

**Unification of Financial Regulatory Structures:
the case of the Russian Federation**

by

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EXECUTIVE SUMMARY

In this paper we develop the case for the creation of a single financial supervisory and regulatory authority for the Russian Federation. This case is based on three criteria:

- (a) it enables *economies of scope* to be exploited
- (b) it ensures *regulatory parity*
- (c) it satisfies *prudential logic*

The risk management function in banks, investment firms and insurance companies has become extremely complex utilising sophisticated statistical methodologies to analyse market data and credit ratings. Given the need for each of the three sectors to manage their risks using similar data and similar methodologies, there are *economies of scope* for regulators to adopt a comprehensive approach. This will also ensure *regulatory parity*. Over the past twenty years elimination of competitive barriers globally has led to increased cross-border and cross-sector competition. Hence in order to avoid disintermediation between sectors and between countries a unified approach will be required. Financial institutions in the three sectors are increasingly interrelated either as counter parties to a transaction or as a division within a conglomerate. *Prudential logic* suggests that the regulatory function should map onto the actual activities of the financial institutions themselves. This approach is being developed by the Joint Forum, a group comprising the Bank for International Settlements, the International Organisation of Security Commissioners and the International Association of Insurance Supervisors.

A unified financial regulator would not only concern itself with the *prevention* of institution failure in the face of market, credit and operational risks. We argue that it should provide *protection* to customers of a financial institution should that institution fail. In order to prevent moral hazard and adverse selection problems arising the prevention and protection functions must be integrated. To ensure that these functions are carried out the unified authority needs to establish principles for the governance of financial firms and through systematic audit ensure their implementation.

There needs to be co-ordination if not integration of monetary policy formulation and regulation of the financial sector. On the one hand, a restrictive monetary policy can lead to increased failures in both the productive and financial sectors. On the other hand, stringent regulatory practice could lead to reduced lending and hence impact upon productive sector activity.

Finally, it is noted that an efficient financial system supported by effective supervision and regulation requires highly trained managers, auditors and supervisors. This is a necessary pre-condition and is independent of the type of regulatory structure adopted. However, a unified authority by reducing the extent of overlapping regulatory functions is able to economise on these scarce resources.

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1. Introduction

This paper develops the case that there should be a unified financial services supervisory and regulatory authority in the Russian Republic covering commercial banks, investment firms and insurance companies. In addition, we recommend that as this unified authority is being developed in the Russian Republic its regulators and supervisors should participate in the Joint Forum on Financial Conglomerates (Joint Forum) organised under the auspices of the Bank for International Settlements (BIS). This Forum comprises the Basle Committee on Banking Supervision (Basle Committee), the International Organisation of Security Commissions (IOSCO) and the International Organisation of Insurance Supervisors (IAIS). The primary objectives of the Joint Forum are a) to develop principles for the more effective supervision of financial firms within financial conglomerates and b) to facilitate the exchange of information between supervisors within their own sectors and between supervisors in different sectors. It is the first stage in the creation of a global, unified regulatory authority.

In order to assess the case for a unified authority we have adopted the three criteria identified by Dale and Wolfe (1998): (a) exploitation of economies of scope, (b) regulatory parity, and (c) prudential logic. We argue that a unified structure satisfies all three criteria. Economies of scope can be enjoyed by the supervisory and regulatory structure through the elimination of overlapping information gathering and assessment activities. Economies of scope also exist for the financial institutions through the creation of conglomerates which are able to innovate through the development of new financial products which involve elements of banking, securities and insurance and to follow an integrated marketing strategy for these products. In addition, of course, the financial conglomerate is able to enjoy economies of scope in the management of the risk exposures arising from activities in the three sectors. Institutions in the three sectors are exposed to the credit risks embedded in the assets which they hold. Further, even with a compartmentalized financial system, financial institutions in one sector are increasingly holding assets issued by institutions in other sectors or are exposed to cross-sector settlement risks. Given that the informational requirements needed for risk management are virtually identical across the sectors, there is a *prima facie* case for a unified supervisory and regulatory structure which maps easily onto the activities of the three sectors. Regulatory parity across the three sectors will ensure that there is no disintermediation as institutions move from one sector to another in search of the most liberal regulatory environment. Prudential logic refers to the

importance of aligning the remit of the regulator with the risk management function of the regulated organisation. Consequently, the regulatory structure should reflect the increasingly conglomerate nature of the financial services industry where risk management functions may cross the divisions of the conglomerate. Prudential logic suggests that regulators for the three traditional sectors can take advantage of economies of scope just as the financial institutions themselves are. The international legislation which reduced barriers to competition in the financial sector not only has led to major changes in the management of risk within institutions and the manner in which this management is supervised and regulated. It has also led to major changes in the structure and conduct of business in the financial sector.

A stable economy is a fundamental goal of all nations. The role of the financial sector is fundamental to this stability. The productive sectors of the economy consist of a complex network of overlapping supply chains. One sector produces the inputs to another sector which in turn produces the inputs for yet another sector. The automotive industry is a classic example of this supply chain process. If any one firm in the chain fails, it threatens the viability of those firms which supply it as well as the firms which it supplies. The financial sector is an intermediary in *each* of the links in the supply chain. By providing media of exchange, liquidity, a variety of debt instruments and insurance it facilitates the smooth functioning of the chain. However, if the financial sector should fail, the intermediation will disappear and the supply chain itself will be disrupted if not threatened with collapse. Recognition of these interactions is especially important for the Russian Federation as it seeks to restructure its economy. Restructuring inevitably places strains on all sectors and for this reason it is particularly important that a soundly managed, well-regulated financial system is in place to facilitate this process. The implication of this scenario is that all households and firms in the Russian Federation are stake-holders in the financial system. The stake-holders are not just the owners or employees of the individual financial institutions.

The structure of this paper is as follows. In section 2 we outline the evolution of national regulatory schemes focussing upon the tension between competition and safety. In addition, we shall focus upon relevant legislation that has been evolving over the past twenty years within the European Union, the United States and Australasia highlighting lessons to be learned from these experiences. We note that these legislative developments are being co-ordinated internationally within the framework of the Bank for International Settlements. Because of the dominant position of these

countries the BIS framework will inevitably impact upon emerging financial markets (BIS, 1996). We note also that while the trend has been toward unification of supervision and regulation of financial institutions, in no country can there be said to be anything like complete integration. Any financial regulatory system has two objectives: *prevention* and *protection*. In section 3 we examine the case for financial sector regulation arising from the existence of market failures: externalities, asymmetric information and monopoly power. In section 4 we examine capital adequacy standards and their role of seeking to *prevent* financial institution failure. We note that economies of scope arise in risk management and in the application of capital standards across the three financial sectors. We also highlight the need of regulators to deal with double gearing in an integrated regulatory framework. In section 5 we examine measures designed to *protect* the customers of financial institutions and argue that these measures should reflect the underlying exposures of the institutions as well of the quality of management. In section 6 we note that regulators are responding to the increased conglomeration of the financial sector by taking steps to increase co-ordination. This can be viewed as a first step in the creation of a global, unified regulatory authority. In section 7 we deal with operational risk and issues associated with the governance of financial institutions. Section 8 deals with the interface between financial regulation and monetary policy and suggests that these two functions must be closely co-ordinated. We provide a postscript in section 9 where we examine the position taken by New Zealand. They have explicitly rejected the currently evolving international regulatory in favour of one based on market discipline. We argue that an appropriate balance between market discipline and government intervention needs to be achieved. Our conclusion is that a unified regulatory authority is best placed to deal with this tension. A system relying solely on market discipline does not satisfy the criteria set out in the Introduction. Section 10 summarises the key recommendations concerning the institutional arrangements that are necessary for the efficient running of a unified supervisory and regulatory system.

Finally, although it is beyond the scope of this paper, we argue that an efficient financial system and its effective supervision and regulation requires highly trained managers, auditors and supervisors. This is a necessary pre-condition and is independent of the type of regulatory structure adopted. However, a unified authority by reducing the extent of overlapping regulatory functions is able to economise on these scarce human resources.

2. Context

The pressure for a national unified regulatory and supervisory framework arises from two parallel developments in the late 1980's and early 1990's in the United States and in the European Community, now the European Union (EU). In both regions legislation was introduced that would increase competition between financial institutions operating within different *regions* and between institutions operating in different *sectors*. The aims of this legislation were to facilitate greater efficiency within the institutions themselves and to promote innovations that would provide both household and corporate customers with greater choice. Notwithstanding these benefits, governments also realized that the increased competition could potentially lead to a narrowing of profit margins, increased risk taking and a deterioration in the capital positions of the financial institutions. Thus while deregulation was proceeding with a view to increasing competition, new and complex regulations were introduced in the United States and Europe that were aimed at preventing failures by financial institutions and, when such failures occurred, providing limited protection to customers. These measures which are continuing to evolve are most clearly articulated in BIS documents and in the directives of the European Union.

There has been a widespread view that heavily regulated or state-run banks and investment firms are not only inefficient but slow to innovate in response to the requirements of an increasing number of sophisticated customers. In the United States, this pressure led first to administrative weakening of the *Banking Act of 1933* (the so-called Glass-Steagall Act) and the *Bank Holding Company Act of 1956* which limited commercial bank activity in securities markets. In the European Union competition was encouraged through the *Second Banking Coordination Directive* (1989), the *Investment Services Directive* (1989) and the *Directives on Non-Life and Life Insurance* (1992). These three directives are based upon the "Single Passport Principle" which formed the basis of the *Single European Act of 1986*. Once a financial institution (or any other firm) is licensed to operate in one EU member state, it is free to do so in other states as well. It is no longer necessary to satisfy the requirements of twelve different regulatory authorities. Not only were barriers to entry eliminated but so were the costs involved in seeking licenses in the 12 separate markets.

Obviously, such freedom of entry is important for establishing a competitive environment not only within the United States or Europe but also globally. However, there is an important trade-off:

competition narrows profit margins. These margins are a source of capital to banks and investment firms. Competition increases the potential for failure and for the emergence of negative spill-over effects. Thus, it is not surprising that the EU directives designed to increase competition have been complemented by a set of European directives aimed at increasing regulation in an attempt to ensure financial stability, the *Bank Solvency Directive* (1989), the *Capital Adequacy Directive* (1993) and the *Directive on Supplementary Supervision of Insurance Undertakings in an Insurance Group* (1998). These directives were aimed, respectively, at the banks, investment firms and insurance companies and seek to prevent failure by establishing minimum standards for capital adequacy for the three separate groups of financial institutions. Similar principles underpin the *Basle Accord* of 1988 and subsequent amendments. In addition, the EU *Deposit Guarantee Directive* (1994) seeks to set minimum standards for the protection of bank customers should a failure occur. The three sets of directives implicitly give recognition to the clear trade off between competition and financial soundness.

Until the mid 1990's, the model of national financial sector regulation could be characterised as *traditional*. Dale and Wolfe (1998) characterise such a regulatory framework as in Table 1. Within this structure regulatory objectives, techniques and regulatory agency do not overlap. Indeed, this is the approach that was taken by the BIS and EU from the 1980s until recently. The directives discussed above imply that the banking, investment and insurance sectors are segmented. There appears to be no case for unification. Indeed, the history of the evolution of international financial regulation clearly supports this proposition. The banks were the first to have a comprehensive, international regulatory framework through the path breaking Basle Accord. Substantial differences between the United States and the EU slowed down progress in developing standards for investment firms (Cf. McKenzie (1994)) and standards for insurance companies have only recently been agreed. Each sector has had its separate development. However, as noted in the introduction this compartmentalised structure has been eroded over the past decade for two reasons: a) the increased complexity of financial instruments has led to increased interaction between the three sectors; and b) the growth in the number and size of financial conglomerates which offer a wide range of previously compartmentalised financial services.

Table 2 reveals that by far the most popular regulatory structure is the traditional one described in Table 1. Only 8 countries can be identified as possessing a “mega” regulator or unified

regulatory system. The detailed structure of the UK Financial Services Authority is shown in Table 3. This is in contrast to the traditional, segregated of the US shown in tables 4 and 5. It should be noted that this situation is subject to change as a result of the US Financial Services Modernisation Act of 1999. This involves two options. Option 1 (Table 6) deals with the case of financial conglomerates with primary supervision residing with the Federal Reserve to whom sector regulators would report. Option 2 (Table 7) deals with the case where a National Bank regulated by the Office of the Comptroller of the Currency (US Treasury) has a securities and insurance subsidiary. Twenty countries have a regulatory structure which involves two of the three sectors. However, developments at the BIS and other bodies are moving cross-border and cross-sector regulators into closer co-operation. Current regulatory structures must be viewed as a transitory stage which the Basle Committee, IOSCO and the IAIS are directing towards greater integration.

3. The Case for Financial Sector Regulation

The case for regulation of financial institutions rests on the existence of market failures. Market failures arise from three potential sources: the existence of externalities, monopoly power and asymmetries in information flows. As shown in Table 8, market failures can arise in different ways in each of the three sectors. In section 1, we have touched upon the important intermediation that banks, investment firms and insurance companies provide to households and the productive sector. If a financial institution should fail or there exists widespread fragility within the system, the activities of the productive sector could be seriously interrupted. While this consideration provides a *prima facie* case for regulatory intervention, international financial market supervisors and regulators have been particularly concerned about the availability of information. The Fisher Report recommends that each institution not only publishes information about its exposures to market and credit risks but also the methodology which it uses to calculate those exposures. Further guidelines are published in several BIS documents (1999, 1998a, 1998b, 1994).

There are three ways in which a specific financial problem in one institution can create a contagion and be transmitted throughout the entire financial system.

A. Because information is distributed asymmetrically between borrowers, lenders and the financial institution, contagion could arise in the following manner. If an institution fails, individuals may

extrapolate the problem across the entire sector. As a consequence business may be withdrawn from sound institutions weakening their positions and causing additional failures. This is known as the problem of *adverse selection* whereby problems caused by weaker institutions impact on stronger institutions causing the latter to fail. One possible outcome could be that only weaker financial institutions remain. If all market participants had the same set of information then they would be able to fairly distinguish between weaker and stronger financial institutions.

B. A more direct route for contagion to develop is through investment positions which one financial institution may have in others in its sector or in institutions in other sectors. For example, an investment company might own shares in the banking sector as part of its portfolio diversification strategy. If there was widespread failure in the banking sector then this could create a situation whereby insurance companies would be forced to default on their obligations. The contagion would be compounded if the insurance company held deposits or certificates of deposit at the failed bank since neither would be fully insured under current national deposit guarantee schemes (Cf. Sections 5 of this paper). For this reason it is important to have published data concerning exposures which financial institutions in each sector have with each other.

C. The above direct route is formalised through the creation of a financial conglomerate. The investment positions which took place through the market as in the previous example would now be internalised if a conglomerate were formed involving banks, investment firms and insurance companies. Such arrangements create two problems. First, a failure in one arm of the conglomerate, say the part that deals in securities, could lead to a failure of the banking division. This in turn could lead to a call on the deposit guarantee scheme to the maximum allowable amount. Even if deposit guarantee premia were risk related and hence fairly priced as in the US they would be associated with the quality of the banking book and not the quality of the overall position of the conglomerate. Second, the creation of a conglomerate opens up the possibility of double or multiple gearing which has the effect of overstating the capital position of the conglomerate. Indeed, one of the perceived benefits of forming a conglomerate is the economising of capital.

4. The Evolution of Preventive Measures: A New Capital Adequacy Framework

The consultative paper *A New Capital Adequacy Framework* issued by the Basel Committee

on Banking Supervision (1999h) sets out four objectives which it believes should be met by any supervisory framework. These represent an extension of those stated in the original Basle Accord of 1988.

- a) it should promote safety and soundness in the financial system;
- b) it should enhance competitive equality, i.e. promote a “level-playing field”;
- c) it should be comprehensive in addressing risks faced by financial institutions;
- d) it should be suitable for application to banks of varying levels of complexity and sophistication.

As we discuss in this paper there are many different approaches which individual countries have adopted in seeking to achieve these objectives ranging from the laissez-faire, market-oriented approach of New Zealand (see section 9) to the comprehensive regulatory structure of the United Kingdom’s Financial Services Authority (FSA). This tension is recognised in the BIS consultative document which identifies three pillars underlying its approach:

- a) minimum statutory capital requirements;
- b) supervisory review of capital adequacy and internal management practice;
- c) greater reliance on market discipline.

The techniques which underpin the BIS approach are relevant for financial institutions in all three sectors. As a consequence, there are economies of scope in risk management across firms in the three sectors. Importantly, there are also economies of scope for regulators in the sectors.

In this section we deal with issues related to the risk management of asset portfolios in the three sectors. Since the basic principles are the same for each of the three financial sectors, there exist not only opportunities for firms within those sectors to exploit economies of scope through conglomeration. There also parallel economies of scope in the regulatory function across the sectors. This discussion will in turn identify measures designed to prevent financial fragility. In the next section we discuss measures designed to protect an institution’s customers in the event of an institutional default.

The BIS has noted that the “major cause of serious banking problems continues to be directly related to lax credit standards for borrowers and counter parties, poor portfolio risk management, or lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank’s counter parties”. We argue that these issues are relevant not only for banks

but also investment firms and insurance companies.

All financial institutions are similar in that they are financial intermediaries maintaining portfolios of financial instruments. The core activity of financial institutions is the discovery, interpretation and management of information relating to the issuers of financial liabilities as well as the assets of the financial institution. The financial institution acts as an intermediary between individuals and firms who have surplus funds and those who require funds. In principle, the intermediary assesses available information so that funds are allocated in the most efficient way so as to satisfy the objectives of both borrower and investor. These investor objectives relate to the characteristics of the return, risk and liquidity associated with individual financial instruments. It would be too costly for the individual investor to undertake such analysis whereas the financial institution is able to take advantage of economies of scale and scope in that many investors will be able to benefit from their analysis. For the service provided, the financial institution charges a fee. In varying proportions, their portfolios will consist of equity, debt (including bank lending) and derivatives. As part of their risk management practice, each institution will need to assess expected returns and the dispersion of possible returns from the expectation.

Value-at-Risk. To achieve this end, the use of the Value-at-Risk methodology has been advocated by international supervisory and regulatory authorities (BIS, the Fisher Report, 1994):

Value-at-Risk is an effective tool for describing and communicating risk because it assesses different risks in terms of a common metric – losses to a standard unit of likelihood. For this reason, it can be used to compare and aggregate risks across instrument types, trading units, and markets. In addition, value-at-risk lends itself readily to a comparison of trading outcomes and risks taken to attain those outcomes, because it is articulated in terms of the size of potential losses

In practice, however, the signal extraction process is problematic. First, the discovery, interpretation and management of information is a costly process requiring extensive research and support staff. Second, the financial institution will view this process as being proprietary, the basis of its profits. As a consequence they will be reluctant to disclose their risk management processes.

The fundamental factor which underpins the contemporary risk management is the concept of *limited liability*. Limited liability legislation was developed in the early 19th century and arose out of the Industrial Revolution. At that time it was felt that entrepreneurs should be encouraged to take

the risks that were involved in developing an industrial base and in so doing they should be protected from some of the costs involved should the venture fail. Until such legislation was in place, entrepreneurs could lose their own personal property with resulting consequences for the family and local community. Imprisonment of debtors was a real possibility. Consequently, it was felt that such institutional arrangements would act as deterrent to industrial and commercial development and to the prospects of wealth creation for society as a whole.

The effect of limited liability legislation has been to transform and segment the nature of *credit risk*. Under such arrangements liabilities are broadly divided into two categories: *share-holder equity* and *debt* where debt is a heterogeneous category comprising inter alia financial instruments such as bonds, bank lending and short-term commercial paper. The credit risks associated with these two sets of instruments are linked to a *credit default event* as defined in *winding-up legislation*, which varies from country to country. The credit default event creates a contingency as illustrated in the following simple example:

If the value of a firm's assets exceeds the value of its debt liabilities the firm is *solvent* and debtors will receive any debt service due and the value of share-holder equity is equal to the difference between the value of the assets and the face-value of outstanding debt liabilities. However, if the value of the firm's assets are less than its liabilities then the firm becomes insolvent. Under limited liability legislation the value of equity is zero and debtors receive only the *recovery value* of the firm. The process involved in calculating the recovery value will be defined in the winding-up legislation. Credit risk assessment involves two aspects: first, the calculation of the probability that a credit default event will occur and second, calculation of the expected recovery value should that credit default event actually occur.

In assessing the risk profiles of their portfolios, financial institutions will have the need to make an assessment of both the probability of a credit default event and the expected recovery value of non-performing assets. The latter is usually achieved through the use of credit ratings calculated either internally or by established specialists such as Standard and Poors, Moodys or IBCA. These ratings map very accurately into default probabilities. Methods for combining credit ratings with estimates of recovery value are discussed in the J.P. Morgan *CreditMetrics* manual and implemented in their *CreditManager* software. The basic method is that of *Value-at-Risk* (VaR) which was extensively promoted in the BIS Fisher Report (1994) and is outlined in the appendices to that Report.

The significance of the above discussion for a unified supervisory and regulatory authority is fundamental. The credit default event affects all the liabilities of a firm. In addition, it will also impact the performance of derivatives written against these liabilities. Hence this suggests that risk management procedures implemented by all financial institutions should recognize the unifying factors: the credit default event as defined in the covenants of the instrument and the national winding-up legislation. In an ideal world, the risk management of commercial banking activities as well as equity, debt and derivative instrument positions should be complementary. The information used in assessing the credit risks associated with these instruments is identical. From this proposition, there then follows a corollary. Since all financial institutions will hold as assets the financial instruments issued by firms (albeit in varying proportions) it follows that the risk management practices of these institutions should be based on identical principles. They should be similar, if not identical.

A further important argument in the case for a single financial regulatory authority is the fact that all financial instruments have to a lesser or greater extent *credit risk* exposure. In very simple terms, when a borrower is unable to service its debt, the lender faces the prospect of receiving only a proportion of the face value of the debt. There are two considerations involved: 1) the probability that the borrower will default and 2) in the event of default the *recovery value* of the underlying assets of the borrower. From a supervisory and regulatory perspective credit risk is a pervasive problem for all financial institutions: banks, investment firms and insurance companies. If the treatment of similar risks is sufficiently different according to the class of holder then the potential exists for regulatory arbitrage. That is, financial institutions will seek to encourage borrowers to create liabilities which carry the lowest possible level of administrative capital. We shall distinguish between *direct credit risk exposure* and *indirect credit risk exposure*. To illustrate the problem, let us denote a representative borrower as A.

Direct Credit Risk Exposure. Such exposure arises *directly* through a financial institution holding liabilities created by Company A. The assets of a commercial bank will consist primarily of commercial and household loans and lending to other financial institutions. Such loans comprise the *banking book* and are in the first instance not marketable although portfolios of loans may be securitised and through this process they become marketable. Amongst a bank's loan portfolio may be loans to Company A. Banks are thus exposed to the credit risk associated with A. The portfolios

of investment banks comprise primarily marketable financial instruments such as equities, bonds and various derivative securities. Such assets comprise the *trading book*. Amongst the investment firm's portfolio may be the equity and debt issued by Company A. Hence they are also exposed to the credit risk associated with company A. In addition, such assets will also be exposed to *market risks* due to fluctuations in asset prices which may or may not be related to the economic value of the asset. Insurance companies will have similar exposures through their portfolio of loans and financial instruments which could include Company A's liabilities.

Indirect Credit Risk Exposure. This category of risk exposure arises through the creation of derivative securities written on underlying assets that are exposed to credit risk. Such derivatives may contain other forms of risk such as *settlement risk* and *counter-party risk* in addition to market risk. There exist a myriad of derivatives many of them quite complex. However, it will be sufficient to discuss only three examples in order to illustrate the case for a single unitary/regulatory authority.

A. Securitised Loans. In this case, a bank or investment firm will create a special purpose vehicle which will issue debt which will be used to purchase designated assets of the bank. Depending upon the degree of credit enhancement provided the bonds issued by the special purpose vehicle also contain the credit risks associated with the underlying assets. If such debt is purchased by other banks, investment firms or insurance companies the credit risk exposure will be transferred from the initial bank to these other institutions. In the process a non-marketable loan by one institution is transformed into a marketable asset held by others.

B. Credit Derivatives. The principal aim of credit derivatives is to facilitate the shifting of the credit risk exposure of one financial institution to another. Many different arrangements are feasible. However, one example will suffice: the credit default option. Basically, this involves a guarantee on a loan or other form of debt. If a predefined *credit event* occurs then one of the parties to the contract will cover the difference between the face value of the debt and the recovery value. Such insurance could be provided by another bank, an investment firm or indeed an insurance company.

C. Environmental Insurance. Although not wide-spread insurance against damage arising from contaminated property illustrates potentially important linkages between the three classes of financial institutions. Suppose company A has liabilities which include bank loans and marketable debt. Suppose that it also has insurance which provides limited protection against damage arising from contaminating activities. If a worst case scenario occurs and clean-up costs cannot be covered from

the firm's capital, then banks, investment firms and insurance companies will all suffer losses arising from the contamination.

Double Gearing. Concern exists that the actual capitalisation of the three financial sectors individually and in aggregate may actually be less than the sum of the capital across each firm. The reason for this is the existence of *double gearing*. The *Bank Solvency Directive*, the *Capital Adequacy Directive* and the *Directive on Supplementary Supervision of Insurance Undertakings in an Insurance Group* all have provisions covering the problem of double gearing within each of the financial sectors. Details of how the regulation of double gearing is treated for conglomerates is contained in section 5. However, it is important to highlight that issue here since it directly relates to the accurate calculation of capital for the financial system as a whole. Consider the simple example in Table 11. Shown are the balance sheets of a bank and an investment firm. For the sake of argument we assume that both are required to maintain a capital asset ratio of 20%. The investment firm has debt of 80 and capital of 20. These funds are invested in assets which include 10 of shares of the bank. The bank has deposits of 80 and capital of 20, 10 of which is of course owned by the investment firm. It would appear as if each institution satisfies the capital requirement. However, if we consolidate the accounts of the two institutions we calculate combined assets of 190. Required capital is 38 whereas actual capital is 30. On a consolidated basis the financial system is undercapitalised. The possibility of cross sector holdings by financial institutions is another argument suggesting that a unified regulatory framework is necessary, even in the absence of conglomeration. A unified regulatory authority would be tasked with maintaining a database containing information about all cross holdings. Capital adequacy would then be set for the system as a whole as opposed to individual institutions.

5. The Evolution of Protective Measures

In the previous sections we have analysed preventive measures that supervisory authorities can take in order to create a safe and sound financial system. However, it is impossible to prevent failure by financial institutions in all cases. This could only be achieved if risk taking was prohibited. Consequently, most countries have some mechanism to protect depositors, investors and insured against unexpected events that cause the bank, investment firm or insurance company to default on

its obligations. These protective measures may be implemented automatically or involve potentially lengthy legal negotiations aimed at defining the nature and extent of liability involved, if any.

Protective measures are designed to provide a means of recourse in the event that a counterparty does not deliver according to the terms of the contract. In significant aspects the nature of the counterparty risk affecting the three sectors of concern in this document are different. With regard to an investment firm, a customer enters into an agreement to buy or sell a security. The investment firm enters into the agreement to deliver funds (if it has purchased the security) or a security within a pre-specified settlement period. This period may be quite short. Nevertheless the customer is exposed to the risk of non-delivery. It is a transitory risk involved in the completion of a transaction. Depositors at a commercial bank, however, are essentially buying a safe-haven that can be utilised for the purpose of carrying out transactions. Funds may be withdrawn on demand or for certain types of deposit withdrawn with pre-specified notice. If a bank is unable to provide that safe-haven as a result of insolvency they are in essence not delivering the product advertised. In this case the settlement risk is enduring, not transitory. In contrast, the liability of an insurance company is contingent on a specified event occurring.

In this section, we shall compare the protective measures taken by several countries for each of the three sectors. Although differences in the settlement processes for the three sectors may be suggestive that separate supervisory or regulatory bodies can administer the protection, broader issues are involved. However, in a world of complex financial markets, this is not the case. There are two aspects to this issue. First, if we are dealing with a financial conglomerate involved in all three sectors, it is possible that a failure of one division (say, the investment firm) could lead to a failure of the banking division. Hence an claim could lead to a claim being made against a deposit guarantee scheme even though the banking division was perfectly solvent. We address this issue in the final part of this section.

A. Investment Firms. Settlement may be delayed beyond the end of the settlement period for a number of reasons. The security or the cash may not be available at that time. This could be due to operational problems at the firm or operational problems at another brokerage firm from whom this firm was purchasing the assets for settlement. The firm may own the security required for settlement but for operational reasons has actually lost the security. Finally, the investment firm may fail during the settlement period. Several procedures may be invoked to protect the customers of investment

firms in the face of settlement failure:

1. The Exchange through which the transaction took place arranges for settlement to proceed. The liability involved would be apportioned out amongst members;
2. A multi-lateral as opposed to a bi-lateral settlement system is introduced. This means that only net positions between firms are settled;
3. A compensation fund for investors.
4. Litigation

Whether or not a winding up of an investment firm will proceed in a manner that protects investors will also depend upon whether assets are sufficient to meet liabilities to customers. This will be affected by the degree of capitalisation. Currently in the UK, the Financial Services Authority has set maximum compensation of £30,000 plus 90 percent of the next £20,000. The maximum compensation is thus £48,000.

B. Commercial Banks. The case for deposit guarantees is based upon the fact that there are large information and surveillance costs that would need to be borne if the individual depositor was to monitor his or her bank's activities. In other words, there exists the basis for a market failure. Following upon our earlier discussion the existence of asymmetric information could lead to adverse selection. If one bank has become insolvent, lacking information depositors may come to believe that many or all banks are having difficulty. This could then generate a contagion effect with withdrawals from institutions that are actually safe. However, many believe that the existence of deposit insurance isolates bank management from the discipline of the market. Depositors no longer have the incentive to monitor the bank. This tension has been addressed in several ways by different countries or groups of countries. In the sections which follow we compare the approach adopted by the United States and the European Union.

1) The United States. The United States. Prior to the reform of the deposit guarantee programme in the early 1990s the United States had a flat rate premium which members of the Federal Deposit Insurance (FDIC) paid. At that time the level of bank failures in the U.S. was running at a rate in excess of 100 per year. In addition, the FDIC fund was technically insolvent. It was estimated that each U.S. taxpayer would have to pay an additional \$700 tax in order to restore the FDIC to solvency. This acted as a catalyst to a restructuring of the US bank supervisory system. Two key elements were involved in this restructuring. First, the FDIC abandoned the flat rate deposit premium in favour of

a risk related scheme. Second, there was an enforced formal partnership between the Federal Reserve System, the Comptroller of the Currency (U.S. Treasury) and the FDIC.

Variable Deposit Insurance Premia. As noted in the introduction to this section, there was a widespread belief that the existence of deposit insurance takes away the incentive for depositors to monitor the banking system. U.S. supervisors realised this but they concluded that it was the lack of an incentive mechanism but rather the wrong incentive mechanism. The flat rate insurance scheme meant that there was no discrimination between a weak bank and a strong bank. Indeed, it has been shown that for the case of weak banks the premium paid was below that which should have been paid if the insurance was fairly priced. That is, weak banks were being subsidised by the system and hence had the incentive to take on riskier loans so as to maximise the value of this implicit subsidy. Building on the analytic structure of Merton (1977) and others U.S. supervisors designed a risk-related scheme that would relate the deposit insurance premium paid by a bank to its capital adequacy and to the quality of its management and loan portfolio.

The impact of this policy was dramatic. First, the effect of charging the initial levels of premia was to restore the FDIC to a fully funded basis. Second, the risk-related basis of the premia provided an incentive for banks to improve their capitalisation and the quality of their activities. Consider Table 12 which shows the table of premia paid by banks to the FDIC. Banks that are well-capitalised and have high quality loan portfolios pay the least. Those that are poorly capitalised and have poor quality portfolios pay the most. As a consequence, the FDIC has reduced significantly the premia paid by the safest banks further increasing the incentives for the weakest.

A Restructured Supervisory System. Underpinning the U.S. reforms was a formal agreement to enforce collaboration amongst the U.S. regulatory authorities. The history and full implications of this is beyond the scope of this Paper. However, for our purposes it is important to focus on one significant aspect of this collaboration relating to the winding-up of banks. This arose out of a tension between the FDIC and the Board of Governors of the Federal Reserve System. The FDIC was of the view that the Board was allowing banks to continue to operate well beyond the time that they were technically insolvent. As a consequence formal legislation was developed to limit Federal Reserve bank credit.

Under an amendment to Regulation A, Federal Reserve banks are limited in the extent to which they are able to extend credit to undercapitalised or critically undercapitalised insured

depository institutions. This would include access to discount window credit. The US Congress had been concerned that continued Federal Reserve support for such institutions could lead to increased losses to deposit insurance funds administered by the Federal Deposit Insurance Corporation (FDIC). Under certain circumstances the Board may be financially responsible to the FDIC for losses incurred. The rule introduces three new definitions of loss in order to define the Board's liability:

- 1) liquidation loss - the loss that the FDIC would have incurred if it had liquidated the depository institution at a particular point in time;
- 2) increased loss - the amount of the FDIC's loss which exceeds the liquidation loss due to certain outstanding advances or to new advances made after the time that the FDIC would have liquidated the institution under the liquidation loss calculation;
- 3) excess loss - the amount of the increased loss for which the Federal Reserve Board is liable to the FDIC.

The limitations on the extension of Federal Reserve credit depend upon the definitions of "undercapitalised" or "critically undercapitalised" bank. These relate to a bank's capital ratio and may involve the use of CAMEL ratings, a scoring system which rates not only the quality of a bank's capital but the quality of its loan portfolio and management. Changes in categorisation are linked to the dates on which Call Reports are filed, the delivery of an examination report or the provision of written notice by a Federal regulatory authority.

2) The European Union

The philosophy of the European Union is to set minimum standards for member countries rather than seek to impose a harmonised set of regulations and supervisory standards. This philosophy is ingrained in the Principle of Subsidiarity as defined in Article 3b of the Maastricht Treaty:

In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can be better achieved by the Community.

Thus the Deposit Guarantee Directive sets down minimum standards for deposit insurance where individual member states are free to exceed these standards. The result is a diverse set of guarantee programmes in place across the European Union. Underlying the EU approach is the Doctrine of Opportunity Cost. That is, in order to obtain some benefit, some costs must be borne. In popular

jargon, "there is no such thing as a free lunch". The idea is to identify and examine trade-offs between benefits and costs so as to identify some optimal strategy. This is the approach adopted in the Deposit Guarantee Directive. In the preamble, it is stated that

Whereas, on the one hand, the minimum guarantee level prescribed in this Directive should not leave too great a proportion of deposits without protection in the interest both of consumer protection and of the stability of the financial system; whereas, on the other hand, it would not be appropriate to impose throughout the Community a level of protection which might in certain cases have the effect of encouraging the unsound management of credit institutions;

A perceived trade-off between the level of deposit coverage and unsound management is clearly identified. The higher the level of coverage, the greater the probability of unsound practices being followed.

As noted previously, one of the central roles of credit institutions is to provide a safe haven for the funds of households and firms. Until recently, all guarantee schemes have been based on the premise that a bank would pay a fixed-rate premium. In some cases, the doctrine of "too big to fail" supersedes the guarantee scheme. Depositors perceive that the state will provide lender of last resort facilities for a large bank. This is particularly relevant for countries where banks are partially or wholly owned by the state itself (e.g. Italy and France). However, it is argued that this creates a classic moral hazard problem. In the presence of such explicit or implicit guarantees, bank management is not subject to the discipline involved with the threat of deposit withdrawal. Consequently, they may feel freer to take on loan portfolios with high expected return but also high risk. The probability of bank insolvency thereby increases. The conclusion that is reached is that the existence of the deposit guarantee scheme creates incentives for the scheme to be activated. In the process the stability of the banking system is threatened.

The reasoning has figured explicitly in the discussion leading up to the adoption of the EC Deposit Guarantee Directive. In explanatory notes, published when the Directive was first proposed, concern was expressed that the

“minimum level of coverage set for the Community should not be too high in order to avoid what has occurred in the United States, in particular, where the risks taken by individual depositors have been lowered so much that such depositors have become virtually indifferent

to the soundness of their credit institutions.” (1992, p.5).

In addition, the authors of these notes explained that the proposed Directive had been drafted in such a way as to take into account the “anxieties, in particular of economists and financial experts who would like part of the risks to be borne by depositors, in order to encourage them to take an interest in the soundness of the institution to which they entrust their deposits.” (1992, p.15).

These two concerns are expressed in the Directive in the following ways:

a) The minimum limit or floor level for the deposit guarantee has been set at ECU 20,000. However, for a transitional period up to 31 December 1999, a lower floor of ECU 15,000 has been allowed for countries with a limit lower than ECU 20,000. No upper limit on the compensation has been proposed which means a huge disparity between the German and the Italian schemes and that of the rest of the EU members would persist.

b) In other EU financial services directives, the home country principle applies. However in this directive there exists a variance. A foreign branch will *not* be covered to the extent of coverage extended to the head office in the home country. Rather, its branches are limited to the level of that provided by the host. However, where the scheme of the host country exceeds that of the home country, there must exist a supplementary deposit guarantee scheme which the branch may join voluntarily.

c) An option for co-insurance has been allowed at the discretion of the member countries. The minimum limit imposed by the EU is 90% of deposit or ECU 20,000 whichever is lower. In other words, depending upon their country's implementation, depositors could have to co-insure 10% of the deposits themselves, as well as the excess over the national limit, described in a). This lower limit applies to the aggregate of deposits with the same institution irrespective of the number of deposits, their currency of denomination and location within the country.

d) Interbank deposits, own funds obligation (subordinated debts) and money laundering transactions have been excluded from the coverage of the guarantee scheme. Additionally a listing of the type of deposits which may be excluded or granted a lower level guarantee by the member states has been provided in Annex I of the Directive. This list pertains mainly to institutional deposits. It excludes from coverage deposits denominated in currencies other than those of member states or Ecu, (e.g. euro-dollar deposits).

e) The Deposit Guarantee Scheme is activated when deposits become unavailable. The scheme is thus

concerned with an illiquid bank rather than an insolvent one. In general, the two conditions will be uncorrelated.

f) For branches of banks with head offices in third countries (non member countries), the guarantee cover should be equivalent to that provided in the EU Directive; otherwise these branches are required to join the host country's scheme.

g) A time limit of three months from the date of unavailability of deposits has been specified for banks to draw up a list of deposits to be covered and be in position to pay duly verified claims. Extension of this time limit has however been allowed for exceptional circumstances.

h) Details and the extent of guarantee coverage is required to be provided to the existing and to new depositors. However, this information may not be used as an advertising strategy to achieve a competitive advantage over the rival bank having an inferior guarantee scheme.

Points a) -g) are clearly a reflection of the concerns expressed in the explanatory notes and in the preamble to the Directive. Under points a), b), c) and d) small depositors are likely to have to bear some of the burdens of bank insolvency. Large depositors may have to bear the entire burden. However, since the Directive is an application of the Principle of Subsidiarity only minimum standards are established. Thus wide difference in national practice are possible. For example, in the case of the failure of BCCI, German depositors received the full value of their funds whereas depositors at BCCI in the UK have been eligible for only a proportion. Indeed this disparity has led Germany to bring the Deposit Guarantee Directive before the European Court of Justice. Because, depositors at German branches operating in other EU states are limited to the coverage of the host country, Germany believes that this creates a competitive distortion. This treatment represents a significant divergence from the home-country and single passport principles which have characterised financial market directives. It might be argued that such a divergence might be justified on the grounds that state-run deposit guarantee schemes subsidise risk taking by banks since they do not involve risk related guarantee premia. However, the German scheme is private. Hence the issue becomes one of allowing banks guaranteed by a private body and offering superior depositor protection to compete with banks guaranteed by state supported institutions but offering inferior protection. In this instance it could be argued that it is the host not the home country which is the source of the competitive distortion.

The deposit guarantee is designed to be activated when a depositor is not able to withdraw

funds. However, this provision appears to confuse illiquidity with insolvency. A central bank could reasonably argue that it is providing a bank with temporary lender-of-last resort finance when in fact it is preventing insolvency. Depositors will need to know the moods of the supervisory authorities and the central bank. Again a cost is imposed. Further, There may be a delay in the payment of guaranteed funds in the event of insolvency. Thus a depositor will have to bear a cost in terms of lack of access to funds. Aware that they must bear these costs, rational depositors will have the incentive to find out as much as possible about the riskiness of the bank's portfolio and the quality of the bank's management. But as Merton noted, this is highly unlikely to occur. Lacking the skills of an investment analyst depositors are more likely to diversify their liquid balances across a number of banks. Importantly, national banking systems with comprehensive guarantee schemes are restricted in their ability to compete against systems with limited coverage. Under the Directive, they are restricted in their ability to advertise any differences. Information must be made available on request, but again this puts the burden of information gathering on the depositor. Given these restrictions, there exists the incentive for national consumer associations to collaborate in monitoring how each EU member state implements the Directive.

Given the uncertainty that inevitably characterises the financial system, especially that arising from the fact that depositors know that they possess less information than bank management, the failure of one bank can generate contagion effects throughout the system. Depositors may extrapolate from the performance of one bank and seek to withdraw funds from perfectly safe institutions. In other words a run could develop. A bank that fails to meet its obligations generates an external diseconomy into the entire banking system by reducing public confidence in the system as a whole. The key factors are quality and uncertainty. Failure of one bank leads to uncertainty as to the quality of other banks. The situation is analogous to Akerlof's (1970) famous analysis of the second-hand car market. In a world of asymmetric information, the price of "lemons" (i.e. poor quality cars) determines the average market value for all cars. Similarly, depositor perceptions of the widely publicised problems of weak banks will influence their valuation of all banks. That is, the strongest banks will be undervalued. Hence they may be as prone to runs as are the truly weak banks. (For a more extensive discussion of these issues, see McKenzie and Khalidi (1994)).

The Deposit Guarantee Directive, as interpreted above, would appear to provide the incentives for runs and contagion effects. If the "too big to fail principle" is superimposed upon the Directive,

then it will primarily be relevant to small financial institutions. But if this is the case, then it would appear to place these institutions at a competitive disadvantage. Their liabilities will only be guaranteed partially, whereas the liabilities of the "big" institutions will implicitly have full coverage. Competitive distortions are introduced. In contrast, the integrated deposit insurance system in the United States is risk based and fairly priced providing the incentive for banks to adopt prudential practices hence neutralising the moral hazard problem.

6. The Impact of Conglomerates

Three types of benefits arise from conglomeration, two relating to the financial institution, the third to the customer. Within the conglomerate it may be possible to take advantage of economies of scope arising through the creation of joint products (e.g. mortgages and home related insurance) and through the marketing of diversified financial services, the basis of universal banking. Greater competition and efficiency are facilitated. However, there are also greater economies of scope to be had in risk management practices which otherwise would be duplicated by separate institutions. On the customer side, individuals and firms benefit through being able to purchase several financial services from a single institution. With the expansion of electronic banking and trading, such economies of scope will be further enhanced.

The greater competition engendered by changes in US and European legislation has led to greater concentration in the provision of financial services. This in turn has led to a rethink of the traditional model as outlined in Table 1 and discussed in section 2 of this paper. Under the auspices of the Bank for International Settlements, a Joint Forum (initially called the Tripartite Group) was formed in 1993. This group consists of the Basel Committee on Banking Supervision, the International Organisation of Securities Commissioners (IOSCO) and the International Association of Insurance Supervisors (IAIS). It is seeking to set-up guidelines and processes governing the structure, conduct and performance of these three sectors. Whereas in the late 1980s and early 1990s the concern was with achieving financial safety within the traditional regulatory segmented structure, the environment has changed dramatically. The increased competition is no longer within borders but cross-border. Importantly, the competition is now between the three sectors which traditionally had been segmented.

Dale and Wolfe (1998) consider five alternative structures which could be used as a basis for the supervision and regulation of this increasingly integrated financial environment:

- a. Functional Regulation
- b. Institutional Regulation
- c. Separation of institutions according to systemic and non-systemic risk exposure
- d. Regulation by Objective
- e. Wholesale versus Retail

A *Functional Regulation Regime* consists of specialist regulators who focus on the type of business undertaken irrespective of which institutions are involved in that business. Thus, individual institutions may be subject to a number of regulatory agencies which would most likely result in problems for consolidated supervision. These problems may arise due to a mismatch between regulators' disaggregated approach to risk assessment and individual institutions' centralised risk management systems.

In the US a more effective form of functional regulation has been adopted. The Financial Services Modernization Act (1999) repealed key provisions of the Glass-Steagall Act resulting in the following new US regulatory regime:

1. The Federal reserve provides umbrella supervision of consolidated groups;
2. Primary bank regulators regulate banks, and;
3. Specialized regulators provide financial regulation of affiliated non bank entities.

This form of functional regulation is characterised by financial services holding companies which conduct their business through specialised operating subsidiaries separated by "firewalls".

Under an *Institutional Regulation Regime* regulation is directed at financial institutions irrespective of the mix of business they undertake. In the context of a single mega-regulator all regulation is institutional. The diversified activities of each institution/group fall within the regulatory remit of a single agency which is also responsible for consolidated supervision. In the context of a regime of multiple regulatory agencies specialised by function, 'pure' institutional regulation becomes impossible as institutions are no longer synonymous with functions. However, an element of institutional regulation may be introduced through the appointment of a 'lead regulator' for diversified groups.

Division of Systemic and Non-systemic Institutions. This involves dividing up the regulation

between institutions which give rise to systemic risk and those which do not. In theory this sounds straightforward, however, in practice due to the increasing blurring of the risk characteristics of banks and non-banks this type of regulatory divide is problematic. Given the complexity and fluidity of the present market environment it is impractical to identify systemic risk with some specified subset of financial institutions. Furthermore, the inter-connectivity between both institutions and markets means that a systemic threat may originate almost anywhere and be transmitted through a variety of institutional channels. Finally, the failure of even small institutions can, in some circumstances, have systemic consequences. Thus, any regulatory approach that seeks to differentiate between banks or non-banks in terms of size is also likely to be problematic.

Regulation may be divided up according to the *Regulatory Objective*. Where the division of regulatory objectives include: systemic risk, consumer protection, moral hazard, market integrity and conduct of business. There are potentially important economies of scope to be gained from combining the prudential regulatory function (systemic risk, consumer protection and moral hazard) under one regulatory agency. For example the ‘twin peaks’ approach advocated by Taylor (1995) which would divide regulatory responsibilities between a single prudential regulator (Financial Stability Commission) and a single conduct of business regulator (Consumer Protection Commission). The rationale for combining the prudential function is the following:

1. There has been a convergence both of prudential regulatory objectives as applied to banks, investment firms, insurance companies etc. (in that systemic risk and moral hazard have become a feature of financial activities other than banking) as well as convergence of prudential regulatory techniques (reflecting the new supervisory emphasis on value at risk models and internal management controls for all types of financial business).
2. A single prudential regulator embracing all financial business is consistent with centralised risk management practised by diversified firms and the matching principle of consolidated supervision.
3. Regulatory neutrality could be ensured through a single prudential regulator applying consistent rules across institutions and activities.

There would have to be specialist divisions within a single prudential regulatory agency (see, for instance, the UK mega regulator’s ‘functional’ divisions in Appendix E). These specialist divisions might involve internal transaction costs equivalent to those incurred by separate agencies. However,

under the single prudential regulator model the regulatory function and the group managerial function are much more closely aligned (the scope of these two functions is precisely matched, even though the regulatory and managerial objectives may diverge).

Australia has adopted a regulatory structure that closely resembles the Twin Peaks model described above (this change resulted following publication of the findings of the Wallis Committee of Inquiry (1997)). However, the Reserve Bank of Australia retains responsibility for systemic stability and is specifically responsible for safeguarding the payments system. In the UK following the establishment of a single mega regulator (FSA) the Bank of England retains responsibility for systemic stability. In this type model the supervisory interface between the central bank and the prudential regulatory authority assumes great importance.

Division between Wholesale and Retail Institutions. The final way that regulation may be divided is between wholesale and retail financial activities. The rationale for this possible divide rests on the premise that retail users of financial services are in greater need of regulatory protection. The emphasis relates more to the intensity of regulation than to differences in regulatory technique. Thus, there would appear to be efficiency gains in combining wholesale and retail business under one regulatory authority.

The precursor to the Joint Forum, the Tripartite Group, examined a number of alternative structures which could be suitable for an *Integrated* financial environment (1993):

1) Block Capital Adequacy.

This approach envisages the classification and aggregation of assets and liabilities according to the type of risk involved rather than to the institution to which they pertain. Harmonised capital standards would then be adopted for each class and then applied to the conglomerate's balance sheet. However, the Tripartite Group felt that such an approach was not practical.

2) The Building Block Approach.

The "building block" approach involves comparing the fully consolidated capital of the financial conglomerate with the sum of the regulatory capital requirements for each group member. The regulatory capital requirements are based on those required by each group member's supervisor. The "building block" prudential approach takes as its starting point and basis the fully consolidated accounts of the financial conglomerate as a single economic unit. By definition, all intra-group on- and off-balance sheet accounts or exposures have been eliminated. For prudential purposes, the

consolidated balance sheet and off-balance sheet commitments are split into four different blocks (or sectors) according to the supervisory regime of the individual firms involved: banks, insurance companies, securities firms, and unregulated firms. Then, the regulatory capital requirements for each regulated entity or sector are calculated (these requirements could be different from those applicable on a solo basis because of the elimination of intra-group exposures). Each member's capital level is compared to its individual capital requirement to identify any capital deficits. Those deficits should be evaluated in terms of the availability of freely transferable capital of other sectors as defined in the statement of principles. Finally, the regulatory capital requirements of each regulated entity and the proxy for the unregulated entity are added together and the total is compared with the aggregate amount of capital across the group. Such an approach can be complemented by a review of the distribution of risks and capital within the economic unit, that is, whether the apparent risks within the unit are covered by an adequate type and quantity of capital.

For financial conglomerates with a regulated parent company whose activities dominate the group (i.e. banking, securities or insurance), a variation of the building block approach, which provides the same result, may be more suitable. The modified building block approach deducts from the regulatory capital of the parent company the capital requirement for its regulated dependants in other financial sectors and the notional proxy of any unregulated dependants carrying out similar business. The resulting adjusted capital amount is then compared with the capital requirement for the parent's own activities, including any capital required for the activities of any of its dependants in the same financial sector.

3) Risk Based Aggregation

The risk-based aggregation approach seeks to deal with situations in which either fully consolidated financial statements are unavailable or intra-group exposures may not readily be netted out. This methodology is also helpful for situations in which the calculation of regulatory capital is more easily derived from unconsolidated statements and where the elimination of intra-group exposures may not be appropriate. Risk-based aggregation involves summing the solo capital requirements of the regulated group and capital norms or notional capital amounts of unregulated companies and comparing the result with group capital. As a simple example, in a group comprising a parent bank with insurance and securities dependants, the capital requirements of the parent bank are summed with the capital requirements of the insurance and securities dependants (as determined by their

respective regulators). Capital adequacy is assessed by comparing the result with the group's regulatory capital.

In calculating group capital (or own funds), adjustments should be made to avoid double counting capital by deducting the amount of funds downstreamed or upstreamed from one entity to another. Therefore, where dependants are held at cost in the accounts of the parent company, the group's capital should be calculated by summing the capital of the parent and its dependants and then deducting from that aggregate capital amount the book value of the parent's participation in the dependants.

An alternative technique for calculating the group's regulatory capital is to identify the externally generated capital of the group. This technique is particularly useful in the following situations: when dependants are not held at cost; when it is difficult to determine the amount of capital downstreamed from the parent; or when other intercompany transactions add complexity. The externally generated capital of the group is found by adding the externally generated regulatory capital of the parent to that of its dependants. Externally generated capital refers to regulatory capital not obtained elsewhere in the group including equity supplied by minorities, qualifying third party debt finance, retained profits arising from transactions with third parties, or other qualifying capital that is not reflected in the parent's own capital.

For externally generated capital to "belong" to the group it should be, in principle, payable to the group on the winding up or sale of the dependant. However, it may be judged that funds equivalent to such capital could readily be transferred to other parts of the group notwithstanding any restrictions that might apply on the winding up or sale of the dependant.

A more prudent form of risk-based aggregation involves aggregating the greater of either the regulatory capital requirement/notional capital proxy or the investment of the group in each dependant. The aggregate figure of the dependants is then added to the regulatory capital requirement of the parent company itself to produce the overall group capital requirement. This requirement is then compared with the externally generated capital of the group (as described above).

4) Risk-Based Deduction Method

The risk-based deduction method is very similar to the risk-based aggregation method but focuses on the amount and transferability of capital available to the parent or elsewhere in the group. Essentially, this approach takes the balance sheet of each company within the group and looks through to the net

assets of each related company, making use of unconsolidated regulatory data.

Under this method, the book value of each participation in a dependant company is replaced in the participating company's balance sheet by the difference between the relevant share of the dependant's capital surplus or deficit. Any holdings of the dependant company in other group companies are also treated in a similar manner. However, any reciprocal interest, whether direct or indirect, of a dependant company in a participating company is assumed to have zero value and is therefore to be eliminated from the calculation.

Since the method focuses on the amount of surplus that is available for transfer to cover risks situated in other parts of the group, this approach is predicated on the use of pro-rata consolidation of non-wholly-owned dependants. At the discretion of supervisors, further scrutiny of surplus transferability may be achieved by adjusting these surpluses to exclude any capital not attributable to the parent due to withholding or other tax payable on the transfer of resources and reserves or other items that would not be transferable as capital among group members.

5) Fallback Treatment for Double Gearing

Each of the three techniques for evaluating group-wide capital adequacy of the financial conglomerate explicitly take into account adverse effects of double gearing by examining capital adequacy of the parent and each of its dependants on a solo and group-wide basis. For supervisors that wish to quickly evaluate the extent to which double gearing may have compromised the capital adequacy of the parent company, there is a simple methodology that may be employed, referred to as the total deduction method.

The total deduction method is based on the full deduction of the book value of all investments made by the parent in dependants. Some supervisors may also wish to deduct any capital shortfalls in those dependants (as indicated by the capital standards of their solo supervisors) from the parent's own capital. In other words, under this technique the supervisor attributes a zero value, or in some cases a negative value, to the parent's investments. The parent's adjusted capital level is then compared with the parent's solo regulatory capital requirement, assuming that the parent is a regulated entity.

The total deduction method implicitly assumes that no regulatory capital surpluses within dependants of the group would be available to support the parent's capital or debt service and that there is no regulatory capital deficit. Again, this procedure is designed to evaluate the extent that

double gearing might impair the capital adequacy of the parent organisation and is not designed to evaluate the group-wide capital adequacy of the financial conglomerate.

7. Operational Risk Management

Such risks can arise in a variety of ways including information system management, effective information technology support and the effective use by staff of the software and hardware that is provided. This provision should provide data on the quality and quantity of products on offer, the balance sheet and income and expenditures. It will facilitate a decision making process running from boards of directors down to line management (e.g. loan officers, insurance salesmen). Although not adjudged to be as serious as credit risk, operational risks can lead to a loss of public confidence in the financial sector such as occurred following the collapse of Barings, BCCI and the failure of Orange County in California. Indeed, credit risk management and operational risk management are interrelated. Good practice requires that all bank employees understand the written policies and procedures relating to identifying, measuring, monitoring and controlling credit risk. If they are not sufficiently well trained then operational failures will occur. Operational risk is therefore associated with the effective governance of a financial institution. Procedures for effective governance have been outlined by the BIS (1999d).

Unlike market and credit risks, *operational risk* is more difficult to characterise. Whereas market and credit risks can be assessed quantitatively from market data and published credit ratings, such historical information about the incidence of operational risks is not widely available. Basically, this risk is associated with the possible failure(s) of internal controls, corporate governance, and information technology. It is sensible to make the distinction between operational risks that arise during the execution of management and business functions of the financial institution and those that arise from a failure of the basic infrastructure which prevent core business from being undertaken. Both arise from human error. For example, there might be a failure to execute accepted practice to the required standard through oversight. There is also the risk of fraud which has not been identified through the failure of audit and monitoring procedures. Although the trading activities of Nick Leeson were fraudulent, it was an operational error arising through inadequate monitoring procedures that allowed him to continue for a sufficiently long period. It were these inadequate controls that led to

the ultimate failure of Barings. Operational risk can also arise through technical error - that is, failure of electricity, communication lines and information systems within the financial institution. These technical risks may also be due to human error.

Ernst Patrakis (1998), First Vice President of the Federal Reserve Bank has identified three possible consequences of an operational problem within a financial institution: it could “(1) be limited to the firm experiencing the problem, (2) spread to other participants in the payment network, or (3) endanger the operation of an entire payment system”. Patrakis offered two case studies to illustrate the potential systemic problems that could arise. In the first, a bank’s operational problem resulted in a situation where it could receive incoming payments but not make outgoing payments. This bank absorbed a large proportion of the liquidity in the system in contrast to other banks who suffered liquidity problems without any operational problems of their own. As a consequence, the latter required overdrafts. Such liquidity problems need not be confined to banks but could affect other financial institutions which expected to receive transfers from the problem bank. In the second case, a bank suffered an operational problem that did not allow it to send securities against payment but permitted it to receive securities. This resulted in the largest discount window operation by the Federal Reserve Bank of New York.

These two examples highlight an important similarity between operational risk and market and credit risks. All have the potential either indirectly or directly to generate contagion effects thereby undermining the entire financial sector. If an institution fails because of an inability to execute its business, then in the absence of complete information, customers may perceive that these problems are widespread through the industry. Funds will be withdrawn and business contracts for businesses that are strong simply because customers are unable to distinguish them from the weaker institutions. A more direct route for the creation of contagion is illustrated in Patrakis’ example above. What is an operational problem for one institution becomes a liquidity problem for another.

Because the potential for contagion arising from operational failures is as great as that arising from losses on the trading or banking books, the Basle Committee has started the process of articulating standards which financial institutions should adopt. In a 1998 report *Operational Risk Management* they interviewed 30 banks with a view to determining current practice. They noted (p.4):

Major operational risk losses were seen to have low probabilities, but an impact that could be very large, and perhaps exceed those of market or credit risks.Measuring operational risk

requires both estimating the probability of an operational loss event and the potential size of the loss. Most approaches described in the interviews rely to some extent on risk factors that provide some indication of the likelihood of an operational loss event occurring. The risk factors are generally quantitative but may be qualitative and subjective assessments translated into grades (such as an audit assessment). The set of factors often used includes variables that measure risk in each business unit, for instance grades from qualitative assessments such as internal audit ratings, generic operational data such as volume, turnover and complexity, and data on quality of operations such as error rate or measures of business riskiness such as revenue volatility. Banks incorporating risk factors into their measurement approach can use them to identify businesses with higher operational risk.

The Basle Committee also noted that most banks expect that operational risk arises from weaknesses in their internal control systems or from lack of compliance with control procedures. Appropriate practice is discussed in the Committee's 1998 paper *Framework for Internal Control Systems in Banking Organisations*.

8. The Interface between Regulation and Monetary Policy

A major concern of supervisory and regulatory authorities is the possibility that systemic risk could undermine the stability of the financial system. In a 1999 report the Bank for International Settlements argued that an important source of such systematic risk in emerging economies was the country's monetary authority. The question then arises: should a unified supervisory and regulatory framework be integrated with macro-economic policy formulation, especially monetary policy? Such integration continues in the United States since the Federal Reserve System not only implements monetary policy but is one of the four main supervisory frameworks. In contrast, with the creation of the Financial Services Authority in the United Kingdom all responsibility for supervision was removed from the Bank of England at the same time that their powers to implement monetary policy were increased.

In this section of the paper we will examine two issues relating to the interface between macro-economic policy formulation and financial market supervision. The first concerns the potential shocks that poorly designed monetary policy can have on the business and finance sectors given the

existence of limited liability. The second concerns the need for liquid, default free assets to facilitate the smooth functioning of financial markets.

Monetary Policy. Monetary policy affects the availability of credit, liquidity and loanable funds. If the monetary authority is concerned, say, that inflation is exceeding some pre-set target then policies may be followed to increase interest rates and constrain the availability of credit and liquidity. This will have a double impact on the business sector. Borrowing costs increase thereby leading to a reduction in profits. At the same time aggregate demand will be decreasing leading to a reduction in sales. The probability of widespread bankruptcy increases. This in turn leads to an increase in non-performing loans and loan defaults. The banking sector itself becomes vulnerable unless there has been a pro-active provisioning policy in place during periods of strong economic activity. Available evidence suggests that this is not the case. For example, research by Beattie, et al (1995) suggests that banks only increase provisioning during periods when loan losses increase. If a bank seeks to increase its capital to support the provisioning it will be doing so at a time when financial markets are most pessimistic. Conversely, provisioning is reduced during periods when the economy is strong. Credit rating agencies pro-actively downgrade companies during recessions. This further increases the lending rates that borrowers must pay. This behaviour by banks and the credit rating agencies has result of amplifying any down-turn or upswing in business activity. As a result the fragility of the financial system is increased. There is evidence of this behaviour occurring during the credit crunch of the late 1980s (Cantor, 1993).

Another major example of the importance of the interface between monetary and supervisory responsibilities occurred during the late 1970s and well into the 1980s. This scenario is discussed in detail in McKenzie and Thomas (1992) and will only be outlined briefly here. In 1979 both the US Federal Reserve System and the Bank of England introduced a major change in the way that monetary policy was implemented. Instead of targeting interest rates, these two central banks would target monetary aggregates such as the money supply. The theory behind this change was that it was very difficult to identify what a high or low interest rate was in the presence of inflationary expectations. A historically high level of interests rates might actually be very low given expectations about the rate of inflation. Consequently it was felt that targeting the availability of money and credit would provide for greater stability in price and employment levels. Interest rates would adjust to market conditions.

The almost immediate impact of this shift in policy was an increase in the level of interest

rates. Importantly, in addition, there was also an increase in the volatility of interest rates, in particular, and financial asset prices, in general. This sequence of events had two major implications for financial market regulators and supervisors. First, it occurred at a time when anti-inflationary policies were being followed. This had an immediate impact on the agricultural sector of the United States and led to hundreds of financial institution failures. In the United Kingdom, it led to a situation of negative equity for home owners. House prices declined to the point where they were less than the face value of the mortgage. This led to personal bankruptcies, evictions and an inefficient functioning of the housing market. Second, it had a major impact on the ability of emerging economies to service their debts in the face of higher interest rates and reduced export demand. This in turn called into question the viability of larger financial institutions. The Federal Reserve System had indicated that it was following a policy of the “survival of the fittest” in that it would not provide lender-of-last resort facilities to failing banks. This policy was found to be unworkable as evidenced from the underwriting provided to Continental Illinois Bank in 1984.

The direction of causality is not one way, however. As Chair of the Federal Reserve System, Alan Greenspan has indicated (1993), supervisory and regulatory policy can have an impact on the effectiveness of monetary policy. Not only have interest rate margins widened in the United States, but there have been more stringent non-price terms: reduced sizes of credit lines, increased commitment fees, more stringent collateral requirements and increased use of loan covenants. In addition, following the adoption of the Basle Accord in 1988, Federal Reserve Board research has revealed that pressure on banks to improve their capital base has played an important role in constraining the growth of bank loans. In addition, US bank examiners are now requiring greater documentation and collateral on loans. This increases the cost of processing these loans, a factor which could be damaging to small borrowers. So great was the concern about this problem that the US regulatory agencies announced in 1993 the Additional Availability Initiatives programme designed to encourage lending to small businesses (FDIC (1993)). Initially, US policy was designed to improve the quality of bank balance sheets. However, it was recognised that stringent regulatory requirements had serious macro-economic implications.

These issues played an important role in 1994 discussions in the United States concerning the role of the Federal Reserve System in managing both the macro-economy and prudential supervision of financial institutions. At that time there were proposals for a single regulatory commission

independent of the Federal Reserve System. Greenspan (1994) argued that separation of monetary and regulatory responsibilities could severely limit economic growth and increase instability in the economy:

On the one hand, regulators are concerned about bank failures and their effects on the economy, as well as their cost to the insurance fund. On the other hand, banks need to take risks to finance growth. Trade-offs are required, and a swing in either direction can create both short- and long-term problems. In other words, the regulators are themselves recognising the uncertainty facing financial markets and the subjective nature of banking supervision and regulation.

A similar view has been taken by the Governor of the Bank of England, Eddie George (1994):

Monetary and financial stability are inter-related. It is inconceivable that the monetary authorities could quietly pursue their stability-oriented monetary policy objectives if the financial system through which policy is carried on - and which provides the link with the real economy - were collapsing around their ears....Equally though, the financial system is much less likely to be collapsing around the ears of the monetary authorities in an environment of macro-economic stability than in one of exaggerated boom and bust and volatile asset values.

The implications of this analysis are that there needs to be a formal framework linking a unified financial regulatory structure and the central bank or other authority responsible for the implementation of monetary policy. This framework should have the following attributes:

1. There should be a Value-at-Risk assessment of the increase in non-performing assets likely to be the result of a restrictive monetary policy. This should be disaggregated by major business sector. The impact on the banking sector would then be identified.
2. Loan-loss provisioning policies of financial institutions should be monitored to encourage the building up of capital and provisions during periods of economic strength. These precautionary balances could then be drawn down during periods of restrictive monetary policy.
3. Risk-assessment, monitoring and audit cost structures should be monitored such that they do not

discourage lending to small and medium sized enterprises thereby leading to a down-turn in economic activity and economic growth.

Liquidity Provision. As part of their risk management strategies both financial institutions and companies will hold assets which are liquid and are easily accessible should there be an unexpected but temporary shortfall between receipts and expenditure. The pattern of receipts and expenditure will determine not only the level of precautionary balances held but the proportion between sight deposits and cash on the one hand and default-free interest bearing assets on the other. With respect to banks and investment firms, liquidity is important when depositors and investors seek to sell securities. If there are not sufficient funds on hand, then the continued existence of the bank or investment firm is called into existence. We have already noted, in Section 5 of this paper, that the trigger for implementation of the European Union Deposit Guarantee Directive is lack of liquidity not lack of insolvency.

Contemporary Monetarist Economic Theory suggests that public sector expenditure and debt crowds out private investment. While this proposition is most likely to hold when an economy is operating at full capacity, it is not likely to hold when there is substantial unemployment and underutilisation of capacity. This is the core of the debate between monetarists and Keynesians. However, there is another, neglected issue involved: the existence of public sector debt provides the basis for a smoothly functioning financial system.

Here the experiences of the United States, the United Kingdom and to a lesser extent Germany provide important evidence. In both the United States and the United Kingdom there have been declining government deficits and in some cases surpluses. This has meant that the availability of liquidity in the form of default-free government has declined as a ratio of national income. In the United Kingdom this problem has been recognised for fifteen years and identified within the Bank of England *Quarterly Bulletin* on several occasions. The importance of government debt as a vehicle for open-market operations is also crucial. Following the Second World War Germany had to resort to various quantitative restrictions and tax schemes in order to carry out a monetary policy as there was no government debt in existence. These tools do not provide for a smooth, continuous fine-tuned monetary policy and are likely to create variations in key interest rates unless they are also controlled. These considerations lead to the following proposition:

4. A smooth functioning financial sector requires the existence of default-free assets. This is the basis

of an infrastructure in which coherent and unified monetary and supervisory policies can be implemented. This does not mean that a unified approach requires a unified institutional structure overseeing both monetary policy and prudential supervision. As Padoa-Schioppa (1999) noted only in Italy and the Netherlands among the twelve countries on the BIS Committee on Banking Supervision does the central bank have both. In the United States, the Federal Reserve is only one of four regulatory bodies. The European Central Bank has formally separated the two functions. In an FSA Occasional Paper, the FSA Policy Director Clive Briault (1999) has noted potential reasons why the two functions might be separated:

- A. If a central bank was heavily concerned about the financial health of financial institutions, this could lead to an inflationary bias through the provision of liquidity;
- B. There could be loss of credibility about the efficacy of monetary policy if its supervisory activities are seen to fail
- C. The integration of the two functions could lead to political pressure that undermines independence of monetary and prudential supervision.

These issues, of course, would also be relevant if the two functions were kept separate but coordinated through a collaborative structure as is the case in the United States. There a complex system of checks and balances ensures independence while at the same time recognising the need for coordination.

9. Postscript: The special case of New Zealand

In stark contrast to the global trend towards restructuring regulatory authorities that shift the responsibility for bank supervision to new regulators with broader responsibilities (e.g. the UK and Australia) is the special case of New Zealand's regulatory structure. They have adopted a structure which relies almost entirely on market discipline. However, in fact all but one of the registered banks are foreign owned and these will have satisfied international banking standards. Although the New Zealand system would not be suited to the Russian Federation it is often referred to as a model.

New Zealand has a universal banking system (as does Germany) and the financial system is structured to promote open and neutral competition among the different participants in the system. There are three classifications of banks in New Zealand: multipurpose, wholesale and mainly retail.

In 1997 there was 19 registered banks and of these 4 are multipurpose (providing a full range of financial services), 11 banks operate primarily at the wholesale level focussing on particular niches (e.g. asset backed financing, fund management etc.) The remaining 4 banks specialise mainly in providing services to the domestic retail sector (e.g. mortgages). All bar one of the 19 registered banks are foreign owned and the one domestically owned bank is a mainly retail bank. In 1997 registered banks accounted for 94% of deposit taking business and controlled 73% of the total assets of the financial system.

Structure of the Supervisory System

The Reserve Bank of New Zealand (RBNZ) is the sole bank supervisor in New Zealand (see **Table**). The RBNZ does not have supervisory responsibility for managed funds, insurance, or securities activities as such. Supervision of banks is conducted primarily in respect of the consolidated operations of the banking group. Generally the consolidated operations includes the business of related financial services. The Reserve Bank of New Zealand Act 1989 confers powers on the RBNZ to register banks and to undertake prudential supervision of registered banks.

The objectives of prudential supervision of registered banks are:

- (i) to promote the maintenance of a sound and efficient financial system;
- (ii) systemic stability;
- (iii) conduct of business (the primary means of encouraging banks to conduct their affairs prudently is the use of market forces and strong internal governance incentives rather than detailed supervisory rules and intensive monitoring by supervisors);

In addition the RBNZ Act 1989 (updated in 1995 and 1996) outlines that the approach to be taken to these objectives is to:

- (a) Avoid imposing excessive administrative burdens or unnecessarily constrain banks from pursuing commercial objectives;
- (b) Minimise the perception that the Government underwrites the prudential soundness of individual banks. In the event of a bank failure, the RBNZ has statutory powers to limit systemic instability (lender of last resort facility). However, the RBNZ's responsibility is not to provide a 'safety net' for insolvent institutions, nor to provide deposit protection (New Zealand has no deposit insurance scheme). The aim is not to protect individual banks or depositors but to ensure the orderly resolution

of significant bank problems, which may include facilitating the orderly exit of a troubled bank, and;

(c) Administer the public disclosure regime. This regime requires all banks to publish quarterly disclosure statements on a wide range of financial and prudential information. The aim of this disclosure requirement regime is to strengthen market disciplines and to ensure that responsibility for the prudent management of banks lies with the directors and management.

This legislation does not explicitly provide for the Basle Committee on Banking Supervision “Minimum Standards” to be met. However, the RBNZ would normally only register banks whose home supervisor applied the Basle Minimum Standards. Moreover, as a condition of registration, banks incorporated in New Zealand must maintain at all times a minimum capital ratio and tier one capital of 8% and 4% respectively (measured using the Basle Capital Accord).

The BIS “core principles” for effective banking supervision may pose problems for New Zealand. The BIS approach is to set minimum standards for bank supervision that should be aimed for by all countries. New Zealand is out of step with these core principles on two counts. First, there is no deposit insurance scheme. Second, reliance on market forces and strong internal governance incentives in contrast to detailed supervisory rules and on occasions intensive monitoring by supervisors of the business of banks and their compliance with rules.

With respect to the new BIS proposed reform to the Capital Accord, this may also pose problems for the New Zealand approach. Three pillars (the setting of minimum capital requirements, the supervisory validation of the measurement of capital adequacy, and market discipline) underpin this new proposal. The first two pillars may actually serve to prevent market discipline from flourishing in New Zealand if they were to be adopted.

Supervision of non-bank financial business

The New Zealand Securities Commission (NZSC) has responsibility for the administration of the Securities Act 1978. The NZSC has an oversight role in respect of the securities markets taking the form of the administration of disclosure and advertising requirements for public issuers, and the oversight of securities exchanges (such as the New Zealand Futures and Options Exchange).

The Government Actuary is the authority with jurisdiction over registered superannuation schemes. The Government Actuary monitors superannuation (pension) schemes to ascertain whether the financial position, security of benefits, and the management of schemes is adequate. The Actuary registers schemes, investigates complaints, and monitors schemes to ascertain whether they are

operating in accordance with the Superannuation Act 1989.

The New Zealand Ministry of Commerce (NZMoC) is the authority with jurisdiction over the insurance industry. Financial disclosure requirements for life offices is specified in the Life Insurance Act 1908. Annual audited returns are required to be forwarded to the NZMoC.

Banking groups can encompass subsidiaries which provide insurance, funds management, or nominee securities services, but in those cases normally only the assets and liabilities relating to the management of those services will be consolidated. The assets and liabilities of the funds they manage would normally be excluded from the banking group, provided that, in the case of funds management activities, there is adequate separation between those activities and the banking group itself.

In section 1 of this paper we highlighted three criteria against which alternative regulatory structures can be assessed: (a) economies of scope, (b) regulatory parity, and (c) prudential logic. Economies of scope are not enjoyed by the supervisory and regulatory structure although it is evident that good communications exist amongst New Zealand's regulators. There is a problem of overlapping information gathering and assessment activities. However, this is counterbalanced by the fact that less of these activities (vis a vis other countries) are conducted in the first place. To a large extent this is because of the emphasis placed on market forces and internal governance incentives rather than a reliance on detailed supervisory rules and intensive monitoring by supervisors of the business of banks and their compliance with the rules.

Lack of regulatory parity across the three sectors will tend to result in disintermediation as institutions move from one sector to another in search of the most liberal regulatory environment. Prudential logic refers to the importance of aligning the remit of the regulator with the risk management function of the regulated organisation. Consequently, the regulatory structure should reflect the increasingly conglomerate nature of the financial services industry. Whereas, New Zealand does not dismiss this argument it believes that its current structure with low administrative costs and focus on market discipline is an appropriate one. New Zealand's regulatory structure places the central bank in a position to maintain a close understanding of developments in the banking sector so that in the event of any problems they are well placed to deal with them.

10. KEY RECOMMENDATIONS

The elimination of competitive barriers globally has led to increased cross-sector and cross-border competition over the past fifteen years. It has in turn led to increased interdependence between banks, investment firms and insurance companies either indirectly through asset/liability exposures or directly through conglomeration. As we have argued in this paper contagion throughout the financial system is a real possibility unless there exist comprehensive preventive and protective procedures. In light of this we recommend that the Russian Federation adopt the following measures:

- create a unified supervisory and regulatory authority covering banks, investment firms and insurance companies. *FSA Rules and Regulation* should be consulted.
- the unified authority would require all institutions to publish their exposures and the methods by which these exposures were calculated.
- all financial institutions will report to the authority their asset and liability positions vis-a-vis other financial institutions.
- the unified authority will audit all reporting mechanisms and assess the extent of operational risk exposure of financial institutions.
- the unified authority will establish risk-related protective schemes such as deposit insurance. Such protection should be fairly priced and reflect the quality of bank assets and capital assets.
- there should be a formal co-ordinating body which integrates financial sector supervision and regulation with the implementation of monetary policy.
- programmes should be established to train bank officials and regulators about issues relating to market, credit and operational risks.
- the Russian Federation should consider becoming a share-holder in the Bank for International Settlements. It should seek observer status in the Joint Forum.

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