single-name exposures. For instance, a single-name credit default swap is a contract in which a protection buyer pays a regular fee to a protection seller in exchange for a promise by the protection seller to pay a certain amount to the buyer upon occurrence of a “credit event” on an underlying asset. Credit events relating to the underlying asset may be widely defined to include default, restructuring or entry into a bankruptcy proceeding by the borrower.

Collateral, the credit risk mitigation technique specifically examined in this article, can be defined as a physical or financial asset accepted by the collateral taker to secure an obligation of the collateral provider. This obligation can result from a loan contract but it could also follow from a derivative or other market transaction or from

participation in a payment or securities settlement system.

One dimension which has to be considered when analysing collateral concerns is whether the collateral is a physical or a financial asset. The most commonly used physical collateral is real estate, which often backs mortgage loans; however, goods such as automobiles, equipment or inventories represent other possible forms of collateral. Physical collateral presents the important advantage of being available in almost all corporations². However, to the extent that the assets are company-specific, they may not be liquid and they may also be subject to large price fluctuations. Financial collateral helps to overcome the problem of liquidity when it takes the form of cash, or securities issued by prime borrowers which are easily traded on active secondary markets. The drawback is that corporations must own a portfolio of securities in order to provide financial collateral. Consequently, financial collateral is more widely available to and more commonly used by financial than by non-financial firms. This issue has been addressed in the new Basel capital adequacy requirements. While initially only financial collateral had been recognised as a credit risk mitigation technique, the Basel Committee is now considering also recognising physical collateral, given its importance for SMEs.

Another dimension is whether or not there is a transfer of ownership of the collateralised assets. Traditionally, collateral arrangements were based on legal structures without transfer of ownership, such as pledges. However, these structures generally entail cumbersome administrative formalities in order to make the pledge effective against third parties. Hence, some countries have modernised their pledge legislation, generally

² This could, however, be less true for corporations active in the new economy. One of the peculiarities of these firms is that they usually own little physical collateral that could be pledged in favour of potential lenders. They could nevertheless pledge patents or other intangible goods.

by introducing specific arrangements for commercial pledges, while others have preferred to introduce new legal structures under which the ownership of the collateralised assets is transferred to the collateral taker. This is the case with so-called title transfer structures or repurchase agreements (repos). Some countries such as Belgium have done both, and offer the choice between the two legal structures.

Repos, which correspond to the sale and subsequent repurchase of securities at a specified date and price, have nevertheless become the most widely used collateral arrangement in many financial markets, including the Belgian, precisely because pledges are at present subject to cumbersome formalities and a lower degree of legal certainty under some jurisdictions. This is, of course, mainly a problem in markets where participants originate from different jurisdictions.

A final important dimension, which should not be confused with the previous one, is whether the collateral provider has to be dispossessed of the collateralised assets in order for the collateral arrangement to be effective against third parties. We shall see in section 4 that the scope of the Directive on financial collateral has been limited to collateral arrangements with disposition.

3 ECONOMIC ROLE OF COLLATERAL AND MAIN SUPERVISORY ISSUES

3.1 ECONOMIC ROLE

Like all other instruments of credit risk mitigation, collateral reduces the creditor's loss in case of default by the borrower³. In addition, because collateral is provided by the borrower, it may also reduce the likelihood of the loss occurring. Collateral can alleviate moral hazard problems between the lender and the borrower: since the

borrower will lose his collateral in the case of default, he has a stronger incentive to avoid default than when no collateral is supplied. On the other hand, the use of collateral may have negative incentive effects on the lender by reducing the incentive to screen potential borrowers or to monitor borrowers' actions once a loan has been extended⁴.

Most of the economic theory relating to the use of collateral explores its role in screening borrowers and in eliminating the credit rationing that occurs when loan contracts only involve interest rates and when asymmetric information about borrower quality exists⁵. Collateral can be used to design discriminating contracts through which debtors can signal their creditworthiness. The lender offers a menu of contracts – with interest rates decreasing according to the amount of collateral – and each borrower chooses the contract that is best for him. Under certain conditions, “safe” borrowers will select a different contract from that selected by “risky” borrowers. This “tailoring” of contracts improves welfare and reduces credit rationing.

The collateral screening models lead to the result that low-risk borrowers will choose contracts with greater levels of collateral than high-risk borrowers. The lower probability of failure of the low-risk borrowers makes them more willing to offer collateral against a reduction in the interest rate. This pattern, however, does not correspond to actual practice, where high-risk borrowers are observed to supply

³ The protection against loss offered by instruments of credit risk mitigation, however, may not be complete. We return to this issue below.

⁴ See Manove et al. (2001) for a model where too much collateral lowers credit-market efficiency.

⁵ Stiglitz and Weiss (1981) were the first to demonstrate the existence of credit rationing when there is an adverse selection problem in the loan market. The idea is that an increase in interest rate will worsen the quality of the pool of borrowers by causing the high-quality borrowers to drop out of the market and leaving the low quality borrowers, who expect to repay less frequently (and default more often) anyway. Bester (1985, 1987) and others followed with analyses on the role of collateral in reducing credit rationing.

collateral. Some other existing theoretical models can nonetheless lead to results consistent with practice. For example, Coco (2000) assumes that borrowers differ in their attitudes toward risk (risk aversion). This model leads to the result that risk-averse borrowers, who will choose less risky projects, supply no collateral.

Another class of models in which results may be more consistent with practice are those which allow the possibility of “strategic default”, that is, where the borrower can divert for his own private use income that could have been used for loan repayment⁶. Obviously, in order for the borrower to be able to undertake such an action, it must be impossible for the creditor to verify or to prove to a third party that the funds have been diverted. In addition, the borrower will have an incentive to divert funds and engage in strategic default only in the final period of any multi-period relationship with the creditor in which loans are periodically renewed⁷. When strategic default is possible, borrowers may not be able to obtain loans because they cannot credibly make a commitment to repay the loan. Collateral can alleviate this problem and allow lending to occur. Clearly, more research needs to be undertaken with respect to issues involving collateral and borrower riskiness⁸.

In wholesale financial markets lenders do not have long-term relationships with borrowers, and exposures may change rapidly. Collateral in these circumstances does not serve as a screening device but rather as insurance for the lenders, allowing lending to occur when otherwise credit would be rationed. For example, over the counter derivatives transactions have not traditionally required collateral because the creditworthiness of the participants was well-known. As participation in this market has broadened to include lesser known counterparties, collateralised transactions have become more common⁹. The main benefits obtained by borrowers through the collateralisation of their debt in this case will be improved access to markets.

Given the characteristics of wholesale financial markets, it is easy to understand why collateral, rather than other instruments, is used to mitigate credit risk. Collateral does not require involvement of a third party, and it is also a funded instrument, meaning that specific assets (which may include the cash in a particular bank account) have been designated to cover the loss in case of a credit event. In addition, collateral arrangements are standardised. Collateral is thus a suitable instrument for transactions combining very short-term exposures, rapid changes in exposures, and relations with lesser-known counterparties. Negotiating contracts with third parties is impracticable for these types of transactions.

Whereas collateral is a natural credit risk mitigation technique for wholesale financial transactions, the use of collateral in such transactions has also increased over time. Explanations for the growing use of collateral in financial transactions include growth in securities and derivatives trading, an increased recognition by market participants of the importance of risk management, improvements in risk management techniques, and improvements in financial infrastructure, such as real time gross settlement systems¹⁰.

Evidence for the increasing use of financial collateral by Belgian banks is provided by the table below, which presents data on participation by Belgian banks in the market for interbank loans. Collateralised borrowing and lending in the form of repo have increased steadily over time, with total repo borrowing rising from 14 p.c. of total interbank borrowing in 1994 to more than

⁶ See, for example, Hart and Moore (1998). This fund diversion may also take the indirect form of a manager's investing in projects that provide personal benefits but only low profit for the firm.

⁷ Indeed, general reputation concerns may prevent borrowers from engaging in strategic default.

⁸ See Freixas and Rochet (1997) and Coco (2000) for a discussion on these issues.

⁹ CGFS (2001).

¹⁰ To the extent that intraday credit by the central bank has to be collateralised.

TABLE 1 – USE OF REPOS ON THE BELGIAN INTERBANK MARKET

(Data on a company basis)

	Borrowing in repo market			Lending in repo market	
	in billion EUR	in p.c. of total interbank borrowing	in p.c. of portfolio	in billion EUR	in p.c. of total interbank lending
1994	31.7	14.0	19.4	21.2	11.5
1995	45.0	17.9	26.2	34.0	16.7
1996	59.3	21.5	30.9	47.2	21.3
1997	67.6	22.9	32.3	50.3	21.6
1998	74.1	26.4	35.1	54.2	24.5
1999	99.5	34.3	43.1	73.7	34.7
2000	78.2	29.8	34.9	55.0	30.5
2001	92.2	34.2	37.7	66.8	32.8

Source : NBB.

34 p.c. in 2001, and repo lending increasing from 11.5 p.c. to almost 33 p.c. of interbank lending. In addition, total collateral provided in interbank borrowing accounted for 19 p.c. of the banking sector's securities portfolios in 1994 but rose to almost 38 p.c. in 2001.

3.2 RISKS

Collateral, like other instruments of credit risk mitigation, does not completely protect the creditor against losses associated with borrower default. This is due to the fact that part of the credit risk that such instruments aim to eliminate becomes transformed into other types of risk associated with the instruments, such as liquidity risk, market risk, operational risk, and legal risk. In the case of collateral, losses will not be fully covered if the liquidation value of the collateral at the time of realisation is lower than the amount due from the borrower. This situation can occur in the case of a fall in the market price of the collateral relative to its value at the signing of the contract, or an increase in the value of the underlying obligation. It can also result from transaction costs, from delays entailed in realising the collateral or from invalidation of the collateral arrangement.

Market risk and liquidity risk. These risks represent, respectively, the risk that the market price of the asset used as collateral fluctuates with respect to the value of the underlying financial obligation and the risk that realisation of the collateral takes time (i.e. the market for the collateral is illiquid). Market and liquidity risks are, to a large extent, a function of the design of financial collateral agreements. The type of asset used as collateral influences its liquidity. Cash and government bonds generally embody the lowest liquidity risk, but other easily tradable securities may also yield relatively low levels of liquidity risk¹¹. Minimisation of market risk necessitates ensuring a regular matching of the value of the collateral asset to the value of the underlying obligation. To achieve this, collateral contracts generally rely on a combination of initial margin requirements (up front provision of collateral) and subsequent additional margin calls to cover the difference between the exposure and the collateral value that could accrue during the life of the contract.

¹¹ There is nevertheless a default risk on debt securities used as collateral. Conversely, the provider of collateral could himself be exposed to a credit risk on his lender, should the latter be declared bankrupt (risk of loss of the collateral). In addition, as Domanski and Neumann (2001) point out, although cash (in the form of bank deposits) is the ideal collateral, it nevertheless involves some risk if the depository institution fails.

Operational risk. This type of risk represents the risk of loss due to inadequate or failed internal processes or systems, such as risk management procedures, or unexpected events. Collateral risk management procedures can thus affect the severity of losses suffered by the creditor. Proper risk management requires the collateral holder to regularly monitor changes in the value of the underlying exposure as well as the value of the collateral, and to be aware of the correlation between the two. A highly volatile price for the collateral increases the difficulty of estimating its liquidity value. In addition, asset correlations may be difficult to calculate, and they may change during periods of market stress.

Legal risk. Legal risk includes any administrative or legal requirement that impairs the creditor's ability to realise the collateral, invalidates the rights of the collateral taker on the collateral, or significantly raises the cost of realisation (or of netting arrangements). Legal risks may be substantial, especially when collateral is used in cross-border transactions. Four categories of legal risk are relevant:

- (1) *changes in the creditor's rights with respect to realisation of collateral as a result of application of insolvency law in the case where the debtor enters insolvency;*
- (2) *cumbersome procedures for establishing the existence or validity of the financial collateral;*
- (3) *inability to enforce the creditor's right to the collateral against the claim of a third party;*
- (4) *conflicting laws due to cross-border transactions; e.g., when the debtor resides in a different country from that of the creditor who holds the collateral.*

Insolvency law poses several potential problems for the holders of financial collateral. First, the creditor may find the priority of its claim on the value of the collateral subordinated to the claims

of other creditors, such as the social security administration or the tax authority. Second, since many bankruptcy laws void transactions occurring within a certain period prior to the opening of the bankruptcy proceedings and relating to pre-existing claims¹², margin requirements in the collateral agreement ("topping-up" of collateral) exercised during this period may be voided. Third, the creditor may have to obtain authorisation from a court or a bankruptcy administrator to realise the collateral, or the insolvency proceedings may even impose a stay on all creditors' claims. Finally, bankruptcy proceedings often impose a stay on any set-offs between a debtor and a creditor. This implies that close-out netting arrangements¹³ on the financial collateral contract may not be allowed after the debtor's declaration of bankruptcy.

National insolvency legislation can be adapted in order to reduce the legal risks of collateral linked to domestic transactions; however, the problem becomes significantly more complex when cross-border transactions are involved. When the debtor resides in a country other than that of the creditor, and the debtor files for bankruptcy, questions arise as to which country's law will determine the creditor's rights and govern the collateral arrangements. Cross-border operations also give rise to potential conflicts with respect to procedures required to validate or to perfect collateral. The Directive on Financial Collateral discussed in Section 4 constitutes one of a series of directives designed to eliminate the legal risk related to national and cross-border transactions among the Member States of the European Union.

¹²The rationale for voiding such transactions is that they permit the creditor participating in the transaction to improve his priority ranking in bankruptcy pay-outs, to the detriment of other creditors.

¹³Close-out netting arrangements stipulate that in «enforcement» events, such as default by the borrower, the obligations of the parties are accelerated and become immediately due, and/or account is taken of the amount due by each of the parties to the other, and the net sum is payable by the party from which the larger amount is due.

3.3 SUPERVISORY ISSUES

Because collateral allows lending to occur when otherwise credit rationing would have prevailed, the use of collateral can enhance the efficiency of financial markets by broadening and deepening these markets. In addition, the reduction of counterparty risk accomplished by collateral may improve financial stability by dampening the reactions of participants in periods of market stress. For example, the Committee on the Global Financial System (CGFS) notes that many interbank and derivatives markets do not significantly vary their price as a function of the riskiness of the counterparty. Reactions to counterparty defaults thus tend to take the form of negative quantity responses, or credit rationing. The use of collateral may reduce this tendency and, therefore, dampen volatility in credit flows.

Yet, widespread use of financial collateral can also lead to greater financial instability in periods of market stress, when market and liquidity risks may feed upon each other. If asset prices fall sharply in a period of stress, the need to meet margin requirements may force collateral providers to attempt to sell assets on a large scale, adding further to the downward pressure on prices and potentially affecting market liquidity¹⁴. These disturbances may be intensified if defaults by some counterparties force a widespread liquidation of collateral, creating the potential for contagion effects in other markets. These systemic pressures will be further exacerbated if market participants react to the situation by tightening their collateral standards. The tightening mechanism can even be automatic when the collateral contract includes provisions stipulating that margin calls are triggered in the case of a downgrading of the credit rating of the collateral provider. Such provisions could dramatically affect the liquidity position of the borrower, who could be obliged to sell a large portion of his marketable assets at short notice in order to meet the additional margin calls.

Examination of several stress periods in which the presence of collateral contracts appears to have intensified the stress,¹⁵ reveals that part of the problem was generated by inadequate risk management by counterparties and over-reliance on collateral, leading to excessive leveraging of positions. The importance of appropriate collateral management and sufficient monitoring of counterparties by financial institutions thus not only represents an issue of regulatory concern for the individual institutions but also has systemic implications.

Another risk created by the pervasive use of collateral in financial transactions is a potential shortage of collateral assets. This is all the more likely given the strong preference of financial institutions for collateral with low credit and liquidity risk, and the selection of government bonds as privileged underlying assets for pledges or repurchase agreements. In view of many countries' policies of reducing the level of government debt, concerns have been expressed regarding the future availability of public debt for use as collateral.

Several possibilities nevertheless exist for avoiding a collateral shortage. First, contracting parties can use other types of financial collateral besides government bonds. For example, banks' or non-financial corporations' bonds, asset-backed securities, or publicly quoted equities are all easily tradable securities, although they may become much less liquid than government bonds in certain circumstances. The higher credit risk of these instruments relative to government bonds could be offset by imposing a higher buffer between the market value of the collateral and the amount of the loan (the so-called haircuts). Other financial assets like bank loans or account receivables could also be considered,

¹⁴Kiyotaki and Moore (1997) analyse a theoretical model of this phenomenon.

¹⁵See CGFS (2001).

but their utilisation raises problems of valuation and liquidity, as well as a cumbersome legal framework in order to ensure perfection and enforcement (linked to the fact that these assets usually remain in the possession of the borrower).

A second possible means of avoiding a collateral shortage is the development of techniques allowing more efficient use of existing high-quality collateral. One technique is bilateral and multilateral netting, which makes it possible to reduce the volume of exposure and hence the need for collateral. Another technique is to allow the collateral taker to “re-use” the underlying asset in the case where ownership rights have not been transferred. This procedure, also called “re-hypothecation” or “on delivery” in the US, increases the velocity of the existing stock of collateral. The recognition of re-use is precisely one of the important achievements of the EU Directive on Financial Collateral examined in Section 4.

A final concern raised by the use of financial collateral is that the benefits from lower credit risk for the counterparties are achieved at the expense of a weakening of the relative position of unsecured creditors, who are perhaps unaware of the deterioration of their positions. The most powerful way to address this issue is to provide more information on existing collateral contracts in order to improve market transparency. This is a domain where much progress remains to be achieved. Indeed, present accounting and disclosure rules do not allow third parties to obtain a clear view of the impact of collateralisation for individual firms or at the market level. By disclosing the proportion of their balance sheet pledged as collateral and the proportion received as collateral, financial intermediaries would enable their unsecured creditors to assess more accurately the risk of default, and the loss on default by their counterparties. This will be all the more necessary if the re-use of collateral becomes a widespread practice¹⁶.

4 THE EU DIRECTIVE ON FINANCIAL COLLATERAL

The last section has shown that collateral is a natural risk-mitigation technique in wholesale financial markets, which are characterised by very short-term and rapidly changing exposures with potentially unknown counterparties. The use of collateral can improve the efficiency of these markets by broadening participation relative to the situation where transactions are not collateralised. Yet, the use of collateral transforms credit risk into other forms of risk, of which legal risk is an important component. The Directive on Financial Collateral aims to minimise these legal risks.

4.1 AIM OF THE DIRECTIVE

The aim of the Directive¹⁷ is to facilitate the cross-border use of some types of collateral (cash and financial instruments under both pledge and title transfer structures, including repos) in order to favour the creation of a single market for secured financial transactions¹⁸. The Directive aims to attain this objective through two channels.

First, it establishes a minimum uniform regime as regards relevant legal provisions of substantive law, in order to eliminate excessive administrative burdens on the counterparties to collateral arrangements. Second, it eliminates most of the legal uncertainty currently existing in these operations. It should be noted, however, that several steps in this direction had already been taken by previous directives aimed at improving the legal underpinnings of financial stability. In particular, the

¹⁶Information disclosure may not completely eliminate the problem for unsecured creditors, as there could be a risk of panic by unsecured creditors if they judge the amount of secured credits to be too high.

¹⁷Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 on financial collateral arrangements.

¹⁸Indeed, the creation of a single market for secured transactions has until now lagged behind the creation of a single market for unsecured transactions, precisely because of the legal obstacles to the cross-border use of collateral.

new Financial Collateral Directive complements and goes beyond existing directives and regulations¹⁹. The Settlement Finality Directive ensures the legal certainty of collateral arrangements in payment and settlement systems and in central banks' operations, while the EU Regulation on Insolvency Procedures (for non-financial firms) and the EU Directives on the Reorganisation and Winding-up of Insurance Undertakings and Credit Institutions safeguard the rights of the collateral taker against the insolvency of the collateral provider when the collateralised assets are situated within the territory of another Member State at the time of the insolvency.

The major source of legal uncertainty for cross-border collateral operations results from the fact that one or more foreign laws could interfere with the law chosen by the parties (*lex contractus*) to govern the contract. The relevant laws which could, according to the conflict of law rules of international private law, affect a cross-border collateral arrangement are:

- the foreign debtor's insolvency law (*lex fori concursus*) which will govern issues of crucial importance for the effectiveness of collateral in the case of insolvency proceedings such as the ranking of the collateral taker's rights to the proceeds of the collateralised assets and the possibility of realising the collateralised assets without being obliged to obtain prior authorisation from the receiver or the competent court;
- the law of the country where the assets are located (*lex rei sitae*) which will govern the formalities to be respected in order to make the provision of collateral enforceable against third parties (also called "perfection").

Most of those issues had already been solved by previous EU legislative initiatives, at least when the collateralised assets are held in a Member State other than the one where the insolvency proceedings have been opened. Nevertheless,

some Member States were reluctant to extend the protection for the rights of the collateral taker in the case of insolvency of the collateral provider to all financial collateral arrangements between financial and non-financial institutions. Indeed, they feared that the Directive could call into question some basic principles of their bankruptcy laws by:

- derogating from the basic principle of equality of creditors;
- complicating attempts to preserve the continuation of the business of the collateral provider (for instance, by ruling out the possibility for the Courts to impose a period of stay on all creditors in order to allow the company to propose a new business plan to its creditors);
- derogating from provisions of bankruptcy law allowing the rejection of all acts done to the detriment of the other creditors (for instance, the possibility for the Courts to reject new guarantees obtained by a creditor during a certain period of time before the bankruptcy in order to cover pre-existing claims).

The final text of the Directive is therefore the result of a compromise between, on the one hand, the objectives of preserving the stability of the financial system and creating a single market for the cross-border use of collateral and, on the other hand, the preservation of the basic principles of bankruptcy law.

This compromise has been effected in two ways:

- by requesting Member States to introduce in their bankruptcy laws only such changes

¹⁹ See Devos (2002) for a detailed discussion of cross-border legal issues and the progress achieved in this area by directives preceding the Financial Collateral Directive.

as are necessary to protect some essential features of collateral arrangements;

- by restricting the scope of the Directive to certain types of collateral (*scope ratione materiae*) and certain types of counterparties (*scope ratione personae*), as well as by allowing Member States not to apply the provisions of the Directive to financial collateral arrangements where one of the parties is a non-financial enterprise (*opt out clause*).

4.2 SCOPE OF THE DIRECTIVE

Scope ratione materiae

The Directive only covers collateral arrangements involving financial assets, i.e. arrangements where the collateral is composed of cash and/or financial instruments. It therefore does not apply to physical collateral.

Physical collateral has been excluded in order to avoid situations where the right given by the Directive to a collateral taker to realise the collateral in the case of a default event, such as the insolvency of the collateral provider, could prevent the collateral provider from remaining in business. This risk is very remote with cash and securities, especially given the fact that the only arrangements covered by the Directive are those where the collateral provider is disposed of the collateral. The concern with business continuity also explains why the Directive allows Member States to exclude from its scope securities consisting of shares in affiliated undertakings and shares in undertakings whose exclusive purpose is to own means of production that are essential for the provider to pursue its activities or to own real property.

With regard to the types of financial collateral arrangements, the Directive covers both contracts without transfer of rights of ownership of the collateralised assets (the so-called security

interest structures) and contracts with transfer of ownership (the so-called title transfer structures).

It is also important to note that, while some voices were raised in order to limit the scope of the Directive to financial collateral arrangements related to transactions on wholesale financial markets (for instance derivatives markets), the benefit of the Directive will extend to any obligation which gives a right to cash settlement and/or delivery of financial instruments. It will therefore also extend to loans collateralised by cash or securities.

Scope ratione personae

The “*scope ratione personae*” of the Directive may be seen as a compromise between the desire of the Forum Group on Collateral to apply the Directive’s provisions to all commercial entities, and even sophisticated individual investors, versus the position of several Member States which wanted to restrict the Directive’s scope to public entities (including central banks) and supervised financial institutions.

The initial Commission proposal was to include only financial and large non-financial enterprises. However, given the strong desire of the European Parliament to avoid any discrimination between large and small enterprises, the solution finally adopted is that the Directive will apply to all arrangements in which one of the counterparties is a central bank, a financial institution or a public entity.²⁰ This extends the scope of the Directive by including all financial collateral arrangements between a financial institution and a non-financial firm (including SMEs) but, at the same time, limits the scope by excluding arrangements between two non-financial firms.

Despite the restriction in the scope of the directive, both *ratione materiae* and *ratione personae*,

²⁰ Arrangements with natural persons are however excluded.

some Member States still feared that the Directive would oblige them to modify the present balance of interest in their bankruptcy law towards better protection for the interests of creditors, at the expense of the interests of debtors. Instead of restricting the scope of the Directive or watering down its content, those countries, which represented a blocking minority in the Council, were offered the possibility of not applying the Directive to financial collateral arrangements where one of the parties is a non-financial enterprise.

This ensures that the progress achieved by the Directive remains intact for countries which will not be using this “opt out” possibility, while also ensuring that arrangements between financial institutions, central banks and public authorities will be covered by the provisions of the Directive in all Member States.

Moreover, even if a Member State opts out totally or partially for financial collateral arrangements involving a non-financial enterprise, such arrangements will still benefit from the protection already offered by the EU Regulation on insolvency procedures when the assets are located within the territory of another Member State at the time of the opening of proceedings. The effect of the opt out could therefore largely be avoided by holding the collateral within the territory of another Member State. Nevertheless, if effectively used by some individual Member States, this opt out provision would not be conducive to the full achievement of a single market for secured transactions.

4.3 MAIN PROVISIONS OF THE DIRECTIVE

Simplification of formal requirements

The Directive obliges Member States to abrogate any legal provisions which would make the creation, validity, perfection, enforceability or admissibility in evidence of financial collateral

arrangements or the provision of financial collateral under a financial collateral arrangement dependent upon the performance of a formal act (such as registration in a public register). This removes a major obstacle to the cross-border use of collateral.

The objective of eliminating burdensome formalities must nevertheless be balanced with the necessity of providing evidence of the existence (and timing) of collateral arrangements and of the provision of collateral, in order to protect the collateral taker's rights to the collateralised assets against the claims of third parties. To that end, the Directive specifies that the provision of a financial collateral (the dispossession) has to be evidenced in writing or in some other durable medium, such as by electronic means. Similarly, the financial collateral arrangement itself has to be evidenced in writing or in a legally equivalent manner. This solution maintains the current practice in financial markets whereby financial collateral arrangements and the provision of collateral under such arrangements are not necessarily recorded in writing.

Enforcement of financial collateral arrangements

The Directive requires Member States to allow the collateral taker to enforce the financial collateral arrangement, upon occurrence of a contractually agreed enforcement event, by realising or appropriating the collateral, without being subject to formalities such as notification, the approval of the terms of the realisation by a court or a public officer, or realisation in a prescribed manner or only after a period of stay.

This is one of the core provisions of the Directive, since collateral can only serve as an effective credit risk mitigation technique if it can be enforced when needed. Furthermore, smooth enforcement procedures help to eliminate any contagion effects in financial markets arising from the default by one of the parties to a

financial collateral arrangement. Subject to the opt out clause, the Directive will therefore require Member States to ensure that financial collateral arrangements are exempted from any period of stay, imposed for example by an insolvency law, during which creditors are not allowed to enforce collateral arrangements.

The Directive also requires Member States to offer the collateral taker the option of appropriating (acquiring) the collateral instead of realising (selling) it. This could be useful from a financial stability point of view by offering an alternative to the collateral taker, who might otherwise be forced to sell the collateral in an already falling market. However, an opt out clause has been added, which permits Member States not recognising collateral appropriation at the date of entry into force of the Directive to refuse this form of enforcement.

Right to use financial collateral under security interest structures if and to the extent that the terms of that arrangement so provide

The right of “re-use” of financial collateral, which was previously only possible under transfer of title structures, is now extended to security interest structures. This provision represents one of the major innovations of the Directive. It could help to reduce the possibility of an aggregate shortage of financial collateral. It will also permit more dynamic management of collateral by allowing collateral takers in security interest structures to benefit from rights similar to those available to collateral takers in transfer of title structures.

Some fears have been expressed that the same asset could be used in order to collateralise several obligations and that nothing prevents the same asset from being used indefinitely to cover all obligations. Apart from the fact that this is nothing new, as it could already apply in the case of transfer of title or repo contracts, these risks

should not be exaggerated. The risk of a chain reaction is in fact remote, as each party in the chain will be able to net its claim on the collateral with its underlying obligation on the counterparty.

The introduction of the possibility of re-using pledged collateral will nevertheless necessitate some adaptations to tax and accounting legislation as well as to the functioning of Central Securities Depository systems (CSD), which at present do not allow the re-use of pledged assets. This problem must, however, be resolved at the national level in order to take account of specific local characteristics.

Recognition of title transfer collateral arrangements and of close-out netting provisions

At present, the legislation of some Member States does not recognise collateral arrangements in the form of title transfer structures, so that there was a risk that such arrangements might be recharacterised as an irregular pledge. Similarly, not all Member States' legislations recognise the validity of close-out netting after bankruptcy. By obliging all Member States to recognise these arrangements and provisions, the Directive eliminates the risk that they could be invalidated if a conflict of law rule would have referred to the legislation of a Member State not recognising them.

Non-application of certain insolvency provisions to financial collateral arrangements

This provision exempts financial collateral takers from the provisions of bankruptcy laws that invalidate certain types of transactions occurring during a certain period prior to the debtor's entry into bankruptcy²¹. The Directive requires Member States to ensure that:

²¹ See the discussion on this issue in Section 3.

- a financial collateral arrangement or the provision of collateral under such an arrangement will not be declared invalid on the sole basis that it has come into existence or has been provided within such a suspect period (neutralisation of automatic avoidance rules);
- provisions of a financial collateral arrangement under which the collateral provider is obliged to provide collateral or additional collateral in order to take account of changes in the value of the collateral or in the underlying obligations (top-up collateral), or under which the collateral provider is to substitute one asset for another (substitution of collateral) shall not be declared invalid on the sole basis that this was made during the suspect period.

Such types of transactions might indeed have been considered by a bankruptcy court as constituting new guarantees granted during the suspect period and relating to pre-existing claims²². The Directive does not, however, protect margin calls triggered by a downgrading of the credit rating of the collateral provider, leaving the national legislator to decide whether to protect these. The Enron case has, however, revealed the potential systemic consequences of such contractual provisions. Finally, the Directive explicitly states that it leaves unaffected other rules of national insolvency law relating to the avoidance of transactions entered into during the suspect period.

Determination of the law applicable to book-entry securities collateral

Determination of the *lex rei sitae* (i.e. the law where the assets are located) to collateral provided in the form of a book entry, (i.e. evidenced by entries in a register or an account maintained by or on behalf of an intermediary) is a particularly complex issue since it is difficult to identify where such securities are located. Book-entry securities will generally be held through a chain of intermediaries, each of them holding an

account in the books of another intermediary and finally in a CSD, where the securities have been issued and are primarily held.

The question which has to be decided is whether the applicable law is the law of the country where the underlying securities are ultimately held (end of the chain) or the law of the country of establishment of the relevant intermediary holding the account on which the rights in the book-entry securities are recorded (link of the chain).

The Directive confirms the choice made on this issue in the Settlement Finality Directive in favour of the latter option, i.e. the Place of the Relevant Intermediary Maintaining the Account (the PRIMA approach).

However, as this issue is being discussed in parallel by The Hague Conference on Private International Law, the Directive has not specified how to determine the relevant intermediary. Given that this conflict of law problem is not restricted to the borders of the EU, it was considered preferable not to lay down in the Directive a solution which would have risked being in conflict with the rule eventually adopted at world level.

5 CONCLUSION

The use of financial collateral, be it in pledge or repo form, has grown rapidly during the last two decades. While this is just one form of risk mitigating technique, its characteristics make it a very appropriate instrument for

²² Like the Settlement Finality Directive, the Financial Collateral Directive also obliges Member States to abolish the «zero-hour» rule with respect to financial collateral arrangements. The Directive thus validates financial collateral arrangements and the provision of collateral under these arrangements which take place on the day of the bankruptcy but after the moment of the bankruptcy, provided that the collateral taker can prove that he was not aware, nor should have been aware, of the commencement of the proceedings.

protecting lenders in wholesale financial markets. In those markets, lenders do not have a long-term relationship with borrowers and exposures tend to change rapidly. Collateral is convenient to use because it does not involve third parties, is standardised and has low transaction costs. Although this instrument requires the borrower to own a portfolio of securities that can be used as collateral, this is not really a drawback for transactions between financial institutions, which are the main operators in this market.

While collateral enhances the efficiency of financial markets, widespread use of this instrument could also raise supervisory issues. In a period when asset prices are falling sharply, the need to meet margin requirements may force collateral providers to attempt to sell assets on a large scale, adding further to the downward pressure on prices. The increased reliance on collateralisation could also lead to a shortage of collateral assets, although markets have recently been developing several devices to overcome this problem. Another concern is that the reduction in credit risks obtained through collateralisation is achieved at the expense of unsecured creditors who are perhaps unaware of the deterioration of their position. This issue has to be addressed by increasing available information in order to improve the transparency of those operations at both institution and market level.

At the level of the individual institution, the credit risks that collateral aims to eliminate are partially transformed into other types of risks associated with the instrument, in particular legal risks. In response, the new EU Directive on Financial Collateral aims at providing a better legal regime for this instrument.

The main objectives of the Directive have been to create a single market for the cross-border

use of collateral by eliminating excessive administrative burdens and to promote the stability of the financial system by removing most of the legal uncertainty on these operations while, at the same time, preserving the basic principles of bankruptcy laws. To achieve this compromise, the Directive requires Member States to introduce in their bankruptcy laws only such changes as are necessary to protect the key features of collateral arrangements. Moreover, the scope of the Directive has been restricted to certain types of collateral and certain types of counterparties.

The Directive has put in place a legal framework which should provide an answer to most of the legal challenges resulting from the increasing collateralisation of financial operations. This is an important tool, but not sufficient as such to guarantee complete legal certainty, as much will depend on the concrete design and management of financial collateral arrangements by financial institutions. The fact that an increasing number of banks are developing formal collateral management programmes is a positive move.

The future development of collateral on financial markets will also be shaped by the final provisions of the Basel II capital requirements for banks. Credit risk mitigation techniques should only be recognised if they are legally sound, and insofar as all residual risks are adequately covered. Therefore, as regards Financial Collateral arrangements involving EU banks and investment firms, only arrangements covered by the Financial Collateral Directive should qualify for lower capital requirements.

Moreover, further monitoring of the macro-prudential consequences of increasing collateralisation remains necessary in order to fully understand the dynamics of collateralisation.

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THE REY REPORT REVISITED

THE RESOLUTION OF SOVEREIGN DEBT CRISES – RECENT DEVELOPMENTS

1 INTRODUCTION

In the immediate aftermath of the Mexican sovereign bond crisis in 1994, concerns had arisen regarding the sudden character and the scale of sovereign debt related capital account crises in emerging markets. In this connection, it was also noted that the shift from commercial loans towards bonds in the financing of sovereign debtors in the early 1990s raised several specific issues. First, bondholders were believed to be less likely than banks to maintain long-term relationships with their debtors, and more prone to abrupt reactions in the case of payments difficulties. Second, and more importantly, it was noted that, while the Paris and London clubs provided frameworks for the resolution of sovereign debt crises vis-à-vis bilateral official creditors and commercial banks, there were no equivalent procedures at the international level for bonds or other securities issued by sovereigns.

Against this background, the Heads of State and Government of the Group of Seven (G-7) in Halifax in June 1995 invited the Ministers and Governors of the Group of Ten (G-10) to consider the complex issues arising with respect to the orderly resolution of sovereign liquidity crises. This invitation led to the report on “The Resolution of Sovereign Liquidity Crises”, which was endorsed by the G-10 in 1996. This report had been prepared by a working party under the chairmanship of Jean-Jacques Rey, then executive director of the National Bank of Belgium.

While putting much emphasis on the benefits of including collective action clauses (CACs) in sovereign bond issues through a market-led process, the Rey Report “provoked” quite a few negative

reactions from market participants, and received only lukewarm support from the great majority of sovereign borrowers. Another, albeit smaller, part of the report was devoted to the issue of international bankruptcy procedures which, under the then prevailing circumstances or in the foreseeable future, were considered neither feasible nor appropriate.

Although substantive progress has been made in some of the areas dealt with in the Report, since 1996 the world has seen several large debt crises in emerging economies, constituting serious threats to the stability of the international financial system while entailing huge economic, financial and social costs. In particular the recent developments in Turkey and Argentina have given a new momentum to the international debate on ways and means to involve the private sector in (preventing and) resolving international financial crises. The most recent step in this field was taken in April 2002, when the International Monetary and Financial Committee (IMFC) encouraged the International Monetary Fund to continue to examine two approaches: a statutory approach, which would enable a sovereign debtor and a majority of its creditors to reach an agreement binding all creditors (the so-called Sovereign Debt Restructuring Mechanism – SDRM), and a contractual approach, under which comprehensive restructuring clauses (or CACs) would be included in debt instruments. Both approaches are also incorporated in the action plan which the G-7 published on 20 April 2002; limiting official sector lending and developing private sector lending are essential parts of that plan.

Taking the main issues developed in the Rey Report as a starting point, this paper first highlights some of the experiences involving

sovereign debt crises since then, from the point of view of the three major parties involved (the debtor country, its private creditors, and the international financial community). The paper then considers in greater depth recent proposals aiming at the establishment of an SDRM, and analyses the impact of such a mechanism on the behaviour of creditors and debtors respectively. Finally, building on that analysis, the paper makes the point that these so-called statutory and contractual approaches are not only complementary and self-reinforcing, but are even inextricably interlinked, while presumptive access limits to Fund financing act as a catalyst for the functioning of both.

2 THE REY REPORT

The Rey Report outlined in particular the following set of recommendations in the fields of crisis prevention and crisis resolution for the three categories of actors involved in the process: the debtor countries, their private creditors and the international financial community.

- The responsibility for sound economic policies and for maintaining good fundamentals should reside with debtors.
- The general principle of law, *pacta sunt servanda*, should be respected. Terms and conditions of all debt contracts should be fulfilled and there should be no presumption that any type of debt could be exempted from the obligation to pay. Only in exceptional circumstances would a temporary suspension of payment be warranted.
- While a market-led approach should be favoured in dealing with the resolution of sovereign debt crises, the most practical way to co-ordinate the actions of the bondholders would be the inclusion of CACs in debt contracts (see Box 1). In order to be successful, such a move towards contractual arrangements should also result from a market-led process.
- The report expressed a clear preference for a flexible and case-by-case approach. While the then prevailing voluntary practices, making use of market information and market forces, were viewed as an appropriate starting point to facilitate the resolution of sovereign debt crises, they should evolve and be developed by debtors and creditors in a pragmatic and case-by-case fashion under the pressure of market forces.
- Cases where the IMF lends to a sovereign prior to the full and final resolution of the debtor's arrears to private creditors ("lending into arrears"), should remain rare and occur only under exceptional circumstances. Such lending could, however, signal confidence in the debtor's policies and adjustment efforts. It should also help prevent a failure to reach agreement with creditors by improving the bargaining power of the debtor and indicating to unpaid creditors their interest in reaching an earlier agreement with the debtor.
- International bankruptcy procedures or other formal arrangements (cf. *infra*) were seen as impracticable and inappropriate ways of dealing with sovereign debt crises. Various reasons were put forward for such an assessment. The legal protection of a suspension of payment declared by debtor countries did not seem to be necessary as the legal actions of free-riding creditors had until then been restricted by the limited amount of assets to seize and by the legal consequences of sovereign immunity. In addition, the implementation of a formal insolvency procedure was expected to require a very long negotiation process, while the same results were believed to be achievable in more informal ways (e.g. by the inclusion of CACs in bond contracts). Finally, it was anticipated that such a framework would be strongly resisted by creditors

BOX 1

COLLECTIVE ACTION CLAUSES

CACs are provisions in debt contracts (e.g. bonds and syndicated bank loans), issued by sovereign and other borrowers, that can help overcome creditor co-ordination problems. For example, they can facilitate an orderly restructuring process in the event that a debtor, being unable to pay on time or in full, needs to restructure or to reschedule its debt. Such provisions are already used in bonds governed by English law, and there would be no legal obstacles to the inclusion of CACs in bonds issued under the frequently used New York, Japanese, German or Luxembourg laws.

Three different categories of CACs were identified in the Rey Report:

- collective representation clauses, which stipulate the procedure for appointing a representative for creditors or groups of creditors in the negotiations with a sovereign on debt restructuring or rescheduling, and for determining the scope of his mandate;
- majority action clauses, which determine that a qualified majority of creditors may agree on changes to the financial provisions of a debt contract that will then be binding on all creditors. The problem of a desirable debt restructuring or rescheduling being blocked by a minority of non-co-operative creditors is then avoided;
- sharing clauses, which enable reduced debt service payments by the debtor to be shared on an equal basis by all creditors of the same bond issue or syndicated loan.

The list can be supplemented with non-acceleration clauses, which discourage individual creditors who hold debt in default from accelerating the terms of repayment (or deprive them of the right to do so) and consequently from bringing legal action against the debtor while the negotiations are in progress.

Such provisions apply only to the debt contracts in which they are stipulated, and an agreement based upon them is not binding on creditors of other bond issues of the same debtor. As a solution for this problem, some have proposed using “meta-CACs”, which would stipulate that restructuring or rescheduling must be agreed by a qualified majority of all creditors holding any debt (i.e. bonds, bank loans and other) issued by the sovereign concerned. The legal feasibility of such meta-CACs is, however, seriously questioned.

Finally, although not traditionally considered as CACs, exit consents should be mentioned. In the case of debt restructuring through a voluntary exchange offer, such a mechanism allows a simple majority of creditors – accepting the offer – to change bond provisions (other than provisions related to payment terms), in order to reduce the leverage of the hold-out creditors who cannot otherwise be bound because of the absence of specific CACs.

because it would affect their ability to sell freely on the market, and would excessively favour debtor countries, or be invoked too early by them. Debtors on the other hand were expected to fear an increase in their borrowing costs.

3 DEVELOPMENTS SINCE THE REY REPORT

So far, the inclusion of CACs in sovereign bonds has remained limited, with the G-10 countries (apart from the UK and Canada) not “leading by example” in this field, and emerging market borrowers remaining equally reluctant in view of the risk of rising borrowing costs. The G-7 action plan endorsed on 20 April 2002 may, however, provide a new impetus in this field, as one of its main topics relates to working with emerging market countries and their creditors to implement a market-oriented approach to the sovereign debt restructuring process, under which new contingency clauses would be incorporated into debt contracts.

Many debt crises in emerging markets were not resolved in the orderly and market-led way envisaged in the Rey Report. The resolution of the crises in Thailand, Indonesia and Korea (1997), Russia (1998), Brazil (1999) and Turkey (2000-2001) generally involved large financial packages from the official community, while the involvement of the private sector was felt to be limited.

Some countries succeeded in resolving their sovereign debt problems through agreements with their private sector creditors, including Pakistan (1999), Ecuador (1999) and Ukraine (1998-2000). However, many of these cases appear to reflect particular circumstances, including the absence of a systemic threat to the international financial system, the limited number of creditors involved and the near certainty of

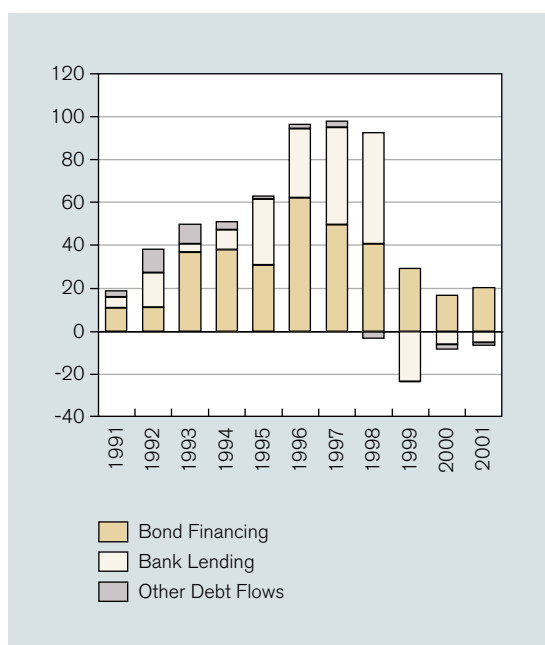
default in the absence of a debt restructuring agreement. In this connection, it is noteworthy that, although most Pakistani bonds contained CACs, the authorities did not use them, out of concern that the qualified majority required for a modification of payment terms might not be achieved. Instead, they managed to negotiate a restructuring through a voluntary exchange offer. In Ecuador, the co-ordination problems between creditors were solved by the use of exit consents (cf. Box 1).

In order to try to understand the apparent lack of success of the market-led, case-by-case approach advocated in the Rey Report, we shall now consider the behaviour and incentives of creditors, debtors and the international financial community.

3.1 CREDITORS

The quantity and nature of debt flows to emerging markets underwent dramatic changes throughout the 1990s. As may be seen from chart 1, net debt flows to emerging market economies grew from less than 20 billion US dollar in 1991 to some 100 billion US dollar in 1997, before falling to below 15 billion US dollar in 1999-2001. During this whole period, bond financing constituted an important part of debt financing for emerging markets, particularly in the period 1999-2001, when net bond flows were the only positive debt flow in favour of emerging markets. Bank loans, which were a major source of net financing until 1998, turned negative in 1999-2001.

In the absence of a generalised use of CACs in sovereign debt issues, this increasing importance of bonds may have added to the co-ordination and representation problems of creditors. Bonds provide creditors with a higher degree of anonymity than bank loans. Moreover, bondholders may be a more heterogeneous group of creditors than providers of loans, reflecting i.a. differences between primary lenders and end-investors; pref-

CHART 1 – NET PRIVATE DEBT FLOWS TO EMERGING MARKETS*(billion US dollar)*

Source : World Bank

erential and ordinary creditors; short- and long-term investors, with the distinction between purely transaction-related behaviour of bondholders and international banks aiming at establishing a long-term relationship with the sovereign borrower; etc.¹

Such creditor co-ordination and representation problems hamper debt restructuring negotiations, whereby the lack of one representative interlocutor may, for example, lead to favouritism in the case of some creditors, or cause some

¹ Note that the banking/corporate finance literature has already highlighted advantages and disadvantages of bank financing versus public, and often dispersed, debt. Private debt leads to lower agency costs since investors can monitor the firm (see e.g. Diamond (1991), Dewatripont and Maskin (1995) or Rajan (1992)). Public dispersed debt and thus an increase in the number of creditors introduces a lack of renegotiability. Therefore it serves as a commitment device against strategic default (Bolton and Scharfstein (1996)). With multiple creditors, debt restructuring mechanisms must be designed to diminish the attractiveness of the hold-out option (see e.g. Detragiache and Garella (1996) or Hege (2002)).

creditors to negotiate while others hold out or run for the exit.

Restructuring agreements have also been hampered by the recent actions of so-called vulture funds, i.e. creditors which specialise in buying distressed debt cheaply and pursuing litigation to force full repayment. In this regard, the Elliott versus Peru case (see Box 2) may have set a dangerous precedent as it could discourage creditors who are, in principle, co-operative from accepting a restructuring agreement, knowing that free-riding creditors could try to obtain full repayment through litigation and/or obstruct the execution of payments by the debtor's agents in favour of those creditors which agreed on a restructuring. Although there appears to be a consensus that the Belgian court's decision in Elliott versus Peru was based on a misinterpretation of a standard clause in loan contracts, the threat of litigation in any case seems more concrete and more serious than at the time the Rey Report was drafted.

Recent experiences with large official financial packages in favour of crisis countries have undoubtedly also had an effect on the behaviour of creditors, who might have been inclined to think that the risks inherent in their lending decisions would ultimately be borne, at least partly, by the official community. Such a moral hazard problem has, however, certainly been mitigated by the huge financial losses which private creditors have incurred during e.g. the Russian, Asian and Argentine crises.

All these experiences clearly suggest that restructuring agreements are extremely difficult to negotiate and implement without a sanctioned stay of litigation and mechanisms to organise creditor representation and co-ordination.

3.2 DEBTORS

Moreover, also since the Rey Report, debtor countries have proved reluctant to try to secure

debt restructuring agreements when facing difficulties, although such an attitude has often implied an extensive increase in the total economic, financial and social costs of the crisis. This reluctance may be explained by the risks and costs associated with attempts to restructure debt.

A request for a restructuring agreement is associated with high reputational risks for the debtor country, and may result in the loss of market access for a lengthy period of time. Indeed, the experience with previous emerging market crises suggests that it takes at least one or two years after a successful debt crisis resolution before the resumption of a net inflow of private capital. When the countries concerned are capable of re-entering the capital markets, their borrowing costs are, moreover, likely to be higher than before.

When attempting to restructure their debt, debtor countries also face the risk of litigation by creditors seeking payment of the debt at

face value. In this connection, the case of Elliott versus Peru clearly illustrates that the concept of sovereign immunity is becoming steadily narrower. As the risk of litigation by vulture funds or grabbers adversely affects the negotiation conditions with more co-operative creditors, debtors may prefer to pay those non-co-operative creditors. Litigation also damages the country's image.

A restructuring process is very painful and costly for the domestic economy and may take a long time. Governments have to take strong policy measures and implement economic reforms that imply high social costs but may have no immediate positive effects. Urgently needed structural reforms may be delayed by a lack of internal political support.

Because of all these risks and costs, debtors have often delayed restructuring initiatives, speculating on a recovery by their economy and/or more official money. These policy options have left the majority of creditors and the debtor eventually worse off.

BOX 2

ELLIOTT VERSUS PERU

The Rey Report concluded that the question of the pursuit of individual legal remedies by dissident creditors was “not a serious problem”. Two main arguments supported this statement: (i) sovereign debtors have few assets located outside their own territories, and some of these benefit from sovereign immunity, and (ii) uncertainty about what decisions the courts will make and about how long it will take and how much it will cost to obtain a final judgement discourages casual recourse to legal remedies. Circumstances have changed, as the Elliott Case illustrates, at least according to the current judicial stance.

Elliott Associates, LP (hereinafter “Elliott”), a vulture fund, entered Peru in 1996, just after the country was concluding (October 1995) its Brady Plan debt restructuring of guaranteed bank loans. About four months after the announcement of this agreement, Elliott actually purchased international bank loans totalling about \$20.7 million at face value, for nearly \$11.4 million. The Brady restructuring was completed with

Elliott holding out. It filed a suit in New York demanding full payment of the bank loans and guaranty. Elliott had already tried such a tactic – unsuccessfully – before Peru: it had also targeted other struggling nations (Ecuador, Ivory Coast, Panama, Poland and Congo).

In June 2000, Elliott obtained a judgement against Peru for \$55.7 million, including arrears of interest. To collect, after appealing to the Brussels Court of Appeals, Elliott obtained an order restraining Euroclear from either accepting money from Peru or paying it to the other creditors. By this time, Peru was getting close to defaulting on its Brady payments (the period of grace was close to ending) and it chose to settle by paying Elliott \$56.3 millions (with post-judgement interest).

The central argument to Elliott's victory was a device called the *pari passu* clause. This standard clause, found in almost all sovereign debt contracts, states that the debtor warrants that “the obligations of the Guarantor hereunder do rank and will rank at least *pari passu* in priority of payment with all other external indebtedness of the Guarantor, and interest thereon”. A “common” interpretation is that the borrower violates this undertaking only by attempting to create a class of senior indebtedness in preference to that outstanding under the loan agreement in which the clause appears. Elliott and the Brussels Court of Appeal interpreted it in the following way: the debtor is not allowed to pay one creditor in full and leave the others unpaid, which means that, if the debtor does not have enough money to pay all its creditors in full, they have all to be paid their *pro rata* shares. The major part of the legal literature rejects this interpretation; one of the arguments put forward in the literature relates to the fact that debt contracts including a *pari passu* clause sometimes also contain sharing clauses (cf. Box 1); but, if the *pari passu* clause were to mean what the Brussels Court states it means, it would obviously have the same content as a sharing clause, and there then appears to be no point in including both clauses in the same contract. However, though the Brussels order may be under siege, there is still no other, dissenting precedent to invalidate it.

Whatever the correct interpretation of the *pari passu* clause, the results of this case are problematic and will increase the threat of free-rider creditors:

- a sovereign that is short of cash will not wish to make *pro rata* payments to all its creditors of the same rank, thereby defaulting on all its debts;
- the restructuring process will be complicated: the majority of creditors that would otherwise be willing to agree to a restructuring may now be more reluctant to do so out of a concern that a hold-out creditor may rely on the *pari passu* provision as a means of effectively interfering with payments made to the majority of creditors under the terms of the restructured debt.

The Elliott versus Peru case seems to have put other similar cases into motion, as illustrated by the Red Mountain case against the Democratic Republic of Congo, and the Lightwater Corporation Ltd. and Old Castle Holdings Ltd. cases against Argentina.

3.3 AUTHORITIES

For the official community, the key objective when a financial crisis strikes is to foster the recovery of the crisis country in a way consistent with the continued smooth operation of the international capital market. After the Asian crisis, the major focus of the IMF has been on crisis prevention by strengthening its surveillance process and engaging in further dialogue with the private sector, combined with greater policy transparency. The IMF has addressed crisis resolution by adapting its facilities to the changed circumstances and by participating in the international discussion on finding ways to achieve more private sector involvement.

Over the years the IMF has used different facilities to address different types of crises (see Table 1). It eliminated a number of facilities and called for re-examination of the conditions attached to the Stand-By Arrangement (SBA) and the Extended Fund Facility (EFF). It also introduced two new facilities: the Supplemental Reserve Facility (SRF) and the Contingent Credit Line (CCL).

The SRF was introduced in 1997 to meet the needs of members experiencing severe balance of payments difficulties arising from a sudden loss of market confidence accompanied by capital flight and a severe drain on international reserves. It provides very short-term

TABLE 1 – OVERVIEW OF IMF FACILITIES¹

	Coverage (type of Balance of Payments (BOP) problems)	Access limit in p.c. of quota	Length of arrangement	Repayment obligation	Surcharge above the "normal" rate of charge ²
Stand-By Arrangement (SBA)	Short-term BOP needs	100 / 300 ³	typically 1 – 1½ years	3¼ – 5 years	yes, for high levels of access ^{4 5}
Extended Fund Facility (EFF)	Long-term BOP needs	100 / 300 ³	3 years	4¼ – 10 years	yes, for high levels of access ^{4 5}
Supplemental Reserve Facility (SRF)	Supplements SBA or EFF in case of large short-term financing need	no limit	up to 1 year	2 – 2½ years ^{4 5}	300 to 500 bp ⁶
Contingent Credit Line (CCL)	BOP problems arising from contagion	no limit ⁷	up to 1 year	2 – 2½ years ⁴	150 to 350 bp ⁶

¹ This overview excludes the non-core facilities in the General Resources Account.

² The "normal" rate of charge is set as a proportion of the weekly SDR interest rate, further adapted by the application of the burden sharing mechanism. The IMF levies a commitment fee for precautionary arrangements (SBA, EFF or CCL) on the total amount that can be drawn during the next twelve months. This fee varies with the size of the arrangement: 0.25 p.c. is levied on the amount up to 100 p.c. of quota, and 0.1 p.c. is levied on the amount in excess of 100 p.c. of quota. This fee is reimbursed when committed resources are drawn.

³ The annual access limit for SBAs and EFFs is at 100 p.c. of quota, the cumulative limit is at 300 p.c. of quota. These access limits can be breached in "exceptional circumstances".

⁴ Surcharges are applied to the combined credit outstanding under the SBA and EFF of 100 (200) bp on the amounts in excess of 200 (300) p.c. of quota.

⁵ Under SRF and CCL, the repayment period may be extended by up to 1 year.

⁶ For the first year, drawings under the SRF are subject to a surcharge of 300 bp above the regular rate of IMF loans. This surcharge is subsequently increased by 50 bp every six months, up to a maximum of 500 bp. Drawings under the CCL are subject to the same financial terms, except that the surcharge is 150 bp lower.

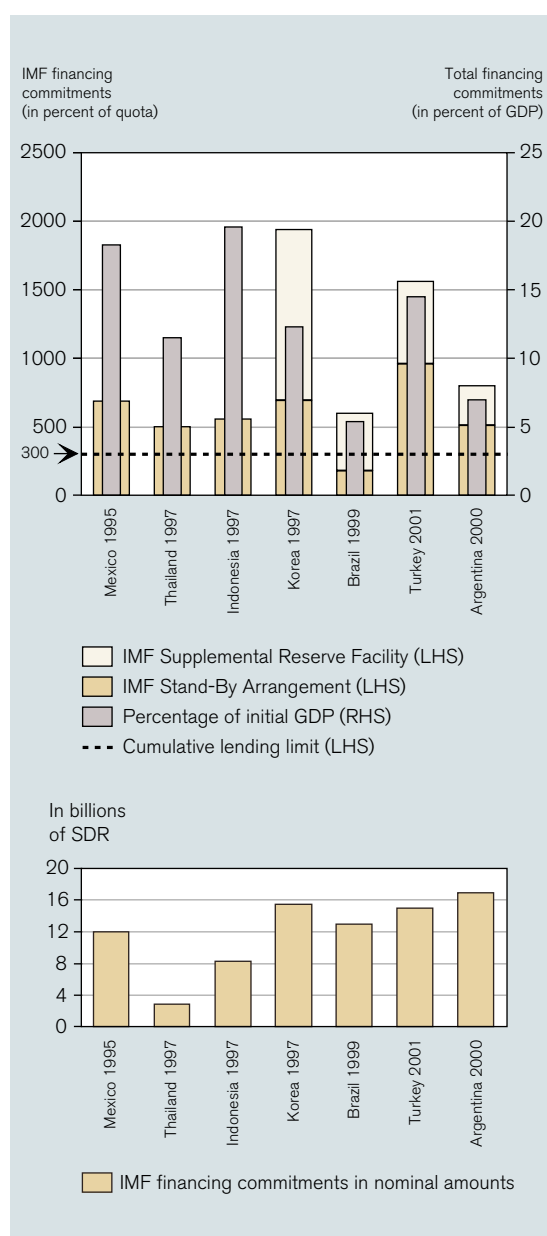
⁷ The CCL is not subject to access limits, but in the decision establishing the CCL it is said that commitments "would generally be in the range of 300-500 p.c. of quota".

financing on a large scale, thus financing in excess of the normal access limits to the SBA and EFF. All SRF loans carry a substantial surcharge.

The CCL was created in April 1999 and is intended for countries with strong economic policies and no immediate balance of payments

needs, but vulnerable to large and sudden shifts in financial flows arising from contagion. It is intended as a precautionary line of defence. Upon approval of an arrangement with CCL resources, no funds are expected to be disbursed. Only if a crisis strikes, is there then a strong presumption that the IMF Executive Board will release the amount committed under the CCL. This facility thus combines an element of pre-qualification with a larger automaticity in the release of funds. It carries a smaller surcharge than the SRF.

CHART 2 – OVERVIEW OF LARGE FINANCIAL PACKAGES



In chart 2, two elements stand out: the fact that IMF crisis financing has been considerable in recent years, thereby frequently breaching normal access limits, and the fact that different facilities were used to provide the large-scale lending packages. As explained above, two of the IMF facilities, the CCL and the SRF, were specially designed to be used in cases of financial crisis.

On the one hand, however, the CCL has not been used so far, nor has a country applied yet to receive it as a precautionary arrangement. This could be due to the exit problem linked with the application for a CCL. The exit from a CCL arrangement, decided by the country itself or by the Fund, could be seen by financial markets as a very negative sign, so that the mere exit in itself could cause a liquidity crisis. Moreover, the CCL risks locking the IMF into situations where assistance cannot be refused. If a country has a CCL, and a crisis erupts, it is difficult to imagine how the IMF could withdraw, because this would undoubtedly aggravate the situation.

On the other hand, in most recent cases of financial rescue packages, large access was granted under the SBA which was not initially designed to address large and sudden capital account problems. The IMF has breached the access limits attached to the SBA by referring to "exceptional circumstances". It used the exceptional circumstances clause to waive both

annual and cumulative access limits, although annual access limits are intended mainly to ensure that members do not rely excessively on Fund financing, and the main objective of the cumulative limit is to preserve the Fund's resources. The Fund justified the high access by referring to very large balance of payments needs, the capacity of the debtor country to repay, the need to restore market confidence and other factors, including the risk of contagion, the short-term nature of the debt problems, the precarious state of the financial system in the debtor country and the relatively small size of the member's quota. The use of the SBA in recent cases of financial crises, however, can also be explained by the fact that it carries lower charges and permits repayment over a longer period.

Because of the large financial crisis packages provided by the Fund in recent years, concerns have been raised regarding the revolving nature of its resources. By 31 January 2002, the five largest users of credit (Argentina, Brazil, Indonesia, Russia and Turkey) together had drawn 42 billion SDR from the IMF. This represented 41% of the total Fund Resources at that moment.

Since the Rey Report, the view of the international community on private sector involvement has undergone a marked change. In June 1999, after the Asian, Russian and Brazilian crises, the Report of the G-7 Ministers to the Cologne Economic Summit reiterated many principles underlying the orderly resolution of sovereign debt crises found in the Rey Report. It proposed several tools that could be used in this regard, such as insisting on a link between the provision of official support and efforts by the debtor country to initiate discussions with its creditors, efforts to seek commitments by private creditors to maintain exposure levels, efforts to raise new funds from private markets, and efforts to restructure or refinance outstanding obligations. The Cologne G-7 Report did not include any reference to CACs.

In its communiqué of September 2000, the IMFC gave further directions regarding the provision of resources in the event of a financial crisis. It introduced the basic elements of a framework that should replace the case-by-case approach to private sector involvement used until then. Under such a framework, the IMF would continue to provide resources for countries with a sustainable external debt situation and a reasonable chance of soon regaining access to the capital markets. But when the country's external debt is considered unsustainable, or when there is little prospect of renewed market access on terms compatible with debt sustainability, the country and its creditors must agree to restructure the debt.

The Bank of Canada and the Bank of England later proposed a more specific framework for crisis resolution, based on already existing elements intended to provide – *ex ante* – much greater clarity about the roles and responsibilities of debtors, creditors and the official sector². Its focus is on strict adherence to limits on official financing. Such a presumption would provide the backstop for debtor-creditor negotiations and could help condition expectations in financial markets which, according to the authors, would necessarily result in more involvement of the private sector. The debtor country would then be able to choose among a range of options for private sector involvement, in which orderly mechanisms for debt restructuring, such as standstills, are an important element. Although they should not be used inappropriately, standstills were seen as a possibility to eliminate collective action problems among creditors and to prevent prolonged debt negotiations while ensuring that payment stoppages are orderly. A standstill could be achieved within a non-statutory framework, underpinned by a set of guidelines that would form the conditionality applied to the IMF's lending into arrears.

²Haldane, and Kruger (2001)

Most recently, in its April 2002 communiqué, the IMFC encouraged the IMF to continue to examine two approaches: the statutory approach, which would enable a sovereign debtor and a super-majority of its creditors to reach an agreement binding all creditors (a form of SDRM, cf. *infra*); and a contractual approach, which would incorporate comprehensive restructuring clauses in debt instruments (CACs). It now considers the two approaches to be complementary and self-reinforcing. Both approaches are also incorporated in the action plan which the G-7 published on 20 April 2002; limiting official sector lending and developing private sector lending are essential parts of that plan.

4 THE KRUEGER PROPOSAL FOR A SOVEREIGN DEBT RESTRUCTURING MECHANISM

Creditors and debtors seem to have lacked the appropriate framework or set of incentives to ensure the timely and orderly, market-led restructuring of sovereign debt advocated in the Rey Report. In November 2001, in response to this “market failure”, First Deputy Managing Director of the IMF, Anne Krueger, launched a proposal for an SDRM, which she further clarified in subsequent speeches.

The objective of Ms Krueger's proposal is to build a framework that would promote an orderly, predictable and rapid restructuring of sovereign debt when the debt is judged unsustainable. The features of this mechanism should be designed so as to provide the right incentives for both debtors and creditors to agree on debt alleviation without resorting to the mechanism itself. To use the words of Ms Krueger, “a predictable system will enable the restructuring to take place in the shadow of the law, i.e. without the need of actually commencing formal court-administered proceedings”.

4.1 MAIN FEATURES

To achieve this objective, the SDRM would include the following core features:

- In order to ensure the legal protection of the (sovereign) debtor and to safeguard inter-creditor equity, the process should begin with the activation of a temporary stay of litigation, accompanied by a suspension of debt service payments, provided that the debt is judged to be unsustainable and that the country is negotiating or implementing an IMF programme.
- During the moratorium, the mechanism would protect creditors' interests by ensuring that the debtor negotiates in good faith, implements appropriate economic policies and refrains from taking actions that would prejudice creditor interests.
- The provision of new money by private creditors would be facilitated by granting seniority to new financing.
- To avoid the abuse of creditors by free-riders and to eliminate the threat of disruptive litigation for the debtor, a required majority of creditors – across the broad range of credit instruments – should be able to make the restructuring terms binding on the rest of the creditors.
- The restructuring agreement should imply the return to a sustainable debt level.
- The framework for debt restructuring should also provide independent arrangements for the verification of creditors' claims, the resolution of disputes, the confirmation of the integrity of the voting process and the classification of creditors into different groups according to their rights.
- The legal basis for this approach would hence be statutory. This mechanism should have the force of law in all relevant judicial systems

BOX 3

OUTSTANDING ISSUES ABOUT THE SDRM

Although the central necessary features of the SDRM are clearly established, there are still many outstanding issues in regard to its elaboration and its practical implementation. Some of these are mentioned briefly below.

- An important set of questions relates to the scope of the mechanism, i.e. the type of debt it should cover: only sovereign, external debt, or a more extensive coverage including sovereign debt to the domestic sector and/or non-sovereign debt and/or even debt vis-à-vis the official sector (bilateral and/or multilateral).
- Another important point of discussion relates to the control over major decisions in the restructuring process, as this is crucial in determining the extent to which the SDRM will influence the balance of power between the various parties involved. This fundamental question touches upon different issues at each stage of the proposed procedure.

The stay of litigation itself could be triggered by the debtor (with a potential endorsement by the Fund), by a majority of creditors, or by the IMF itself. The maximum duration of the stay should be determined, as well as the possibilities of extension and, if so, by whom, under what conditions and for how long.

The conditions for the approval of the restructuring agreement also raise crucial questions. Fund endorsement could be required in order to guarantee the sustainability of the debt profile after the restructuring. In addition, the approval could rest either on a majority of creditors influenced by Fund assessment, or on a majority of creditors only.

Another question relates to the entity that would assume the functions of adjudicating disputes. This could be the Fund Executive Board or a judicial organ, independent of the Board and IMF staff and management. The second alternative seems to receive most support at this stage. Such an independent body could be constituted from “judges appointed for limited periods and selected from a list drawn up by a qualified and independent panel”, according to Ms. Krueger’s latest speech.

- The potential role of exchange controls also constitutes an outstanding issue. In order to prevent a default from triggering capital flight, the authorities may want to impose temporary exchange controls. This will be necessary in countries maintaining an open capital account and where the sovereign debt restructuring also embraces claims held by the domestic banking system. This would, however, raise issues related to the required scope of exchange controls (some exclusion may be required to limit the disruption of the country’s access to capital markets) and to the effectiveness of such controls. The benefits have to be weighted against the risk that the crisis might spread to potentially solvent private firms and leave them vulnerable to litigation.

which could be achieved by the adoption of new treaty obligations through amendment of the Fund's Articles of Agreement.

- The mechanism should be accompanied by access policies that limit the availability of financing provided by the IMF prior to, during and after the operation of the mechanism, as they are crucial in determining whether it will be used effectively by the debtor and its creditors, or even used at all.

Although many issues concerning the practical elaboration of these proposals are still outstanding (see Box 3), the existence of an SDRM with the above-mentioned features could induce debtors and creditors to arrive at the orderly and timely market-based debt restructuring operations already advocated in the Rey Report. It would do so i.a. by changing the balance of power between debtors and creditors, while reducing the moral hazard problem for both in a significant way by setting “presumptive” access limits to Fund financing.

4.2 IMPACT ON DEBTORS

As shown in Section 3, debtor countries are as a rule very reluctant to try to secure an agreement on debt restructuring with their creditors at a sufficiently early stage, given the costs and risks involved. The SDRM can reduce these costs and risks in several ways, thereby removing some of the main impediments to the market-led approach promoted in the Rey Report.

- At the start, the stay of litigation and, at the end, the debt restructuring, once agreed under the set conditions, would be binding upon all creditors. The risk of being sued by creditors holding out would be eliminated.
- The granting of seniority to new money as well as possible lending into arrears by the Fund – at a moment when the country is negotiating or implementing an IMF programme – may reduce the domestic adjust-

ment costs by temporarily providing the additional money required by debtor countries' economies.

- The costs associated with the loss of market access may be reduced, to the extent that the mechanism is likely to speed up the restructuring process, since it includes an explicit time horizon for the conduct of the negotiations, provides an orderly framework for the latter, and contains safeguards as to a cooperative attitude on the part of the creditors (and the debtor). Such safeguards include presumptive access limits to Fund financing.
- As the mechanism provides a more predictable scenario for debt rescheduling, the internal political support required for the implementation of the necessary economic reforms may be forthcoming at an earlier stage.
- The mechanism may also reduce the reputational damage for the debtor. The suspension of debt servicing would no longer be a unilateral decision of a sovereign state, but a decision taken within a framework and under conditions known ex ante by the financial markets and, as such, legally sanctioned.³ Such a development could, however, also be perceived negatively by some debtor countries, as an unwarranted limitation of their sovereignty.

Yet, even under an SDRM, default would – inevitably – remain costly for debtors; default will always constitute an infringement of the adagium “pacta sunt servanda” and thus entail negative consequences in terms of access

³ In this connection, one can note that other positive effects of a bankruptcy law have been put forward by the literature. Aghion and Hermalin (1990) argue that legal restrictions on contracts enhance efficiency in case of asymmetric information between entrepreneurs and investors. In an environment of asymmetric information, “good” entrepreneurs may want to signal their good projects by promising a large payment to the investor if the project fails. By doing so, they expose themselves to considerable risks (e.g. by providing collateral and the risk of losing it). Prohibiting signalling through legal restrictions may then enhance welfare: if signalling is restricted (e.g. by bankruptcy laws) a good entrepreneur avoids the additional risks imposed by costly signalling.

to and costs of financing. While these costs – together with strict implementation of the pre-conditions for access to an SDRM and balanced answers to the outstanding issues mentioned in Box 3 – should help prevent an abuse of the SDRM by debtors, they would also provide a strong incentive for the debtor to try and seek debt restructuring without having recourse to the SDRM, and the suspension of debt service payments it entails.

By making the debtor's "threat of default" more credible in the eyes of the creditors, the existence of an SDRM would strengthen the bargaining position of debtors vis-à-vis their creditors compared to the current situation, making a concerted resolution more likely.

4.3 IMPACT ON CREDITORS

As illustrated above, the reluctance of creditors to enter into debt restructuring negotiations with debtor countries may be explained by the existence of inter-creditor co-ordination and representation problems, equal treatment considerations in view of free riding by other creditors, and experiences with large bailouts by the international financial community. The SDRM addresses these impediments in several ways.

- By imposing a stay of litigation for all creditors and allowing a majority of them to make a debt restructuring agreement binding for all, the SDRM would not only limit the risk of a "run for the exit" by creditors, but also prevent non-co-operative creditors from undermining co-operative debt restructuring negotiations with the debtor country. In this way, the SDRM would solve the co-ordination and representation problem, and ensure equal treatment for all creditors.
- Clear *ex ante* limits to IMF financing (by definition, including in the case of failure of the SDRM), a sufficiently long stay of litigation and an independent assessment of the good

faith of the creditors in the negotiations with debtors would reduce the risk of creditors holding out and trying to let the SDRM fail, in the hope of an eventual bailout by the IMF. Moreover, the risk of a very messy, disorderly and costly default in the event that the SDRM fails, would also work in this direction.

The credible threat that an SDRM, with the consequences mentioned, could be successfully activated somewhere in the near future, should provide a strong incentive to all (or most) creditors to prefer participating in debt restructuring negotiations in the "shadow of the law", rather than an SDRM procedure during which debt service is suspended.

5 CONCLUSION: WHY THE INTERNATIONAL FINANCIAL ARCHITECTURE NEEDS AN SDRM, CACS AND PRESUMPTIVE ACCESS LIMITS TO FUND FINANCING

As the existing experience with sovereign bankruptcy mechanisms is very limited (see Box 4 for one illustration), history provides little evidence to judge empirically whether an SDRM à la Krueger would lead to a more orderly and market-led process of sovereign debt restructuring.

The analysis developed in the preceding paragraphs nevertheless suggests that the mere existence and the main features of an SDRM could fundamentally change the behaviour of debtors and creditors, and the balance of power between them, in a way that would induce them to undertake timely debt restructuring operations along the lines envisaged in the Rey report. Furthermore, as regards the *ex ante* credibility of access limits to IMF financing, it appears that, in the current state of affairs, the absence of a sufficient contribution by the private sector to crisis resolution has often left the IMF no other option but to bail out a crisis country – even if that implies exceeding the *ex ante* access limits – in order to prevent systemic problems or

BOX 4

THE BANKRUPTCY OF ORANGE COUNTY

On December 6th 1994, Orange County California became the largest municipality in US history to file for bankruptcy. This still constitutes the biggest application under Chapter 9 US Bankruptcy Code, which allows insolvent local governments to negotiate settlements of their debts with creditors. Filing for bankruptcy triggers an automatic moratorium, avoiding a rush to the exit by creditors. The bill allows a large majority of creditors to impose the terms of an agreement on minority creditors. It also confers senior status on new money financing.

In the period following the application, the county, operating under the supervision of the court, liquidated its securities holdings and fixed the amount of the shortfall (approximately 25 p.c. of the face value of the debt). The creditors, divided into committees by the court, voted for a debt settlement agreement requiring them to extend the maturity of their holdings of Orange County debt by one year in exchange for more interest earnings. In addition, in August 1995, the county came up with a recovery plan, which was then presented to the US bankruptcy court in December 1995. Under this plan, the county was allowed to divert tax funds from other county agencies to pay bondholders and vendors. The local governments who had lost money agreed to wait for full payment until the county won the lawsuits filed against Wall Street firms for their culpability in the bankruptcy. And finally, the county issued 880 million USD in bonds to pay the debt on existing bonds, refinance other debt, pay for bankruptcy litigation, etc. The bankruptcy officially ended on June 12th 1996, just 18 months after it was declared.

The Orange County case is often considered as a trial run, showing the working of a bankruptcy mechanism, and as a prototype test for the SDRM proposed by Ms Krueger. To some extent, the comparison between the application of Chapter 9 and the Krueger proposal is relevant and helpful. It is indeed noticeable that the two mechanisms include the same key features, whose efficiency and benefits were proven in the Orange County case. In addition, this case underlines the useful role of a bankruptcy mechanism in facilitating a rapid readmission of the debtor to bond markets, though with a potential temporary increase in the insurance premium charged.

However, one should avoid taking the comparison too far and using this case as a very promising proof of the future success of an international bankruptcy mechanism. The willingness of bondholders to join creditors committees and participate in collective negotiations with Orange County can probably not be extrapolated to sovereign bankruptcies. In the Orange County case, the creditors indeed consisted largely of public creditors (such as schools and various local government authorities) and local traders. This may explain such a comprehensive and patient attitude. The creditor community of a country may be much more diffuse, the members more heterogeneous and much less interested in maintaining a good relationship with the debtor in the future. The negotiations in the latter case are therefore likely to be much more difficult to conduct, with a higher risk of action by non-co-operative creditors.

the imposition of unbearable adjustment costs on the debtor country. The experience of past years therefore suggests that the respect of *ex ante* limits on access to IMF financing has proved to be untenable. With an SDRM, this may change, as it would provide the IMF with a reasonable and orderly alternative, while providing financial relief for the debtor (seniority of new private money, lending into arrears). This, together with an increased role for private creditors in crisis resolution and a reduced occurrence of crises (cf. *infra*), would strengthen the *ex ante* credibility of access limits.

As a result, there would be more private sector involvement in the resolution of crises than is currently the case. Moreover, the timelier initiation of such operations could in turn help limit the costs involved for all parties. A further important issue in this field is the fact that access to the SDRM is limited to countries having reached an unsustainable debt position. Although some variables, e.g. the exchange rate for debt denominated in foreign currency, can have a substantive and sudden impact, a debt position of the kind is, as a rule, built up over a longer period of time, and the turning point with regard to its sustainability is difficult to determine *ex ante*. However, the credible threat that an SDRM could be activated in the near future – though the exact moment is not known – could again induce creditors and debtors to negotiate a solution, thus preventing the emergence of an unsustainable debt burden, and making a significant contribution in terms of crisis prevention.

As the SDRM itself is not intended to be used, and creditors and debtors would be inclined to negotiate among themselves, debt contracts would need to include CACs. A legal framework for the conduct of such negotiations, and for the sanctioning of their outcome, is indeed indispensable, as in real life it is impossible to get all creditors of a sovereign state around the table, and have them unanimously approve the same agreement. Furthermore, it would not be appropriate, from the point of view of the functioning

of the global financial system, to activate the SDRM, with all the consequences it entails for all the parties involved, in cases in which only holders of a minor part of debt are not cooperating. In such cases, CACs are a means to impose an agreement reached with a majority of creditors on the minority who are holding out. Finally, there is always the possibility that an agreement covering a major part of outstanding debt may restore the sustainability of a country's debt situation. If and when such agreement, in the absence of CACs, could not be enforced upon those creditors who held out, free riding would become a problem again, as access to an SDRM would no longer be available.

At the same time, the existence of an SDRM in turn appears to be an important condition for achieving more widespread use of CACs. In the current state of the debate, the establishment of an SDRM is not the only avenue to promote the inclusion of CACs in debt contracts; other ideas under discussion are making CACs an integral part of Fund conditionality, and requesting the presence of CACs in debt contracts as a condition for tapping the major financial markets. Apart from their political feasibility, these two ideas could constitute efficient ways of promoting the inclusion of CACs, but it remains to be seen whether they would also be sufficient in themselves to induce the effective use of the clauses at the appropriate moment. There is a risk that CACs – once inserted under an approach of this kind – would remain unused, as such clauses by themselves do not alter the balance of power between debtor and creditors in the same way as an SDRM. The cost in terms of market access and legal uncertainties would still be higher under a mere contract-based approach. Furthermore such clauses are only valid for some issue bondholders, they can be implemented only with respect to the new debt and they may increase the cost of borrowing due to the adverse signal they may give. In addition, nothing ensures their uniform interpretation under,

and conformity to, national law. Finally, there would be no mechanism providing seniority to new money.

The analysis developed in this paper shows that there is a strong case for stating that the so-called *statutory* (SDRM) and *contractual* (CACs) approaches to involvement of the private sector in crisis resolution are not only complementary and self-reinforcing, but are even inextricably interlinked. While presumptive access limits to Fund financing would act as a catalyst for the functioning of both, the credibility of the access limits would in turn be strengthened by them. Hence, the paradox seems to be that the establishment of an SDRM is indispensable in order to

arrive at the market-led approach based on CACs advocated in the Rey Report, and vice-versa.

Although the practical implementation of an SDRM is likely to prove a lengthy and difficult process – an amendment of the Fund's Articles of Agreement, for example, requires the approval of three-fifths of the Fund's members, carrying 85 percent of the total voting power – it is an indispensable element of an overall policy framework for private sector involvement. Indeed, in the absence of an SDRM, all other approaches to private sector involvement would not be sufficiently far-reaching to foster the market-led approach to crisis resolution envisaged in the Rey Report.

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