

Systemic Risks and Financial Consolidation in the E.U. Challenges for Prudential Policy

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I. INTRODUCTION

In recent months the financial system has been shocked by serious upheavals. Insurance companies have been hit hard by declines in stock market prices reducing their reserves to a critical level. As some insurance entities suddenly had to sell off stocks in order to meet their policy liabilities, prices in the stock market dropped sharply affecting also the solvency of other insurance undertakings. In the process also the position of other financial intermediaries, which were linked to insurance entities within the framework of financial conglomerates, had become endangered. From a rather unexpected perspective suddenly a system-wide crisis lurked behind the corner.

Sectoral borders as well as country borders between financial intermediaries have been gradually fading away in the consolidation process resulting from deregulation, innovation and internationalisation of the financial system. In particular the financial sector in the European Union, being in the transition towards an integrated Euro-wide financial market and the introduction of a single currency, is undergoing major adjustments. The shift from an essentially bank-based intermediation system to a more market-oriented systems entails the consolidation of financial entities across sectors and across borders. It raises particular questions as to the threat of European-wide system risks as monetary policy is attributed to a European Central Bank, but prudential policy remains the domain of the national supervisory authorities.

In the present contribution the focus is on financial consolidation and the particular role of financial conglomerates. First, starting from an analysis of financial consolidation in the E.U., the implications for E.U. wide systemic risks will be investigated. Second, remaining mainly within the E.U. perspective the challenges for prudential regulation and supervision are to be explored.

II. FINANCIAL CONSOLIDATION AND SYSTEM RISKS

The threat to the stability of the financial system depends on the occurrence of negative financial disturbances and on the presence of negative externalities such that economic shocks take a system-wide character¹. Given the ongoing changes in the financial landscape characterised by consolidation, the question arises how these do affect

the probability of financial shocks and the system-wide transmission of these disturbances. To deal with this question a prior investigation into the patterns of financial consolidation and into its underlying driving forces is in order.

A. Consolidation and Financial Conglomerates

The financial landscape worldwide has witnessed increasing consolidation, particularly in the recent period between 1990 and 2000. In Europe it is an even more recent phenomenon as two thirds of the merger and acquisition activities in the financial sector occurred during the last three years. Only some countries such as Germany, Italy and to a certain extent Spain escaped until now from this consolidation process, as is illustrated by the market shares for the largest banks in Table 1.

About seventy percent consisted of domestic mergers within the same financial sector, while domestic cross-sector mergers accounted for fifteen percent of all the deals. When including also the cross-border cross-sector mergers, it can be estimated that about twenty percent of all deals gave rise to the emergence of financial conglomerates, broadening the scope of banking to securities and insurance activities.

The emergence of heterogeneous financial groups combining institutions from different financial sectors is, compared to the U.S., somewhat more representative for the European experience. The regulatory framework in the E.U. allowing for universal banking has been more

TABLE 1
Concentration in the Banking Sector in the E.U.
(market share in percent of the largest 5 banks by deposits)

	1990	1999
Belgium	48,0	71,6
France	51,9	69,3
Germany	17,1	18,8
Italy	26,9	38,3
Netherlands	73,7	82,2
Spain	38,3	47,2
Sweden	62,0	84,0

Source: Group of Ten (2001)

conductive to cross-industry consolidation of commercial banking, market investment services and insurance activities. Moreover, the financial market integration process in the E.U. and the introduction of the Euro contributed to a climate of deregulation and increased competition putting downward pressures on commercial banks' profits. Banks had to develop new business and widen their range of products to compensate for the decrease in their intermediation margins (See National Bank of Belgium (2002)). They shifted their activities from deposit collection to asset management, and to a lesser extent from lending to investment banking.

The shift from traditional bank intermediation to market intermediation, which has led to disintermediation in the U.S. financial sector, resulted in the particular European regulatory context in universal banking and financial conglomeration. Moreover, the ageing of the population and the fiscal advantages to long-term savings in Europe, induced the banks to move into insurance activities.

In the E.U. between 1999 and 2002 cross-sector mergers and acquisitions counted for one third of all M&A activities in the financial sector. Using their extensive retail networks banks in the E.U. have acquired a dominant position in asset management, accounting in many countries for a share of 80 percent of total collective investment services provided. A distinguishing feature in Europe has been the relative importance of cross-industry acquisition of insurance firms enabling conglomerates pairing banking concerns with insurance companies ("banc assurance") to emerge. In Belgium and the Netherlands the cross-industry deals were even more important than the mergers within the same financial sector (see Group of Ten (2001)).

Driving forces behind "Financial Conglomeration" are expected cost and revenue synergies derived from common resources and client base. As they lead to increasing concentration also market power rents by capitalizing on brand names and reputation may be seen as a major motive.

The revenue synergies may be documented for the 50 largest banks in Europe. Non-interest incomes increased from 41,9 percent in 1997 to 57 percent of total net income in 2000 (ECB (2002)). Evidence on cost synergies, however, is more difficult to discover, as they often may be realised only after considerable time lags.

Conglomerates in the financial sector, however, are emerging at the same time as other conglomerates in industrial sectors are disappearing, pointing to a puzzle (See National Bank of Belgium (2002)).

Traditionally holding companies have been rationalised by their better access to capital markets. Due to capital market imperfections they are in a better position to attract funds that they reallocate to the different firms within the group. As capital markets become more efficient, conglomerates are bound to decline in importance. Does the same reasoning not apply to financial holding companies and conglomerates?

Somewhat paradoxically, however, the new financial market discipline is contributing to the formation of conglomerates in the financial sector. As capital is a scarce resource financial market discipline puts increasing pressure on the market participants to generate stronger risk-adjusted returns. They have to manage their risks more efficiently. A significant potential for risk diversification exists in acquiring risks that are not highly correlated with existing risks. This may imply a bias towards moving into cross-sectoral activities within the framework of a financial conglomerate. To document this potential for revenue diversification benefits of financial conglomerates, further investigation of the various financial risks to which the different financial institutions are exposed is in order.

B. Financial Risks of Financial Institutions and Conglomerates

Financial fragility depends on the impact of shocks on financial institutions and markets, as well as on the propagation of shocks throughout the financial system. In this section the exposure of individual financial institutions and groups to the impact of financial shocks will be investigated. How is their likelihood of failure affected in the new financial environment?

A financial institution faces many types of financial risk. Overall credit risk, market risks, and liquidity risk are generally expected to decrease within the euro-area, whereas operational risk is likely to worsen at least in the short run (see ECB (1999)). Hence, financial market integration in the E.U. and the single currency may on balance not have aggravated the fragility of individual financial intermediaries. Deeper and more liquid financial markets reduce the likelihood of liquidity problems. Credit risks are more easily transferred to the financial market through issuing corporate bonds, securitisation of loans and the increasing use of credit derivatives.

The question arises, however, whether this picture is not modified by the financial consolidation process that is simultaneously occurring

in the E.U.? As argued above financial consolidation is being induced by increased market competition and disintermediation reflecting the shift from a still largely bank-intermediated system in Europe to a more market-based financial system. The traditional deposit-loan intermediation technology, internalising liquidity risks and credit risks on the balance sheets, is substituted for off-balance sheet activities. It involves the transfer of some of these risks to the financial market which in a broad sense is likely to be risk reducing. Liquidity risks diminishes as the share of deposits in total funding decreased to 35 percent of total liabilities for the largest banks in Europe. Also negotiable liquid assets count for a larger share of total assets. As banks' assets have become more liquid and marketable, the likelihood of underlying liquidity problems decline.

Moreover, the consolidation wave is also induced by financial market pressures to improve the risks-adjusted returns of the portfolios of financial intermediaries. By pooling similar risk-types within a larger portfolio, large banks benefit from the law of large numbers. For instance, by geographically diversifying their loan portfolio through cross-border mergers, banks may reduce credit risks and lower their revenue variability.

On the other hand, the financial firms' exposure to financial markets is also increasing market risks. Increasing reliance on liquidity through the wholesale market and the use of complex market instruments, may under difficult market circumstances lead to potential larger shifts in liquidity. Moreover, such shocks are likely to more quickly impair the creditworthiness of a bank than would occur through the deterioration in a loan book that is not marked to market (see Group of Ten (2001)).

Whatsoever, the risk profile of commercial banks, which traditionally consisted in about 60 percent credit risk, 20 percent market interest risk and 20 percent operational risk, is certainly changing.

Similar observations are to be made for consolidation within financial conglomerates. As deposits are substituted for mutual funds and loans for corporate bonds, banks have been setting up or acquiring mutual funds, as well as investment banking and securities firms. The mirror image is that the shift towards non-banking activities by large financial conglomerates has introduced new risk considerations. Asset management and investment banking activities are more vulnerable to operational risks including processing, execution or delivery errors or fraud through market manipulation, insider trading or

falsified accounts (see National Bank of Belgium (2002)). The new sources of income are highly dependent on asset prices, which may be quite volatile in financial markets.

The important question remains whether in the new environment revenue diversification benefits are obtained by combining these different types of risk within a holding company? In principle, by engaging in cross-sector activities and product diversification, e.g. by combining more cyclical earnings from bank products with more stable revenues from insurance premiums, the risk profile may improve. More generally, the net effect will depend on the earnings volatility of the line of business that is added and its correlation with the risk of the existing business lines.

Traditionally risk types differ among financial intermediaries according to the financial activities involved. The key risk types of banking are credit risk and liquidity risk. Securities brokerage is most vulnerable to market and liquidity risks. Insurance depends mainly on technical risks. In this respect, it has been found that market and credit risks tend to be highly correlated, as is also confirmed by the huge losses on stock portfolios and the loan book in the recent period. Technical and operational risks are much less correlated with other risks. Hence, the underlying benefits of diversification may differ according to the business lines that are combined (see The Joint Forum (2001))².

It confirms previous simulation studies mostly conducted for the U.S. giving clear evidence that the banking-insurance combination should improve the risk profile, whereas the results are much more mixed for the banking-securities firms and other combinations. It should be added that these results reflect average outcomes for the sectors and business lines concerned. On a company basis particular combinations may be more beneficial, as is found in case by case studies³.

In reality, however, potential benefits as derived from economies of scope in the field of risk management, may not materialize. As financial conglomerates have to manage different types of risk, risk control may become very complex. The risk control structures of different business lines, that traditionally focus on their own specific risks in banking, securities dealing and insurance have to be merged. Eventually this difficulty may be overcome by advances in risk management techniques.

The complexity of financial conglomerates may also render market discipline ineffective and induce more risk taking. Such a behaviour,

however, is less likely when market power rents and synergies are increasing franchise values of financial intermediaries. Hence, it is observed that the beneficial influence of financial conglomerates is more likely in the E.U., where there is considerable scope for realizing economies given the current financial structure (see Group of Ten (2001)).

C. Systemic Financial Risks

The financial system contains powerful propagation mechanism that can amplify financial shocks. Whether financial shocks, as discussed before have systemic ramifications depend on the “width” and the “depth” of these shocks in the financial system and the importance of their effects on the real sector.

The “width” measures the fraction of the financial system that is simultaneously affected at impact. In this respect a common shock affecting several financial intermediaries has a wider impact than an idiosyncratic shock due to the failure of one financial institution. The increasing reliance on market activities increases the fragility of financial intermediaries to common shocks originating in financial markets.

“Depth” refers to the fraction of the system that is subsequently affected during the transmission phase. In this respect banks are more subject to interconnections than securities firms and insurance companies (see Heremans (2000)). Deposit loan activities are especially vulnerable to the contagious transmission of shocks. In a world where deposits are insured, however, an idiosyncratic shock threatening an individual bank may no longer lead to the traditional mechanisms of a run by depositors on banks in trouble. Contagion is more likely to occur at the wholesale level through unsecured deposits, in particular in the interbank market. Also greater reliance on financial markets, increasing integration and linkages of financial markets are facilitating the propagation of financial shocks. A decline in asset prices caused by heavy selling by weakened financial firms hurts the balance sheets of other firms holding the same asset.

Finally, in order to have substantial effects on the macro-economy the contagious shocks should either:

- disrupt the payments system through failures in the settlement of payments or through panic runs on banks by depositors;

- disrupt credit flows through the failure of credit institutions;
- provoke a collapse in asset prices or markets that fail to clear when large volumes of assets are liquidated simultaneously (see Berger e.a. (2000)).

In the still largely bank intermediated systems in the E.U., channels of contagion involving banks remain important, in particular through the interbank market. The reliance on interbank financing is increasing, diminishing the probability of individual bank failures, but increasing the risk of total collapse of the banking system.

As given in Table 2, with a sizable proportion of about 30 percent of the balance sheet total interbank positions link the banks closely together. Domestic interbank lending still remains the most important component, so that systemic risk is primarily a national concern. Cross border interbank lending of banks operating in European countries with other European banks is increasing rapidly as is illustrated in Table 3. The interbank activities with banks outside the E.U. are declining. It is explained by the advent of the Euro and the development of Euro

TABLE 2
Interbank Positions
(percentage of balance sheet total)

		Assets	Liabilities	Net Position
Belgium	1995	33,0	40,7	-7,7
	2001	24,0	31,8	-7,8
Europe	2001	26,6	30,9	-4,3

Source: ECB (2002)

TABLE 3
Cross border interbank lending of banks operating in European countries
(in billion dollars)

	1996	%	1999	%
Europe	1.859		2.427	
Non-Europe	1.097		981	

Source: Group of Ten (2001)

money markets reducing the likelihood of national liquidity failures. On the other hand, banks are increasingly exposed to shocks originating beyond their national borders, increasing the threat for national disturbances having Euro-wide effects.

Table 4 indicates that banks in the smaller European countries rely more on cross border interbank lending than banks in the larger countries, exception made for the U.K. Banks in the U.K. deal relatively more with non-E.U. banks making them more sensitive to non-E.U. shocks.

How have these interbank positions been affected by the consolidation process in the financial sector? Due to the internalisation of interbank lending, banking concentration may reduce the volume of domestic interbank transactions. This is being observed in Belgium, as given in Table 2, where a significant decrease in the reliance on interbank transactions as the result of the wave of mergers and acquisitions has occurred. Also the net reliance on the interbank market, the assets being one fourth smaller than the liabilities can be completely contributed to the four largest banks. The net proposition of the other banks is practically in equilibrium. This net borrowing position makes the larger banks more vulnerable to potential contagion risk. It is, however, counterbalanced by more secured lending on the basis of collateral. Major credit institutions in Belgium are substituting for nearly half of their operations repurchase agreements for straight loans

TABLE 4
Cross border interbank lending of banks operating in European countries with other European banks (percentage of total assets)

	1996	1999
<i>Smaller countries</i>		
Belgium	12,8	19,1
Netherlands	10,4	12,1
Sweden	11,8	11,4
<i>Larger countries</i>		
France	6,9	7,9
Germany	4,2	6,3
Italy	6,3	5,9
Spain	8,2	6,0
U.K.	20,6	31,6

in the interbank market, while other banks rely almost entirely on unsecured operations (see National Bank of Belgium (2002)).

In what other ways does consolidation affect system risks? The acquisition of smaller financial players by larger firms may be beneficial to financial stability. Increasing competition in a European-wide market is threatening the survival of smaller banks. These problems may be taken care-off by consolidating them within larger financial intermediaries without disrupting the stability of the financial system.

The mirror image, however, is that by their sheer size large financial institutions present systemic ramifications through the “width” of the financial shock when they are in trouble. They may be “too big too fail”, liquidate on discipline effectively raising the risk of large potential accidents.

Large financial conglomerates give rise also to additional concerns about system risks due to the risk of contagion between the different business lines involved. In principle, an institutional structure consisting of subsidiaries with separate capital bases could limit contagion. In practice, problems in one business may contaminate other business lines through substantial intragroup transactions or even by sheer reputational contagion. Hence, problems in non-bank activities such as insurance and securities dealings may become a source of systemic risk as they spillover to the deposit-taking subsidiary. As mentioned earlier the shift towards non-banking activity of large financial conglomerates in Europe, in particular towards asset management, could have increased both the impact and propagation of shocks from financial markets. In addition, when due to a problem in one country a cross border financial conglomerate is in distress, these problems are more easily spread to other countries.

Empirical evidence links consolidation with increases in interdependencies among large financial institutions. In the U.S. the large complex banking organisations (LCBO's) have become more vulnerable to overall market conditions in the second half of the 1990s. It is also found that consolidation among relatively dissimilar institutions has tended to increase interdependencies somewhat more than has consolidation among firms with more similar degree of complexity (see De Nicolo, Kwast (2001)).

For Europe the evidence is very limited. Direct channels of interdependence are measured through the average of the cross correlations of returns as measured between pairs of the largest financial institutions⁴. In Europe these correlations may have increased

somewhat since 1997. They have become also more volatile. The correlations are particularly higher in periods of financial crisis and of economic downturn (see Heremans (2002)).

Looking in each country at the average of the cross correlations of returns, as measured between pairs of the largest financial institutions, they are generally stronger than the European-wide correlations. Hence, country specific patterns still dominate the potential for systemic crises. However, as the countrywide correlations in the more recent years are gradually converging towards the European-wide correlations, they may be indication of the increasing potential of European-wide systemic risks.

Financial conglomerates are not only directly interdependent, but also indirectly through correlated exposures to non-financial sectors and financial markets. In particular the shift of large financial conglomerates in Europe towards asset management may then have increased not only the impact, but also the propagation of shocks.

Finally, whereas for financial conglomerates the impact on individual and aggregate risk may be unclear, they certainly have rendered crisis management more difficult. The failure of an illiquid but still solvent financial intermediary can be prevented by emergency liquidity assistance. The complexity and lack of transparency due to intragroup transactions within a financial conglomerate make it more difficult to distinguish between illiquidity and insolvency problems. If necessary, systemic ramifications should be avoided by winding down insolvent institutions in an orderly way. Complex corporate structures involving different legal entities prevent a timely winding down of conglomerates.

To conclude, when the potential diversification benefits from consolidation could reduce the probability of financial shocks, the mirror image however is, that when a failure does occur the impact of a shock will be larger. It certainly warrants closer attention of policy makers to the implication of the changing financial landscape for system risk.

III. CHALLENGES FOR PRUDENTIAL POLICY

Because of the consolidation process the systemic costs of a financial institution's failure, although not the likelihood of a failure have increased. How does it affect the present regulatory system for the financial sector? Are there adjustments to be made?

First, an answer to these questions has to be framed within the general context of the present regulatory crisis, involving a shift from structural to prudential regulation.

Second, the more specific challenge for the main prudential instruments, i.e. capital adequacy and solvency regulation, has to be further explored.

Finally, it also questions the whole set-up of the supervisory architecture based upon regulation by national authorities and separate supervision for banks, securities firms and insurance companies.

A. Deregulation and prudential reregulation

Internationalisation, financial innovations and the overall deregulation wave since the 1970s have led to financial sector liberalisation by removing structural regulatory barriers. They were driving forces behind the re-emergence of financial conglomerates.

Historically, however, in the aftermath of the Great Depression in the 1930s, in order to limit for the future the contagious spread of bankruptcies in the financial system that had occurred, structural regulation had been introduced. Unbridled competition was seen as a major threat to the stability of the financial sector. The scope of activities of financial intermediaries was limited in many countries by legally separating commercial banking from securities and insurance activities. Before the crisis, commercial banks had acted as securities firms as well as depository institutions. They had an incentive to take on more risky activities in financial markets and earn investment-banking fees, the risk being shifted in part to the deposit holders. In order to limit these risky activities and to reduce the risk of contagion, product line restrictions and in some countries also geographic restrictions were introduced (see Heremans (1999)).

In recent decennia as it became clear that these regulations conveyed benefits to private financial institutions by protecting them also against outside competition, they were gradually removed. In the E.U. deregulation concurred with the financial market integration process. The emphasis shifted towards competitive efficiency, level playing field considerations and also individual investor protection. Financial system stability no longer came into the picture as the primary goal.

Although a direct connection between financial liberalisation and financial crises is difficult to establish, banking systems have experienced significant problems in the last two decades. According to an

IMF study, of the 181 member countries 133 have experienced significant banking problems. Among these 36 countries suffered from a real financial crisis (see Lindgren, Garcia, Saal (1996)).

The major underlying problem was that in the meantime governments had also established safety nets for financial institutions in trouble. Central banks provide emerging liquidity assistance through developing their lender of last resort function. In addition public authorities also intervene by guaranteeing some financial liabilities and by directly protecting investors through "Deposit Insurance". When the government provides such a safety net it tempts financial institutions to pursue high-risk strategies. Also, when they are covered by deposit insurance, depositors have less incentive to monitor and discipline financial institutions. Instead of spending substantial amounts of their National Product on rescuing ex post ailing financial institutions, preventive government interventions are in order to counter ex ante these moral hazard effects. This "reregulation", however, does not require a return to structurally limiting competition making financial conglomeration impossible. It should attempt to reconcile market efficiency with safety and stability by resorting to preventive measures of the prudential type⁵.

The idea behind these prudential policies is that financial problems are most often due to the lack of establishing adequate internal control procedures by financial institutions to contain the risk of new or expanded activities, and the failure of authorities to supervise them. Hence, by priority a culture of internal governance of risk behaviour is to be developed. It should therefore be supplemented by solvency and capital adequacy standards, as well as by asset restrictions and diversification rules. An important role is also to be given to external governance through market discipline. This market transparency is to be sustained by accounting standards and disclosure rules (see Dewatripont, Tirole (1993)).

Financial conglomerates present particular problems with respect to the existing safety net policies. If banking activities cannot be separated from the non-bank part, the potential safety net is stretched to the non-bank activities increasing the problem of moral hazard. In addition non-banks that are part of the group would gain a competitive advantage compared to those that are not part of a financial conglomerate (see Group of Ten (2001)).

Limiting the focus to the implications of financial conglomerates for financial system stability, it has to be further investigated whether

additional prudential policies are required to ensure not only that they are better able to withstand shocks, and that transparency is increased, but more importantly to reduce the likely contagion once they are in trouble.

B. Capital Adequacy and Solvency Regulation

Capital and reserves in the form of provisions made by financial intermediaries provide the necessary buffer against losses. For securities firm's capital is the primary cushion against losses arising from market, operational and credit risks. They generally do not establish general reserves for expected losses. It is different for banks where capital is supplemented by loan loss reserves that are also available to help to cover potential credit risks. The insurance sector mainly relies upon technical provisions to cover future policy liabilities deriving from technical risks. Additionally solvency margins are imposed requiring a certain amount of capital as a buffer against losses arising from all kinds of remaining risks.

Equity capital requirements thus aim at providing a necessary cushion against losses. They are needed since shareholders may want to benefit from the leverage effect increasing their returns on equity by providing as little capital as necessary. From a prudential point of view, however, the incentive effects of capital requirements are more important. When financial intermediaries hold a larger amount of capital they have more to lose in case of failure. It provides the right incentives to limit excessive risk taking.

The amount of regulatory capital affects capital costs and hence also the competitive positions of the financial intermediaries. For banks in particular required capital directly determines their competitive position on the credit market. Bank capital serves as the basis for the risk adjusted pricing of loans. Hence, the trade-off between the goals of financial stability and competitiveness reveals to be especially difficult requiring government intervention.

In order to achieve the goal of financial stability capital requirements could also have been imposed by national authorities. However, the road to international capital regulation was taken in the Basel Accord of 1988, mainly under the pressure of level playing field concerns by large U.S. Banks, which were internationally active. They were in trouble after the Latin American debt crisis, and only willing to accept additional regulation by the U.S. Congress if these were also

applicable to foreign competitors. Hence, internationalisation and consolidation in the banking sector has given shape to the present system of bank capital regulation.

The requirement that banks should keep at least eight percent total capital to risk weighted assets (Cooke-ratio) was initially only applicable to international banks. Gradually it became the regulatory standard for all banks. In the E.U. these requirements were formally incorporated into the E.U. Solvency Ratios and the Own Fund Directive for Banking.

Overall these capital standards have contributed to financial stability. In the 1990s actual capital held by banks increased substantially all over the world, as the Basel capital asset ratio became the de facto international standard. This presents, however, also some drawbacks for financial stability. Due to the crude risk categories these standards are too low for banks that pursue high-risk strategies. They may be also too high for banks with well-diversified portfolios. In this respect large banks are not able to benefit wholly from the pooling and diversification advantages brought about by expansion and consolidation. The Basle approach also provided unintended incentives for financial innovations and regulatory arbitrage circumventing the requirements. These opportunities are all the more available for large financial players.

The New Capital Framework (NCF) Proposal launched recently by the Basel Committee on Banking Supervision addresses some of these problems, that may be particularly relevant for larger banks. Based upon advances in risk management technology a more flexible process-oriented approach is taken.

In the first pillar of the NCF minimum capital requirements are made more risk sensitive and more comprehensive. A choice is to be made between:

- (i) A standardised approach with compared to the 1988 Basel Accord, more sophisticated risk weights based upon external credit ratings. Larger banks relatively more involved in loans to larger corporations whose credit worthiness is rated by outside agencies, may benefit more from this option than the smaller banks.
- (ii) An internal rating based approach that allows banks to use internal credit risk assessments. Eventually statistically based credit risk models modelling the aggregate risk of a loan portfolio may be developed to determine capital requirements. Such credit risk

models are still premature with the current state of the art and may only be accessible for large sophisticated banks.

The second pillar becoming more important in a process-oriented approach concerns supervisory review. Instead of being involved in setting precise rules for calculating capital adequacy, supervisors should concentrate on the banks' internal risk management procedures. In this respect large financial firms, having a sense of forming clubs with quasi-self-regulatory aspects, may have an advantage (See Karacadar and Taylor (2000) and Goodhart (2000)). Eventually it will make a capital standard that is two-tier between larger and smaller banks.

Market discipline is emphasized in the third pillar of the NCF. Transparency, accounting and disclosure standards are required to involve market participants and third party reviews at exercising discipline on banks.

Whereas capital adequacy regulation is well developed at the international level for banks, this is not the case for securities firms and insurance companies.

Capital requirements play a similar role to discipline securities firms but are not harmonized at the world level. Within the E.U. countries, the Capital Adequacy Directive for market risk applies to both banks and investment firms and is essentially equivalent to the Basel Accord. The U.S., Canada, Japan and other non-E.U. countries follow a different framework. They base their capital requirements on liquidity or net capital. Securities firms are required to maintain minimum levels of highly liquid assets sufficient to satisfy all obligations to customers and other market participants promptly.

In the insurance sector capital regulation plays a lesser role compared to the importance of technical provisions. They tend to differ across countries. In the E.U., however, they have been harmonised through the E.U. Insurance Solvency regulations to cover mainly the non-technical risks. The amount of capital that must be held, i.e. the solvency margin is derived from objective criteria that are related to the overall volume of business (premiums and claims for non-life insurance, mainly mathematical provisions and capital at risk for life insurance). The central idea is that firm of the same size are placed on an equal competitive footing (see The Joint Forum (2001)). The other major system is the US Risk Based Capital (RBC) framework adopting a capital standard as a threshold level of capital that

identifies companies in need of regulatory attention. Interesting to remark is that it incorporates an adjustment for portfolio diversification. As a result, the total capital required is less than the sum of the capital form each separate risk.

Hence, financial conglomerates combining banking, insurance and securities activities are subject to a complex regulatory framework. Being subject to different sectoral legislations within the same group they are confronted with overlaps. Due to differences in prudential regulation, and the role of capital in particular, inconsistencies between sectoral legislation may give rise to loopholes. Also lacunae exist as regulation of risk at the group level is lacking.

It provides incentives for cross-sectoral risk transfer and regulatory capital arbitrage. Credit and insurance risks may be transferred across sector lines through securitisation, credit derivatives and alternative risk transfer. For example insurance companies are increasingly acquiring credit exposure through credit insurance. Regulatory arbitrage may also lead to multiple gearing and excessive leverage. First, financial conglomerates may weaken capital adequacy and improve their competitive position by “multiple gearing”. It implies that the same capital is being counted twice, for example as a way to satisfy both banking and insurance capital requirements (see National Bank of Belgium (2002)). Second, excessive leverage occurs when the conglomerate issues debt and gives the proceeds as equity to its regulated subsidiary.

Within the E.U., Directives on the consolidation of bank/investment groups have imposed specific regulations on institutions that perform simultaneously banking and securities activities. They introduced the practice of computing capital adequacy by summing the separate capital requirements imposed on the banking book and on the trading book. As this directive addresses mainly level playing field concerns, it leaves many issues unresolved from the financial stability point of view. Heterogenous financial conglomerate-type groups combining institutions from the different groups are only covered to a limited extent.

In an attempt to deal with these problems, and in particular with the banc assurance phenomenon, recently at the E.U. level a new Directive for Financial Conglomerates has been proposed. First, in order to ensure that the objectives of separate supervision of the capital adequacy of the legal entities are not impaired by conglomeration, it contains safeguards against certain practices of regulatory arbitrage. To avoid double gearing and excessive leverage, capital requirements over bank loans and insurance contracts are simply summed up

following the regulatory practice applied to stand-alone activities, and the participations in subsidiaries are partially deducted from capital.

Second, in order to limit the risks of internal contagion and the problem linked to complexity and lack of transparency, adequate risk management procedures have to be set up at the conglomerate level with adequate reporting to supervisory authorities (see National Bank of Belgium (2002)).

Whereas the proposal is still under discussion, some critical observations are in order. The proposed directive is mainly based on level playing field concerns, and much less on a comprehensive view of financial risks with respect to financial stability. No portfolio considerations are taken into account to calculate risks, but this is done on a stand-alone basis for the separate entities. This being consistent with the present overall regulatory regime, questions, however, arise whether such a view can be maintained for the future.

The NCF will allow to include portfolio considerations in calculating required risk capital for banking. For insurance one may also point to the US Risk Based Capital framework that incorporate adjustments for portfolio diversifications. The issue is all the more important for the assessment of group-wide risks and required capital for financial conglomerates. Presently at the group level required capital is obtained by simply adding up capital for banking insurance and securities activities. As argued above portfolio diversification over different risk-types may be one of the driving forces behind the formation of financial conglomerates. In principle, multiple different types of risk should be consolidated to calculate regulatory capital and risk limits.

In practice, many firms are increasingly seeking to take a consolidated enterprise-wide view of risk management. They are increasingly managing their risks in structurally complex ways. Here are, however, still many difficulties associated with such calculations and given the present state of risk management technology these approaches remain still tentative. It may also explain why the directive organises only supplementary supervision, but does not introduce quantitative limits as regarding risk concentration.

B. Towards new supervisory structures

Financial consolidation across countries and financial conglomeration across sectors are questioning the whole supervisory architecture and organisational structure.

Traditionally supervision relied upon an institutional tripartite set-up with separate supervision for banks, securities firms and insurance companies. Efficient supervision, however, requires that regulators are aware of all the activities of a financial group.

Within this architecture cross-sectoral problems of supervision are in first instance to be solved by cooperation among the supervisory authorities. As a result cooperative agreements which take the form of Memoranda of Understanding (MoU's) are being concluded. Also the proposed Financial Conglomerates Directive in the E.U. takes this route. In order to limit internal contagion it insists on tight cooperation between banking and insurance regulators, in particular by the appointment of a supervisory coordinator.

In present developed financial systems, however, supervision, has to achieve many objectives i.e. transparency and fair conduct of financial market transactions, the solvency of each financial intermediary by micro-prudential supervision, and also aggregate financial stability by macro-prudential supervision of systemic risks. The basic question remains whether an institutionally oriented supervisory architecture complemented by MoU's can adequately deal with all these tasks?

One solution would be to change the present vertical institution-oriented architecture of supervision and to replace it by an horizontal objective driven supervisory set-up (see Di Giorgio, De Noia (2000)). The achievement of each of the three objectives would be the task of a separate supervisory authority. It would clearly allocate responsibilities for each objective to a specialist supervisor having a comparative advantage in information and monitoring. It corresponds to the increasing emphasis on market discipline in risk control requiring more specialised knowledge. The drawback, however, of such a functional model is that each financial intermediary would have to be supervised by three separate supervisors. It also raises difficult issues of coordination in supervision among the different authorities.

A more drastic solution consists in merging the different financial supervisors within a single financial supervisory authority. This has recently been done in several countries with the Financial Supervisory Authority in the U.K. as the most prominent example. Centralisation, however, may diffuse objectives and responsibilities. Moreover, a more decentralised model contains both checks and balances as to be burden of regulation and avoids the systemic risk component of a single regulator applying similar risk models for all providers of a par-

ticular financial product. A pragmatic solution therefore is to bring the different specialist supervisors under one roof. The supervisors then only wear different divisional labels within the same regulatory institute. While facilitating cooperation, the different divisions maintain sufficient independence to implement their own responsibilities.

In order to deal with the cross-border aspects of supervision also many MoU's have been concluded on a bilateral basis between countries. They provide in exchange of information and regular meetings among the supervisors. At the E.U. level an extensive set of general bilateral MoU's have been concluded making use of the principle of mutual recognition and home country control. In addition there are also MoU's in place for specific cross border financial groups, in particular between Belgium, France and the Netherlands.

The question arises whether this cooperative framework constitutes an appropriate basis to deal with the increasingly complex issues at hand. From an E.U. perspective the system maintaining a series of specialist supervisors in each country certainly appears as underly complex. The number of separate supervisors in each country then has to be multiplied by the number of countries. As financial market integration in Europe proceeds and the E.U. is enlarged to new member countries, coordination would require an astonishing amount of bilateral MoU's. As a minimum cooperation is certainly to be reinforced by concluding MoU's on a multilateral basis. Moreover, given the difficulties to measure risks and to identify risks in time, more preventive action is needed. As separate prudential supervisors may not be capable to assessing systemic risks, the question arises whether this can be solved by reinforcing cooperation or should there be an additional E.U. involvement in this respect?

Coordination at the E.U. level would certainly be simplified by integrating all supervisors in each country into single financial supervisory authorities. This however, as discussed before, presents also drawbacks as to the efficiency of supervision.

The more pragmatic alternative by bringing the specialist supervisors as different divisions under one roof would result in a matrix-like organisation from an E.U. perspective. At the European level each division would be coordinated within a European system. This could be achieved starting from the present institutional set up distinguishing between banking, securities activities, and insurance. In the functional option it would result in coordination within a European system for financial market transparency, a European system for

micro-prudential supervision of solvency, and a European system for macro-prudential supervision of systemic risks.

Abstraction made of the (unlikely) political feasibility of such comprehensive system of E.U.-involvement, one may question whether this is necessary in the present circumstances. For the many financial intermediaries that operate mainly domestically, adequate supervision may take place at the national level complemented with MoU's for cross-border aspects. Externalities are unimportant and agency problems due to informational asymmetries can be better solved by national authorities closer to the relevant market. For large financial conglomerates, however, externalities tend to be large. When they operate internationally European-wide systemic risks are involved. There are economies of scale in information gathering so that also micro-prudential supervision cannot be efficiently conducted on a national basis⁶. Supervision by one authority at the E.U. level may reveal to be more efficient.

Hence, can a model be envisaged in which national supervisors function alongside with a European supervisor? It would amount to a two-tier structure for prudential supervision (see Schoenmaker (1995)). However, it need not result in outright centralisation of supervision on large intermediaries and financial conglomerates at the E.U. level. National supervisors may continue to be involved in the supervision of these conglomerates, but a leading coordinating role should be developed at the E.U. level. One may also point to the multi-tier structure for financial supervision in the U.S. Large banks chartered by the federal government are supervised by the board of governors of the federal system (see Fase, Van Thoor (2000)).

The U.S. example points also to the question of central bank involvement in prudential supervision, which is already the case in many but not all European countries. In the Euro-area the European central bank has independent monetary policy powers to maintain price stability, but prudential control and crisis management, including emergency liquidity assistance, and the winding down of financial intermediaries belong to the national authorities⁷.

However, is the application of the home country control principle optimal to deal with systemic risks, when internationally operating firms and large financial conglomerates that may present European-wide systemic risks are in need of liquidity? Also the winding down of these complex financial institutions may require cross-sector and cross-border coordination and coordination.

Whereas national central banks are to be involved in prudential supervision at the national level, it is less obvious to give the same formal policy power to the European Central Bank. The supervision of individual intermediaries would imply accountability, also tax money would be at stake in case of crisis management, threatening the independence of the European Central Bank. To deal with the cross border issues a solution could eventually be found in giving more autonomy to the Banking Supervisory Committee acting as coordinating supervisory authority at the E.U. level.

IV. CONCLUSION

The ongoing changes in the financial landscape towards consolidation of financial intermediaries may be analysed not only as resulting from expected cost and revenue synergies, but also, in particular for the case of financial conglomerates, as driven by the potential of revenue diversification benefits.

When this results in improving the overall risk profile of financial entities, the financial system may have become more resilient to some sources of financial risks. Due to increased interdependencies, however, the system-wide transmission of financial shocks is facilitated. When the probability that financial shocks will provoke a failure has been reduced, the mirror image, however, is that when a failure of a financial conglomerate does occur the impact of the shock will be larger.

These findings certainly warrant closer attention of policy-makers for prudential regulation as financial conglomerates present particular problems with respect to the existing safety net policies and capital adequacy regulation. Concerning the proposed Directive on Financial Conglomerates in the E.U. some critical questions remain as to the approach taken to the consolidation of risks. Also at the E.U. level a new institutional set-up with a two-tier supervisory structure for the larger financial players should be envisaged to deal appropriately with the potential of European-wide systemic risks.

NOTES

1. The OECD defines systemic risk broadly as a risk that occurs as a result of the current or future functioning of major systems leading to complex interactions which therefore lead to increasing risks.

2. In a study by Wyman & Co (2001), *Study on the Risk Profile and Capital Adequacy of Financial Conglomerates*, the underlying benefits of diversification range from more than one third to a modest 15 percent, as is referred to in The Joint Forum Report 2001, on Risk Management Practices and Regulatory Capital Cross-sectoral comparisons.
3. This is also suggested in case by case studies conducted for Financial Conglomerates in Belgium. Simulation studies provided evidence for risk diversification benefits of the particular conglomerates that were formed. (See De Houwer (1996)).
4. If the market thinks that banks have similar asset structures or are highly interconnected equity returns should be highly correlated (see Group of Ten (2001)).
5. Recently, however, some new arguments for structural measures limiting competition have been advanced. (See Hellman, Murdoch, Stiglitz (1999)).
6. When controlled by different principals common agency problems arise. With principals having conflicting objectives, the agent will try to give different signals to each principal leading to an inefficient outcome (see Smets, Van Cayseele (1996)).
7. The ECB can well act in an advisory and coordinating capacity in the prudential supervision of banks. Also, the ECB needs to be consulted by the Community and its member states on supervisory matters in its field of competence, i.e. in so far as they materially influence the stability of financial markets.

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