GROUP OF TEN

CONSOLIDATION IN THE FINANCIAL SECTOR

Summary Report

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1. Introduction

The ongoing consolidation of financial institutions is one of the most notable contemporary features of the financial landscape both within and across many industrial countries. In recognition of this fact, and its potential implications for public policy in a variety of areas, in September 1999 Finance Ministers and central bank Governors of the Group of Ten asked their Deputies to conduct a study of financial consolidation and its potential effects. This Report presents the results of that study.

To conduct the study, a Working Party was established under the auspices of finance ministry and central bank deputies of the Group of Ten.[1] From the beginning, it was recognised that the subject matter was substantial and that there was a need to utilise expertise from a wide range of sources. Thus, the Working Party was organised into six Task Forces, each of which was charged with addressing a key aspect of financial consolidation and its potential effects. These Task Forces addressed the patterns of financial consolidation observed in the 11 G10 nations plus Australia and Spain (the study nations), the causes of consolidation, and the potential effects of consolidation on financial risk, monetary policy, financial institution efficiency, competition and credit flows, and payment and settlement systems.

The Working Party sought to employ a broad definition of financial services, but also to limit the work's scope to manageable proportions. Thus, the definition of the financial services industry used here includes commercial banking, investment banking, insurance and, in some cases, asset management. Most other types of financial activity, such as exchanges and specialty finance, are excluded.

When attempting to understand and interpret this Report's findings and implications, it is critical to keep some general principles in mind. First, a core objective of the study is to identify the potential impacts of consolidation, not to judge whether consolidation in combination with other developments has led to a net change in, say, financial risk or the competitive environment. In practice, isolating such "partial" effects is extremely difficult. Consolidation is only one of several powerful forces causing change in the financial system, and each of these forces affects and is affected by the others. Nevertheless, a systematic attempt to focus on the possible effects of consolidation has, in the Working Party's judgement, significant value added.

Second, it is well known that international comparisons are inherently difficult for many reasons. The current study certainly suffers from this complexity, and the study is organised along national lines in a number of places for precisely this reason.[2] Still, financial consolidation and its close cousin financial globalisation are phenomena that cut across national boundaries in many dimensions. Thus, international comparisons are imperative, and a second core objective of the study is to identify common (but not necessarily identical or equally important) patterns, causes, and implications across the study nations.

Although it was not the Working Party's intention to develop specific policy recommendations, an important objective was to identify key areas in which financial consolidation supports the need for new or continued, and in some cases accelerated, policy development. These areas are

[1] The Working Party was chaired by Roger W Ferguson, Jr, Vice-Chairman of the Board of Governors of the Federal Reserve System. The Working Party comprised finance ministry and central bank staff from Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom and the United States, and representatives from the Bank for International Settlements, the European Central Bank, the European Commission, the International Monetary Fund and the Organisation for Economic Co-operation and Development.

[2] In some cases international comparisons have become easier over time. For example, creation of the euro has facilitated comparisons among the member states.

discussed in some detail in this chapter and in the separate chapters written by the individual Task Forces.

Lastly, as indicated above, the study adopted a broad definition of financial services. However, as a practical matter, the predominant portion of existing research and to a great extent the available data are focused on the banking industry in all the study nations. Thus, the study is more bank-centric than was originally intended. This emphasis may not be too distorting because, as discussed below, most merger and acquisition activity in the financial sector during the 1990s involved banking firms. Nevertheless, one of the conclusions of the study is that in some cases more research and data collection would be helpful for non-bank financial service firms and markets. The remainder of this chapter proceeds as follows. Section 2 presents a brief listing of the study's key findings and policy implications. Little effort is made here to explain the reasoning and evidence behind the findings and implications identified by the Working Party. Section 3 is a more extended discussion of findings and policy implications that also summarises the analysis behind the Working Party's conclusions.

2. Key findings and policy implications

The study's most important findings and their policy implications, organised by topic, may be listed briefly.

Findings

Patterns

(1) There was a high level of merger and acquisition (M&A) activity in the 1990s among financial firms in the 13 countries studied. In addition, the level of activity increased over time, with a noticeable acceleration in consolidation activity in the last three years of the decade. As a result, a significant number of large, and in some cases increasingly complex, financial institutions have been created.

(2) Most mergers and acquisitions involved firms competing in the same segment of the financial services industry and the same country, with domestic mergers involving firms in different segments the second most common type of transaction.

(3) Cross-border M&As were less frequent, especially those involving firms in different industry segments. However, cross-border activity was relatively strong at insurance companies and in joint ventures and strategic alliances outside the United States.

(4) Most M&A activity during the 1990s in the financial sector involved banking firms. Acquisitions of banking firms accounted for 60% of all financial mergers and 70% of the value of those mergers.

(5) The number of joint ventures and strategic alliances increased over the 1990s, with especially large increases in the last two years.

(6) The number of banking firms decreased in almost every country during the decade and the concentration of the banking industry, as measured by the percentage of a country's deposits controlled by the largest banks, tended to increase. If other banking activity, such as off-balance sheet activities, were included in the size measure, the increase in banking concentration would be even greater.

(7) The structure of banking industries continues to differ greatly across countries, ranging from very unconcentrated in a few nations (the United States and Germany) to highly concentrated in about half of the nations in the study (Australia, Belgium, Canada, France, the Netherlands and Sweden).

(8) There are no consistent patterns across countries in changes in the number of insurance firms or concentration in the insurance industry during the 1990s. Also, patterns often differed for life and non-life insurance companies in the same country.

(9) Many specific activities of the securities industry, such as underwriting, are dominated by a small number of leading institutions. It is unclear, however, whether this pattern changed much over the 1990s.

(10) Over-the-counter (OTC) derivatives markets grew dramatically in the 1990s, with notional value quadrupling between 1992 and 1999. Concentration measures in worldwide derivatives markets were at modest levels at the end of the decade.

Causes

(1) According to the practitioners interviewed, the primary motives for financial consolidation are cost savings and revenue enhancements.

(2) The most important forces encouraging consolidation are improvements in information technology, financial deregulation, globalisation of financial and real markets, and increased shareholder pressure for financial performance. With respect to globalisation, the euro has accelerated the speed of financial market integration in Europe and encourages cross-border activity, partly through consolidation.

(3) Important factors discouraging consolidation are diverse domestic regulatory regimes and corporate and national cultural differences.

(4) Consolidation is likely to continue, but the likelihood of specific future scenarios is impossible to assess with confidence. Possible scenarios, none of which are mutually exclusive, include (a) continuation of the current trend towards globally active universal financial service providers; (b) the emergence of more functionally specialised financial firms within a given segment of the financial industry; and (c) continued consolidation, but a more radical form of specialisation through the gradual "deconstruction" of the supply chain via the outsourcing of certain activities (eg internet services) to both financial and non-financial third parties.

Financial risk

(1) The potential effects of financial consolidation on the risk of individual institutions are mixed, the net result is impossible to generalise, and thus a case by case assessment is required. The one area where consolidation seems most likely to reduce firm risk is the potential for (especially geographic) diversification gains. Even here, risk reduction is not assured, as the realisation of potential gains is always dependent upon the actual portfolio held. After consolidation some firms shift towards riskier asset portfolios, and other risks, such as operating risks and managerial complexities, may increase. More broadly, there is no guarantee that cost savings or efficiency gains will be realised.

(2) Systemic financial risk is most likely to be transmitted to the real economy through the wholesale activities of financial institutions and markets, including payment and settlement systems.

(3) In part because the net impact of consolidation on individual firm risk is unclear, the net impact of consolidation on systemic risk is also uncertain. However, it seems likely that if a large and complex banking organisation became impaired, then consolidation and any attendant complexity may have, other things being equal, increased the probability that the "work-out" or "wind-down" of such an organisation would be difficult and could be disorderly. Because such firms are the ones most likely to be associated with systemic risk, this aspect of consolidation has most likely increased the probability that a work-out could have broad implications.

(4) Another critical element in evaluating the potential for consolidation to affect systemic risk is assessing the extent of interdependencies among large and complex financial organisations. A high degree of interdependency would suggest the potential for systemic risks.

(5) Evidence suggests that interdependencies between large and complex banking organisations have increased over the last decade in the United States and Japan, and are beginning to do so in Europe. Although a causal link has not been established, these increases are positively correlated with measures of consolidation. Areas of increased interdependency that are most associated with consolidation include interbank loans, market activities such as OTC derivatives, and payment and settlement systems.

(6) Partly as a result of consolidation, non-bank financial institutions, not just banks, have the potential to be sources of systemic risk.

(7) Consolidation also appears to be increasing the possibility that even a medium-sized foreign bank (or perhaps a non-bank financial institution) from a large nation would be a potential source of instability to a relatively small host country. The possibility of loss of domestic ownership of a small nation's major banks has, other things being equal, also increased.

(8) It appears that consolidation, and especially any resulting increase in firms' complexity, has had an ambiguous effect on the potential for market discipline to control the risk-taking of large and complex financial institutions. On the one hand, increased disclosures have probably improved firm transparency and encouraged market discipline. On the other hand, increased complexity has made assessment of a firm's financial condition more difficult, and firms' increased size has the potential to augment moral hazard problems.

(9) Consolidation may encourage the further development of capital markets, especially in Japan, with potential benefits for financial stability.

Monetary policy

(1) The potential effects of consolidation on the implementation of monetary policy depend on whether consolidation has an impact on the market for central bank balances or the market(s) used by the central bank to adjust the supply of such balances. Consolidation could reduce competition in these markets, increasing the cost of liquidity for some firms and impeding the arbitrage of interest rates between markets. In addition, consolidation could affect the performance of the markets if the resulting large financial firms behave differently from their smaller predecessors.

(2) Virtually all central banks in the study nations suggest that the impact of consolidation on these markets has so far been minimal, and consolidation is not expected to be a significant concern in the foreseeable future, although in some cases it may prompt minor changes in aspects of policy implementation.

(3) Financial consolidation may also alter the channels through which the monetary transmission mechanism links monetary policy actions to the rest of the economy. The "monetary channel" concerns the transmission of interest rates across financial markets by arbitrage along the yield curve and across financial products. The "bank lending channel" operates through the supply of bank loans to borrowers without direct access to financial markets. The "balance sheet channel" operates through the effect of monetary policy on the value of collateral, and thus on the availability of credit to those requiring collateral to obtain funds.

(4) According to central banks and the few empirical studies, there is little evidence that consolidation has significantly affected any of these channels.

(5) Central banks have not identified significant effects of consolidation on the volatility or liquidity of financial markets, nor do they think it has substantially complicated interpretation of movements in indicator variables such as monetary aggregates.

(6) Consolidation has encouraged the development of very large and complex financial firms, and this trend is expected to continue. In the event of financial difficulties at such firms, central banks would need to consider carefully the appropriate provision of emergency liquidity,

as well as whether and for how long the stance of monetary policy should be adjusted in the light of the possible macroeconomic impact of such difficulties.

Efficiency, competition and credit flows

(1) Evidence suggests that only relatively small banks could generally become more efficient from an increase in size. However, changes in technology and market structure might affect scale and scope economies in the future. For deals consummated over the last decade, there is some evidence of efficiency improvement, especially on the revenue side. Mergers and acquisitions typically seem to transfer wealth from the shareholders of the bidder to those of the target.

(2) In the securities industry, research based on US data suggests that economies of scale exist, but mainly among smaller firms. Economies of scope do not appear to be generally important in the securities industry.

(3) As with commercial banks, smaller insurance companies could probably reduce their costs by taking advantage of potential economies of scale. However, the limited evidence available and the rapid changes anticipated in the future make it difficult to assess the potential efficiency gains from insurance consolidations.

(4) Research results and views of industry participants regarding the potential for efficiency gains from consolidation may differ because: (a) participants may not look at cost reductions or revenue enhancements relative to peer group trends; (b) participants may focus on absolute cost savings rather than on measures of efficiency; (c) research results are for the typical merger, while some consolidations do result in efficiency gains; and (d) past consolidations may have suffered from restrictive regulations that may not hold in the future.

(5) The effects of consolidation on competition depend on the demand and supply conditions in the relevant economic markets, including the size of any barriers to entry by new firms.

(6) For retail banking products, evidence on both the demand and supply side suggests that markets for a number of key products are geographically local. Research generally finds that higher concentration in banking markets may lead to less favourable conditions for consumers, especially in markets for small business loans, retail deposits and payment services. Results are, however, weaker for the 1990s than for the previous decade.

(7) Markets for wholesale banking products, investment banking services, money markets and foreign exchange trading, derivatives, and asset management are normally national or international in scope. However, evidence suggests that investment banks may be exerting some degree of market power.

(8) Geographic markets for most insurance activities appear to be national (statewide in the United States). In recent years, the insurance market has generally become more competitive, although the extent of competition seems to vary significantly across products and countries.

(9) It seems clear that barriers to entry have decreased with the deregulation and globalisation of financial markets.

(10) The continued evolution of electronic finance could expand greatly, or even eliminate, existing geographic limits of financial markets and lower entry barriers, thereby altering the potential effects of consolidation. However, the potential benefits of electronic finance should not be exaggerated. For example, electronic finance may also reduce competition because of an increase in customer switching costs.

(11) Statistical studies of the effect of consolidation of banks on small business lending are available for only a couple of countries (Italy and the United States). These studies suggest that banks reduce the percentage of their portfolio invested in small business loans after

consolidation. What is relevant, however, is the effect of consolidation on the total availability of credit to small business and whether it is associated with more accurate pricing of risk. Studies using US data find that other banks and new entrants tend to offset the reduction in the supply of credit to small businesses by the consolidating banks. Similar results hold for Italy, where only a shift away from the worst borrowers is detected.

(12) New technologies, such as credit scoring models, may have somewhat encouraged small business lending, and thus offset to some degree the tendency of larger banks to lend to larger customers. However, the benefits to date seem quite limited. In addition, technology will not necessarily reduce the cost, and may increase the relative cost, of processing the information typically used in relationship lending, thus disadvantaging borrowers who do not, for example, qualify for a sufficiently high credit score.

Payment and settlement systems

(1) Consolidation has led to a greater concentration of payment and settlement flows among fewer parties within the financial sector. Interbank transactions may increasingly become in-house transactions.

(2) Because of the significant economies of scale in electronic payment technologies, the large institutions resulting from consolidation may be better able to invest in new, often costly technologies, and to decrease unit costs by capturing economies of scale.

(3) Emerging global firms that participate in multiple systems are pressuring the operators of payment and settlement systems to enhance their systems, sometimes through consolidation.

(4) A reduction in the number of institutions providing payment and settlement services below a certain level might result in higher prices and lower incentives for innovation. Consolidation among systems, however, may decrease, increase or have no effect on competition from the customer’s point of view. The competitive effects of system consolidation largely depend on the combination of such factors as the governance structure of the surviving system, access criteria, market demand for downstream services, and economies of scale.

(5) The risk implications of the consolidation of payment and settlement systems are complex. On the one hand, consolidation may help to improve the effectiveness of institutions’ credit and liquidity risk controls. On the other hand, consolidation may lead to a significant shift of risk from settlement systems to customer banks and third-party service providers. In addition, it may lead to a greater proportion of on-us large-value payments, which may raise questions about the certainty of final settlement and the systemic implications of the concentration of payments within a few banks. For example, if a major payment processor were to fail or were not able to process payment orders, systemic risks could arise. These developments have also led to some convergence of risk considerations between payment and settlement system overseers and traditional bank safety and soundness authorities.

(6) The emergence of multinational institutions and specialised service providers with involvement in several payment and settlement systems in different countries, as well as the increasing liquidity interdependence of different systems, further serves to accentuate the potential role of payment and settlement systems in the transmission of contagion effects.

(7) At the interbank systems infrastructure level, central banks have made major efforts over the past decades to reduce and contain systemic risk by operating and promoting real-time gross settlement systems, and by insisting on effective risk control measures in net settlement systems. To the extent that these efforts have increased the robustness of interbank systems’ risk controls, they should help to dampen and contain any contagion effects being transmitted through the payment system.

Policy implications

The Working Party has identified a variety of areas that could benefit from continued policy development involving financial risk, monetary policy, competition and credit flows, and payment and settlement systems.

Financial risk

Existing policies and procedures appear adequate to contain individual firm and systemic risks both now and in the intermediate term. However, the current study is quite supportive of continued policy development on the following topics.

(1) Both crisis prevention and crisis management could be improved by additional communication and cooperation among central banks, finance ministries, and the range of other financial supervisors, both domestically and internationally.

(2) Important components of improved crisis prevention and management are effective and efficient policies and operating procedures for acting promptly to deter and resolve a potential crisis. A central element here, particularly in the light of consolidation's contribution to the creation of very large and complex financial organisations, is how to act in ways that minimise moral hazard.

(3) Crisis management and the moral hazard incentives associated with large and complex financial institutions could be eased considerably by augmented contingency planning for working out a troubled large and complex financial institution in an orderly way.

(4) The probabilities of both an individual firm experiencing severe financial difficulties and of a systemic crisis could be lowered by more effective risk-based supervision of financial institutions. A critical component of these efforts should be risk-based capital standards that are tied more closely to economic risk.

(5) Both crisis prevention and crisis management could be enhanced by clearer understanding of how best to deal with non-bank financial institutions, including the treatment of non-bank entities that are part of a financial conglomerate that includes a bank.

(6) Improved market discipline has the potential to decrease the probabilities of individual firm and systemic crises. A number of strategies for improving market discipline seem potentially promising, including augmented disclosures, improved risk management, stronger incentives for risk control by owners and managers, and improved accounting conventions.

(7) Assessment of the likelihood of a systemic crisis, and the understanding of its potential implications, could be improved by the collection and analysis of data that are better targeted on such concerns. The monitoring and evaluation of individual firm data, both traditional (or improved) accounting and market data, in combination with data on firms' interdependencies, financial markets, and domestic and international macroeconomic variables, might yield valuable insights into risks posed by interdependencies and possibly improve early warning systems.

Monetary policy

Although financial sector consolidation appears to have neither impeded the implementation of monetary policy nor altered significantly the transmission mechanism of monetary policy, three areas of policy interest should be highlighted.

(1) Central banks can be reasonably confident when setting monetary policy that frequent reviews of the data allow them to take account of most changes in the relationship between their target interest rates and developments in financial markets and the real economy, even if the reasons for the changes are unclear. However, identifying those reasons may help establish how persistent those changes are likely to be.

(2) It would be prudent for central banks to remain alert to the implications of any reduction in the competitiveness of the key financial markets involved in monetary policy implementation that might be caused by future consolidation.

(3) Similarly, central banks ought to bear in mind that financial consolidation may, over time, change the way in which the bank lending and the balance sheet channels of the monetary policy transmission mechanism work.

Competition and credit flows

(1) Policymakers should carefully examine claims of substantial efficiency gains by financial institutions proposing major consolidations, especially in cases where a merger could raise significant issues of market power.

(2) The impact of consolidation on competition can be assessed only by using empirically supported definitions of the relevant product and geographic markets. Such empirical support should be updated regularly.

(3) The impact of technological changes on competition could be more powerful for households than for small firms, because standardised techniques such as credit scoring models are more suited to households.

(4) To increase competition in an environment that is reducing significantly the number of providers of financial services, consideration could be given to reducing obstacles to the mobility of customers across financial service providers.

(5) To the extent that consolidation may harm small business lending, the problems faced by small firms might be alleviated if alternative sources of finance to traditional bank lending are developed.

(6) Cross-industry competition may benefit consumers by encouraging competition on existing and new products.

(7) Effective antitrust policy implementation needs data on market shares, prices and quantities in key financial services and products. Financial institutions already provide some of the relevant data. However, it would be helpful to enrich the available information, especially at the firm level.

Payment and settlement systems

(1) Because of consolidation, central bank oversight of interbank payment systems is becoming more closely linked with traditional bank safety and soundness supervision at the individual firm level. Increasing cooperation and communication between banking supervisors and payment system overseers may be necessary both domestically and cross-border.

(2) At the current time, it does not appear that consolidation has adversely affected competition in the provision of payment and securities settlement services. It may be advisable, however, for government authorities to continue to monitor competition in the payment system as short-term effects of consolidation may not be indicative of longer-term effects.

(3) In specific cases, public authorities may want to consider removing potential obstacles to consolidation if such action would enable the market to develop initiatives aimed at reducing risks and enhancing efficiency in the field of payment and securities settlement.

(4) With regard to risk management, central banks and bank supervisors should carefully monitor the impact of consolidation on the payment and settlement business, and should define safety standards when appropriate. In particular, central banks, in conjunction with bank supervisors, may need to consider various approaches, possibly including standards, that could be used to limit potential liquidity, credit, and operational risks stemming from concentrated payment flows through a few very large players participating in payment systems. With regard

to major payment systems, the Core Principles for Systemically Important Payment Systems now provide a key set of evaluative standards for the relevant authorities.

3. Extended summary

Patterns

Firms can combine with each other in a number of ways. The most common approaches are mergers and acquisitions (M&As), which combine independent firms under common control, and joint ventures and strategic alliances, which enhance inter-firm cooperation without combining separate entities. Patterns in the number and total value of mergers, acquisitions, joint ventures and strategic alliances among financial institutions are examined during the 1990s in the 13 countries covered by this study. The structures of the banking, insurance and securities industries are then described to illustrate some of the effects of this consolidation, and other factors.

Patterns in transaction activity

Mergers and acquisitions are considered separately from joint ventures and strategic alliances. In some cases, trends in consolidation are similar across all of the study nations. In other cases, there are substantial differences in the experiences of individual countries.[3]

Broad patterns in merger and acquisition activity

(1) There was a high level of M&A activity in the 1990s among financial firms in the 13 countries studied. In addition, the level of activity increased over time, with a noticeable acceleration in consolidation activity in the last three years of the decade. The annual number of deals increased threefold during the 1990s and the total value of deals increased almost tenfold in the 13 reference countries considered as a whole. As a result, a significant number of large, and in some cases increasingly complex, financial institutions have been created.

(2) The average value of M&A transactions increased substantially during the last few years of the 1990s. This increase was widespread across the study nations.

(3) Most M&A activity during the 1990s in the financial sector involved banking firms. Acquisitions of banking firms accounted for 60% of all financial mergers and 70% of the value of those mergers in the study nations.

(4) Most mergers and acquisitions involved firms competing in the same segment of the financial services industry and the same country, with domestic mergers involving firms in different segments of the overall industry the second most common type of transaction.

(5) Cross-border M&As were less frequent, especially those involving firms in different industry segments.

(6) Most domestic mergers involved banking organisations, but cross-border deals were roughly evenly divided between banks and insurance firms.

(7) All types of M&As, whether within one country or cross-border and whether within one industry segment or across segments, increased in frequency and value during the 1990s.

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[3] M&A activity is examined separately using either the target or the acquiring firm as the classifying criterion. Results are most often quite similar using either criterion, and the findings summarised here are, unless noted otherwise, based on results using the target firm. In addition, although the data used are the best available, the classification of transactions within industries and countries can sometimes be problematic and information on the value of transactions is not known in many cases.

(8) Overall, financial firms in the 13 countries studied were net acquirers. That is, in the aggregate, firms in these countries acquired financial firms in the rest of the world more often than firms in the rest of the world acquired firms in the study nations.

Merger and acquisition patterns in individual regions and countries

(9) Using a variety of measures, the United States accounted for about 55% of M&A activity during the 1990s, in part due to its historically large number of relatively small financial firms. However, it is also the case that many very large US banking firms expanded their geographic footprint by acquiring other very large banks, especially in the later part of the decade.

(10) The overall level of M&A activity as a percentage of GDP varied across countries, from relatively high levels in Belgium, Switzerland, the United Kingdom and the United States to relatively low levels in Canada, Germany and Japan.

(11) Trends in the number and size of M&As over time varied across countries. France, the Netherlands and Switzerland showed little growth in the number of deals over the 1990s, while Japan showed a very rapid increase in the number of transactions at the end of the decade. Regarding average value, the end of the decade showed Belgium and Switzerland with particularly large increases.

(12) Financial firms in Japan and the United States tended to focus more on domestic M&As, while other countries, notably Belgium, were more heavily involved in cross-border deals. In large part because of legal restrictions, deals across industry segments were relatively less prevalent in Japan and the United States than in other countries.

(13) In the United States, financial mergers were more heavily concentrated in banking, while Australia, Canada, the Netherlands and the United Kingdom had a greater proportion of M&As in the insurance, securities and other segments of the financial industry.

(14) In Europe, roughly two thirds of M&A activity, as measured by the value of the European firm acquired, occurred during the decade’s last three years.

(15) In Europe, there were a number of relatively large cross-border acquisitions of insurance firms. Many domestic acquisitions of European insurance companies were by firms in other segments of the financial industry.

Joint ventures and strategic alliances

(16) The number of joint ventures and strategic alliances increased over the 1990s, with especially large increases in the last two years.

(17) US firms accounted for nearly half of all joint ventures and strategic alliances, and these were overwhelmingly domestic arrangements.

(18) In the other 12 countries overall, cross-border joint ventures and strategic alliances were more common than domestic deals, a strikingly different result than for M&As.

Patterns in the structure of the financial sector

International comparisons of industry structures are very difficult because of differences in definitions and measurement across countries. Nevertheless, some broad similarities and differences in industry structures can be distinguished.

(1) The importance of the banking and insurance industries, as measured by the ratio of industry assets to GDP, tended to increase during the 1990s in the study nations, especially in Europe.

(2) The number of banking firms in each country tended to decrease during the decade and the concentration of the banking industry, as measured by the percentage of a country’s deposits controlled by the largest banks, tended to increase. If other banking activity, such as

off-balance sheet activities, were included in the size measure, the increase in banking concentration would be even greater.

(3) The structure of banking industries continues to differ greatly across countries, ranging from very unconcentrated in a few nations (the United States and Germany) to highly concentrated in about half of the nations in the study (Australia, Belgium, Canada, France, the Netherlands and Sweden).

(4) The increase in the concentration of the banking industry during the 1990s was relatively great in Belgium, Canada, Italy and the United States and relatively small in Japan and the United Kingdom.

(5) There are no consistent patterns across countries in changes in the number of insurance firms or concentration in the insurance industry during the 1990s. Also, structural patterns often differed for life and non-life insurance companies in the same country.

(6) Many specific activities of the securities industry, such as underwriting, are dominated by a small number of leading institutions. It is unclear, however, whether this pattern changed much over the 1990s.

(7) Over-the-counter derivatives markets grew dramatically in the 1990s, with notional value quadrupling between 1992 and 1999. Concentration measures in worldwide derivatives markets were at modest levels at the end of the decade.

Fundamental causes

The fundamental causes of consolidation are examined using the extensive body of research literature and interviews conducted by Task Force members with 45 selected industry participants and experts from the study nations. Interviewees were asked for their opinions based on a common interview guide.[4]

The analysis distinguishes between motives for consolidation and the environmental factors that influence the form and pace of consolidation. In practice, motives and environmental factors are intertwined, but analysis is facilitated by treating each separately. Environmental factors are divided into two categories: those encouraging and those discouraging financial consolidation.

Motives for consolidation

Both motives and environmental factors vary over time, across countries, across industry segments, and even across lines of business within a segment. In the interviews, these various dimensions were explored and the contrast in the responses across categories was indeed substantial. Nevertheless, some common themes emerge.

Cost savings

(1) Mergers and acquisitions can lead to reductions in costs for a variety of reasons. The existing research literature, which focuses on cost savings attributable to economies of scale, economies of scope, or more efficient allocation of resources, fails to find much evidence suggesting that cost savings constitute an important outcome of mergers and acquisitions.

(2) A large majority of interviewees pointed to economies of scale as a very important motivating factor for consolidations involving firms that operate within the same country and the same industry segment. They viewed economies of scope as a moderately important factor underlying cross-segment M&As. Reasons for the differences between research results and the

[4] Summaries of each country's interview responses are presented in an annex to Chapter II of the full report.

views of practitioners are discussed in the section on Efficiency, Competition and Credit Flows, below.

Revenue enhancement

(3) Consolidation can lead to increased revenues through its effects on firm size, firm scope (through either product or geographic diversification), or market power. Research suggests that mergers may provide some opportunities for revenue enhancement either from efficiency gains or from increased market power.

(4) Interviewees indicated that revenue enhancement due to increased size was a moderately important factor motivating domestic within-segment mergers, while revenue enhancement due to increased product diversity was a moderately to very important factor underlying domestic cross-segment mergers. Revenue enhancement was also viewed as a fairly important motivator for cross-border consolidation.

Other motives

(5) Other potential motives for consolidation include risk reduction, change in organisational focus and managerial empire building. Interviewees viewed all of these factors as at most slightly important.

Environmental factors encouraging consolidation

Research and interviews have revealed a number of important factors encouraging consolidation among financial service providers.

Improvements in information technology

(1) New technological developments have encouraged consolidation because of their high fixed costs and the need to spread these costs across a large customer base. At the same time, dramatic improvements in the speed and quality of communications and information processing have made it possible for financial service providers to offer a broader array of products and services to larger numbers of clients over wider geographic areas than had been feasible in the past.

(2) Interviewees perceived technological advances to be a moderately to very important force encouraging consolidation in the financial services industry.

Deregulation

(3) Over the past 20 years, many governments have removed important legal and regulatory barriers to financial industry consolidation. The removal of these barriers has opened the way for increased M&As, both within and across national boundaries and both within and across financial industry segments.

(4) The majority of interviewees ranked deregulation as an important factor encouraging consolidation.

Globalisation

(5) Globalisation is, in many respects, a by-product of technological change and deregulation. Its influence as a factor encouraging consolidation has been strongest among firms engaged in the provision of wholesale financial services, highlighting the importance of the expansion of capital markets. As non-financial firms expand the geographic scope of their operations, they expect their financial service providers to be able to meet their changing needs, which may also encourage consolidation.

Shareholder pressures

(6) Increased competition has helped to squeeze profit margins, resulting in shareholder pressure to improve performance. Importantly, shareholders have gained power relative to other stakeholders in recent years. This development is expected to continue, as it is the result of a structural move towards the institutionalisation of savings.

(7) The interplay of all of these factors has put increased pressure on financial institutions to improve profitability. Consolidation has in many cases seemed an attractive way to accomplish this objective.

The euro

(8) Although the impact of the euro on financial sector consolidation in Europe is still difficult to assess, there are reasons to believe that the euro is stimulating consolidation in Europe. These reasons relate primarily to the euro-induced changes in financial markets in Europe, which provide new opportunities for realising economies of scale and revenue enhancement through consolidation.

(9) The euro has not significantly influenced consolidation in countries outside Europe.

Environmental factors discouraging consolidation

Two key factors continue to discourage financial consolidation: regulation and cultural differences.

Regulation

(1) Deregulation has played an important role in encouraging consolidation among financial service providers over the past two decades. However, remaining legal and regulatory restrictions (eg competition policies and policies limiting foreign ownership of financial institutions) and differences in regulations across countries (eg capital standards) continue to discourage some types of consolidations, especially those that involve cross-border activity.

(2) Interviewees frequently cited legal and regulatory constraints as an important impediment to mergers and acquisitions.

Cultural differences

(3) Cultural differences, which include different corporate cultures and corporate governance regimes, as well as differences in language or national customs, appear to be important impediments to consolidation, especially on the cross-border and cross-product levels.

(4) Regulation and cultural differences can have particularly strong deterrent effects on hostile takeovers of financial institutions. In addition, the existence of strong information asymmetries between potential acquirers and potential targets in appraising illiquid financial assets probably discourages hostile takeovers.

Future trends

On balance, financial consolidation is likely to continue. At least three reasonable and not mutually exclusive scenarios can be distinguished, and the future balance among these possibilities is impossible to project with any reasonable degree of confidence.

(1) Continuation of the current trend towards globally active universal financial service providers. Under this scenario, M&As both within segments of the financial industry and across segments would continue, as well as between financial and non-financial entities (where permitted by law).

(2) Continued consolidation resulting in functionally specialised financial firms. Under this scenario, firms would become more specialised as they grow in part through mergers of firms within a given segment of the financial industry, combined with the spinning-off of non-core lines of business.

(3) Continued consolidation along with a gradual "deconstruction" of the supply chain of financial services. In this scenario, in some ways a more extreme form of scenario (2), firms specialise in the production of particular components of financial services or in the distribution to end users of products obtained from specialised producers (eg internet services) either within or outside the traditional financial services industry.

As the costs of merging rise, particularly between large entities, looser forms of consolidation, such as strategic alliances or joint ventures, may become attractive alternatives within the context of any of these scenarios.

Financial risk

Financial consolidation can affect the risk both of individual financial institutions and of a systemic financial crisis. Thus, both types of risk are analysed below. Because different nations, or sometimes geographic groupings of nations, can have very distinct economic characteristics, risk is analysed separately for the United States, Europe and Japan.[5] The discussion focuses on the effects of consolidation on financial risk that are judged to be common across the regions, effects that are relatively concentrated in a particular region, and the implications of both for policy development.

Common effects in the United States, Europe and Japan

Although the evaluation of financial risk for each of the three geographic regions used a common analytical framework, authors were given wide latitude to pursue their topics from the perspectives most appropriate for their area. Interestingly, this approach identified a large number of common themes across the nations in the three regions regarding the potential effects of financial consolidation on financial risk. These include:

(1) The potential effects of financial consolidation on the risk of individual financial institutions are mixed, and the net result impossible to generalise. Indeed, the analysis strongly indicates that, when it comes to evaluating individual firm risk, a case by case assessment is required. The one area where consolidation seems most likely to reduce firm risk is the potential for diversification gains, although even here the possibilities are complex. For example, diversification gains seem likely to accrue from consolidation across regions of a given nation and from consolidation across national borders. Although such gains are most likely to arise due to asset diversification across geographies, some gains may also derive from geographic diversification on the liabilities side of the balance sheet. In addition, diversification gains may result from consolidation across financial products and services, although research suggests the potential benefits may be fairly limited. On the other hand, after consolidation some firms shift towards riskier asset portfolios, and consolidation may increase operating risks and managerial complexities. For example, organisational diseconomies may occur as financial institutions become larger and more complex if senior management teams stray far from their areas of core competency. More broadly, there is no guarantee that cost savings or efficiency gains will be realised.

(2) Economic shocks that have the potential to become systemic financial risk events are most likely to be transmitted to the real sector through the wholesale activities of financial

5 An annex to Chapter III considers the potential impacts of consolidation on managing systemic risk in Canada.

institutions and markets, including payment and settlement systems.[6] Largely because of deposit insurance, retail deposit runs and traditional flights to currency are highly unlikely, and in fact have not occurred in the regions studied since World War II. However, the costs of a systemic crisis are likely to be borne by a broad range of economic agents.

(3) In part because the net impact of consolidation on individual firm risk is unclear, the net impact of consolidation on systemic risk is also uncertain. However, it seems likely that if a large and complex banking organisation became impaired, then consolidation and any attendant complexity may have, other things being equal, increased the probability that the work-out or wind-down of such an organisation would be difficult and could be disorderly. Because such firms are the ones most likely to be associated with systemic risk, this aspect of consolidation has most likely increased the probability that a wind-down could have broad implications.

Important reasons for this effect include disparate supervisory and bankruptcy policies and procedures both within and across national borders, complex corporate structures and risk management practices that cut across different legal entities within the same organisation, and the increased importance of market-sensitive activities such as OTC derivatives and foreign exchange transactions. In addition, the larger firms that result, in part, from consolidation have a tendency either to participate in or to otherwise rely more heavily on "market" instruments. Because market prices can sometimes change quite rapidly, the potential speed of such a firm's financial decline has risen. This increased speed, combined with the greater complexity of firms caused in substantial degree by consolidation, could make timely detection of the nature of a financial problem more difficult, and could complicate distinguishing a liquidity problem from a solvency problem at individual institutions.

The importance of this concern is illustrated by the fact that probably the most complex large banking organisation wound down in the United States was the Bank of New England Corp. Its USD 23.0 billion in total assets (USD 27.6 billion in 1999 dollars) in January 1991 when it was taken over by the government pale in comparison to the total assets of the largest contemporary US firms, which can be on the order of USD 700 billion.

(4) Evidence suggests that interdependencies between large and complex financial institutions have increased over the last decade in the United States and Japan, and are beginning to do so in Europe. Importantly, although a causal linkage has not been established, these increases are positively correlated with measures of consolidation. Increased interdependencies are consistent with the view that systemic risk may have increased, because they suggest that a common shock would tend to be transmitted to many firms. A variety of evidence is presented which attempts to measure changes in total, direct and indirect interdependencies between firms. The evidence suggests that the areas of increased interdependency that are most associated with consolidation include interbank loan exposures, market activities such as exposures in OTC derivatives, and (as discussed below) payment and settlement systems.

(5) Partly as a result of consolidation, banks are not the only potential sources of and transmission mechanisms for financial instability. The general blurring of differences among commercial banks, investment banks, insurance companies and other types of financial intermediaries and the substantial rise in the importance of market activities strongly suggest that some non-bank financial institutions and markets could also be sources and transmission mechanisms. In addition, the consolidation of an increasingly wide range of financial activities within large and complex organisations that include banking units points to an increased risk of contagion effects running from the non-bank to the commercial bank parts of the same organisation.

[6] Payment and settlement issues are considered separately in the relevant section below.

(6) Consolidation also appears to be increasing the possibility that even a medium-sized foreign bank (or perhaps a non-bank financial institution) from a large nation would be a potential source of instability to a relatively small host country. The possibility of loss of domestic ownership of a small nation's major banks has, other things being equal, also increased. In addition, partly through cross-border consolidation there has been an increase in the role within the international financial system of institutions with operations in a number of jurisdictions. These developments raise the issues of: (a) how much further national crisis prevention and management policies may need to converge; (b) the extent to which policies may need to be assessed in an international rather than a domestic context; and (c) potential complications in crisis resolution due to the absence of cost-sharing arrangements across countries.

(7) It appears that consolidation, and especially any resulting increased complexity of financial institutions, have to some extent increased both the demand by market participants for and the supply by institutions of information regarding a firm's financial condition. The resulting rise in disclosures has probably improved firm transparency and encouraged market discipline, thus lowering individual firm risk and perhaps increasing financial stability. However, the increased complexity of firms has also made them more opaque, their increased size has the potential to augment moral hazard, and thus the net effects on firm transparency and market discipline are unclear. Indeed, there appears to be considerable room for improvement in disclosures.

Important asymmetries of effects

In addition to important common themes, a number of key diversities were identified across countries and regions. These diversities sometimes derive substantially from consolidation, and in some cases complicate evaluation of consolidation effects. Moreover, it is important to understand that the differences are primarily a matter of degree, and generally do not reflect stark asymmetries of effects. For example, although European firms have to date played a relatively prominent role in cross-border consolidation, cross-border deals, and the issues resulting therefrom, are clearly relevant in all the study nations.

United States

(1) The relatively strong desire of the United States to limit the federal safety net to insured depository institutions, and its relative lack of experience with financial conglomerates, raise a number of difficult issues that derive in part from the resulting complex corporate structure of growing and consolidating large US financial institutions. Important issues that derive in some degree from consolidation include the extent of supervision that should be applied to the various legal entities within a single organisation, the division of labour among "functional" supervisors, how best to manage the wind-down of a large and complex organisation, and a relatively high level of concern with operational risks.

(2) Market activities tend to play a considerably greater role in the total activities of US financial institutions than they play in continental European and Japanese financial institutions. Although increased reliance on markets and market activities are likely to be, in a broad sense, risk-reducing, such activities can introduce new risk considerations that may become systemic in certain situations. For example, as discussed above, the speed of a firm's deterioration could be accelerated. Partly in response to such considerations, disclosure practices in the United States appear to be considerably more extensive than are those in either Europe or Japan. Finally, the long period of macroeconomic stability in the United States has not provided a strong test of reforms begun in the early 1990s that were designed to limit the safety net and encourage market discipline.

Europe

(3) As in other G10 countries, systemic events are likely to remain primarily national concerns in Europe over the near future. However, the euro has accelerated the speed of financial market integration and is encouraging cross-border activity by financial institutions, partly through consolidation. Therefore, if cross-border interdependencies grow rapidly across European countries, the probability that a banking crisis in one country will affect the banking systems of other countries is likely to be higher in the future. The current framework of harmonised directives across EU countries and the arrangements in place for extensive bilateral and multilateral cooperation, such as the Banking Advisory Committee, the Banking Supervisory Committee and the Groupe de Contact, provide a comprehensive framework for the management of banking crises. Still, European national authorities should increase the harmonisation of their policies and the coordination of actions taken in the prevention and management of crises, along the lines suggested recently by the European Union Economic and Financial Committee in its Brouwer Report (2000).

(4) Because of the number of sovereign nations involved, the cross-national problems that usually arise in all nations when merging institutions try to integrate across national borders tend to be more immediate and relatively intense in Europe. Such difficulties can derive from, for example, differences in national law and custom. These complexities are in addition to the standard problems that often appear from efforts to combine different corporate cultures. In both cases, integration complexities can affect the risk profiles of the firms involved.

Japan

(5) To date, the rather limited consolidation among large financial institutions in Japan has been driven primarily by two imperatives: the need to manage and resolve the ongoing financial crisis, and the Big Bang deregulation reforms. Thus, key issues revolve around crisis management, crisis prevention and the desire to encourage market discipline. In addition, despite the relatively small amount of consolidation among large financial institutions so far, additional consolidation is anticipated.

(6) In Japan, the need to manage a financial crisis that involves, among others, some of the largest financial institutions in the nation has required considerable flexibility in administration of the safety net. For example, explicit government guarantees of financial institution liabilities have been much more extensive in Japan than in other G10 nations in recent years. Looking forward, and as consolidation proceeds, it is expected that competitive forces as well as market discipline will play much greater roles in maintaining the strength and stability of the financial system.

(7) Consolidation may encourage the development of capital markets in Japan, with potential benefits for improved financial stability. For example, as consolidating (and competitively pressed) financial institutions are forced to concentrate more on maximising return on equity, some former borrowers may need to seek funding from other sources, including the capital markets. In addition, in order to reduce risk, consolidating firms are likely to need to shrink their balance sheets through other devices, including the securitisation of assets and the sale of portions of their often extensive holdings of corporate stock. Both actions would further stimulate capital market development.

(8) With respect to the possible effects of consolidation on individual firm risk in Japan, two additional points are noteworthy. First, the potential for risk reduction through the geographic diversification of assets seems quite limited *within* Japan. However, the potential for risk reduction via the diversification of liabilities, including the acquisition of relatively stable core deposits, appears to be much greater. Second, the ongoing expansion of the co-ownership of banking and commercial firms in Japan may lead to the creation of "platform risk", whereby a bank is physically dependent on the platform (eg a supermarket) of the commercial business.

Policy implications

Existing policies and procedures appear adequate to contain individual firm and systemic risks both now and in the intermediate term. However, the analyses presented are quite supportive of the need for continued policy development in a number of areas. The Working Party is aware that a large number of policy initiatives are under way in a variety of forums. The intention here is to reinforce those that, from the point of view of the effects of consolidation on financial risk, appear to be the most important, and to suggest some new directions or areas needing expanded attention.

The areas worthy of further policy development cut across a number of interdependent dimensions. These include crisis prevention and crisis management, public and private actions, including the appropriate use of taxpayer versus private funds, supervisory and market discipline, and trading off public actions and moral hazard. In the judgement of the Working Party, the most important areas in need of ongoing policy development are:

(1) Both crisis prevention and crisis management could be improved by additional communication and cooperation among central banks, finance ministries and financial (both bank and non-bank) supervisors, both domestically and internationally. Such efforts are particularly important given the extent of current and expected cross-sector and cross-border consolidation in the financial services industry. Specific areas where improvements could yield significant net benefits are discussed below.

(2) Important components of improved crisis prevention and management are effective and efficient policies and operating procedures for acting promptly to deter and resolve a potential crisis. A central element here, particularly in the light of consolidation's contribution to the creation of very large and complex financial organisations, is how to act in ways that minimise moral hazard. Policies implemented in recent years in a number of nations designed to encourage prompt intervention by supervisors in a troubled institution appear to have promise, but have yet to be tested in a major crisis. Although all nations studied are sensitive to the need to minimise moral hazard incentives, perspectives differ depending in part on a nation's current situation and experience with crisis management.

(3) Crisis management could be eased considerably by augmented contingency planning for working out a troubled large and complex financial institution in an orderly way. The most effective approach will probably involve efforts by both the public and private sectors, and possibly both within and across borders. Areas where clear understanding is critical include: (a) the administration of bankruptcy laws and conventions; (b) the coordination of supervisory policies, especially early intervention, within and across borders; (c) the treatment of OTC derivatives, foreign exchange, and other "market" activities in distress situations; (d) the roles and responsibilities of management and boards of directors; and (e) administration of the lender of last resort function.

(4) The probabilities both of an individual firm experiencing severe financial difficulties and of a systemic crisis could be lowered by more effective risk-based supervision of financial institutions. In addition to the large number of initiatives under way, the results of this study highlight the importance of timely monitoring and surveillance. With regard to monitoring and surveillance, the increasing importance of cross-border operations and market activities suggests an augmented need to evaluate risk developments at not only the individual institution level, but also at the overall market level or, put differently, from a "systems" perspective (see point 9 below).

(5) A critical element of improved risk-based supervision is risk-based capital standards that are tied more closely to economic risk. Capital standards provide an anchor for virtually all other supervisory and regulatory actions, and can support and improve both supervisory and market discipline. For example, early intervention policies triggered by more accurate capital standards could prove to be important in crisis prevention.

(6) If taxpayer funds are needed to manage and resolve a crisis, as seems likely given the increasing size and complexity of financial institutions, increasing cross-border consolidation may require the development of cost-sharing arrangements among governments, and additional policies and procedures to minimise moral hazard incentives.

(7) Both crisis prevention and crisis management could be enhanced by clearer understanding of how best to deal with non-bank financial institutions, including the treatment of non-bank entities that are part of a financial conglomerate that includes a bank. It should be acknowledged that the scale and level of financial market participation of a number of non-bank financial institutions in some countries are sufficient to make their impairment a potentially systemic event. How best to resolve the resulting and inevitable tension between protecting financial stability and inducing moral hazard is difficult to determine, but an issue that policymakers should address.

(8) Improved market discipline also has the potential to decrease the probabilities of individual firm and systemic crises, although markets can sometimes react quite rapidly, thereby forcing supervisors' actions and introducing complexities that might not otherwise occur. In any event, the size and complexity of consolidating financial institutions support, and may well require, the use of market discipline as a complement to supervisory discipline. Effective market discipline requires clear incentive structures both within institutions and among other market participants. A number of strategies for improving market discipline seem potentially promising for financial institutions in all of the nations studied, and include augmented disclosures, improved risk management, stronger incentives for risk control by owners and managers, and improved accounting conventions.

(9) Assessment of the likelihood of a systemic crisis, and the understanding of its potential implications, could be improved by the collection and analysis of data that are better targeted on such concerns. Although the precise links between financial institutions and markets that are most likely to augment systemic risks are uncertain, and indeed somewhat unique to a given crisis, the analysis suggests that consolidation has probably increased interdependencies among firms and raised the probability that markets will play an important role in a future crisis. Thus, the monitoring and evaluation of individual firm data, both traditional (or improved) accounting and market data, in combination with data on firms' interdependencies, financial markets, and domestic and international macroeconomic variables, might yield valuable insights into risks posed by interdependencies and possibly improve early warning systems. At a minimum, it would seem prudent to evaluate whether central banks, finance ministries and other financial supervisors are collecting and evaluating data at both the domestic and international levels that are appropriately targeted on future possibilities.

Monetary policy

The behaviour of financial firms and markets influences the environment in which monetary policy decisions are made, how they are put into practice, and how they are transmitted to output and prices. Thus, if consolidation causes changes in the behaviour of financial intermediaries or the operation of financial markets, it could have implications for the conduct of monetary policy. As with other topics evaluated in this study, it is difficult, particularly looking at data within a single country, to disentangle the effects, if any, of consolidation from those of globalisation, technical innovation, deregulation, and other factors affecting the behaviour of financial intermediaries.

Effects on the implementation of policy

Whether consolidation affects the implementation of monetary policy depends on whether it has impacts on the market for central bank balances, or the market(s) used by the central bank to adjust the supply of such balances. Consolidation may affect such markets in two ways.

(1) First, consolidation may reduce the degree of competition in the relevant markets. Reduced competition might cause liquidity to be more costly for those participants with less market power, and hence impede the arbitrage of interest rates between the market targeted by the central bank and other financial markets. Decreased competition might also lead to higher volatility in very short-term interest rates, if consolidation allowed firms to exercise their increased market power only from time to time, depending on market conditions.

(2) Second, consolidation could affect the performance of these markets because the resulting large financial firms behave differently from their smaller predecessors. For example, by internalising what had previously been interbank transactions, consolidation could reduce the liquidity of the market for central bank reserves, making it less efficient at reallocating balances across institutions and increasing market volatility.

(3) Virtually all central bank responses to a Task Force questionnaire suggest that the impact of consolidation on the operation of these markets has so far been minimal, and it is not expected to be a significant concern in the future. In practice, the structures of the market for central bank balances and the markets used for monetary policy operations differ widely across countries. In most countries, consolidation has reduced the number of participants in these markets. However, even in those countries with relatively few participants, the relevant markets appear to be partially contestable. That is, the market power of participants is constrained to some degree by the possibility that new firms could enter the market. In addition, the euro has encouraged development of European money and capital markets, thus making the number of participants in a particular nation's markets less relevant. Finally, the central bank's position as a monopoly supplier of central bank liquidity gives it countervailing power and allows it to adjust operational arrangements as it sees fit.

(4) Nevertheless, central banks reported that possible reactions to increased consolidation in the future might include more careful monitoring of operations, stricter assessment and management of counterparty risk, and efforts to encourage the participation of more counterparties (eg changing eligibility criteria).

Effects on the monetary transmission mechanism

Financial sector consolidation may also alter the monetary transmission mechanism that links central bank decisions and operations to the rest of the economy. This mechanism works via various channels.

The monetary channel

(1) The "monetary channel" concerns the transmission of interest rates across financial markets by arbitrage along the yield curve and across financial products (ie the "pass-through" of changes in the interest rate targeted by the central bank to other rates, including bank lending and deposit rates).

If consolidation leads to greater concentration among financial intermediaries, that could lead to higher and perhaps more variable margins between borrowing and lending rates. It could also influence the lags in the monetary transmission mechanism (eg reduce them if bigger firms can process more information more rapidly or increase them if bigger firms are more able to exploit customer inertia when official rates change).

(2) Many other factors also affect the pass-through in practice, such as the introduction of new technologies by financial intermediaries, the development of new financial instruments, the reduction in barriers to entry in some financial markets, and the greater integration of capital markets across countries. Even if consolidation does affect the transmission mechanism, central banks would over time be able to adjust their policy settings appropriately in response to observed changes in pass-through without needing to identify the precise reasons for those changes – if necessary, by trial and error – particularly if the pace of consolidation is gradual compared with central banks' decision cycles.

(3) Empirical evidence about the effect of consolidation on pass-through is scarce and inconclusive. Some evidence suggests that consolidation may have led to margins being higher than they would otherwise have been. One cross-country study concluded that barriers to entry – but not market concentration as such – may slow down interest rate adjustments.

(4) The responses of central banks to the Task Force's survey generally indicated that consolidation by itself had not had an important influence on pass-through, although some noted that the speed of pass-through had increased for various reasons, possibly including consolidation. Some European central banks thought that consolidation would increase the degree and speed of pass-though to administered rates in the future. Several respondents noted that other factors – especially globalisation and increases in competition in more integrated markets – had probably more than offset the possible adverse effects of consolidation on the level of competition in financial markets.

Bank lending and balance sheet channels

Consolidation could also affect the transmission mechanism by influencing other possible channels of monetary policy.

(5) These channels include: the "bank lending" channel, which operates through the impact of policy changes on the supply of bank loans to borrowers without direct access to financial markets; and the "balance sheet" channel, which operates through the effect of monetary policy on the value of collateral, and so on the availability of credit to those requiring collateral to obtain funds.

(6) In principle, consolidation could influence both of these alternative channels. Indeed, there is some suggestive cross-country evidence that differences in the structure of countries' financial sectors can help to explain differences in the strength of the effects of monetary policy. However, some research has cast doubt on the empirical importance of these channels of policy, and direct effects of consolidation have been difficult to identify.

(7) There is some evidence that larger banks find it easier than smaller banks to fund loans in periods of tight monetary policy, so consolidation might reduce the importance of the bank lending channel, and hence the impact of any given change in the interest rate targeted by the central bank.

(8) Central bankers did not report such an effect, generally noting either that this channel was not particularly important in their country or that its importance was difficult to assess.

(9) Similarly, if consolidation influences the need for borrowers to post collateral, it could influence the balance sheet channel, although the sign of the theoretical relationship is not clear. The empirical evidence is also ambiguous, and so it is not surprising that central banks reported that changes in the importance of this channel have not been a major consideration.

Other possible effects

Financial sector consolidation could also affect the setting in which monetary policy is determined.

(1) For example, cross-border consolidation is likely to have increased the potential for shocks in one country to affect financial firms and markets in another.

(2) A reduction in the number of firms participating in financial markets could reduce market liquidity and depth and perhaps boost market volatility.

(3) Consolidation could also reduce the resilience of markets during times of stress, either because shocks were transmitted across firms and markets more rapidly or to a greater degree than had been the case, or because financial firms became less willing or able to act to cushion the impact of shocks on borrowers and markets.

(4) However, central banks did not report significant effects of consolidation on the volatility or liquidity of financial markets.

(5) Nor did they think that consolidation had made it significantly more difficult to interpret movements in indicator variables such as monetary aggregates.

(6) Consolidation has encouraged the development of very large and complex financial institutions, and this trend is expected to continue. Such institutions could pose increased challenges to central banks in their lender of last resort and monetary policy roles. In the event of financial difficulties at such firms, central banks would need to consider carefully the appropriate provision of emergency liquidity, as well as whether the stance of monetary policy should be adjusted in the light of the possible macroeconomic impact of the difficulties. However, central bankers did not believe that consolidation increased the likelihood that policy would be unduly influenced by firm-specific concerns.

Conclusions and policy implications

(1) So far, financial sector consolidation does not appear to have impeded the implementation of monetary policy or altered significantly the transmission mechanism of monetary policy.

(2) Central bankers reported that they had not noticed any effect of consolidation on the distributional impact of monetary policy (eg households vs firms or large firms vs small ones). This is consistent with the lack of evidence of significant changes in the monetary transmission mechanism.

(3) Research targeted on further refining theories of the monetary transmission mechanism could help to clarify what effects might appear in the future.

(4) Central banks can be reasonably confident when setting monetary policy that frequent reviews of the data allow them to take account of most changes in the relationship between their target interest rates and developments in the rest of the economy, even if the reasons for the changes are unclear. However, identifying those reasons may help establish how persistent those changes are likely to be.

(5) Nonetheless, it would be prudent for central banks to bear in mind the possible implications of any reductions in the competitiveness of the key financial markets involved in the implementation of policy, as well as the potential changes in the role of the bank lending and balance sheet channels of monetary policy transmission that might be brought about by future financial sector consolidation.

Efficiency, competition and credit flows

Foreign ministries, central banks and financial supervisors are frequently concerned about the potential impacts of financial consolidation on the efficiency of financial institutions, the degree of competition in the markets for financial services, and on credit flows to small and medium-sized enterprises.

Efficiency

Efficiency is a broad concept that can be applied to many dimensions of a firm's activity. A narrow definition takes size and technology as given, and focuses on measuring managerial efficiency (the optimisation of existing resources) by analysing how production factors are combined. A more comprehensive definition also considers economies of scale and scope, both of which vary with technologies, regulations and consumers' tastes. Efficiency gains can be gauged with the help of the stock market performance of the merging institutions; consolidation creates value if the sum of the market valuations of the bidder and the target increases.

Commercial banks

When comparing cost and revenue structures, it should be remembered that in countries with a heavily bank-oriented financial system the banking industry may evolve differently than in countries where securities markets are prominent. In countries with well developed financial markets, banks provide many services in addition to loans and deposits; they have better opportunities to tailor their risk profile, both on- and off-balance sheet. Furthermore, differences in regulation mean that, while in some countries commercial and investment banks are (or have in the past been) separated, in others they can operate jointly as universal banks and even have cross-shareholdings with industrial companies. These differences hamper international comparisons. All these warnings notwithstanding, the banking industries in the countries studied share some structural features that emerge from a careful analysis.

(1) Evidence suggests that only relatively small banks could generally become more efficient from an increase in size. However, changes in technology and market structure might affect scale and scope economies in the future. In addition, the direct evidence on how M&As affect banks' performance is mixed. In general, more efficient banks acquire relatively inefficient banks, but there is little evidence of subsequent cost reduction. For deals consummated over the last decade, there is some evidence of improvement, especially on the revenue side. The gains, however, are probably not as large as those anticipated by practitioners.

(2) The main finding of studies that examine share prices around the time that a merger is announced is that, on average, total shareholder value is not affected by the announcement of the deal. On average, the bidder suffers a loss that offsets the gains of the target. Put differently, M&As seem typically to transfer wealth from the shareholders of the bidder to those of the target.

Other financial institutions

(3) For the securities industry, results based on US data indicate that economies of scale exist, but mainly among smaller firms; larger firms demonstrate scale diseconomies. Similarly, research suggests that smaller specialty firms tend to exhibit modest economies of scope while large multi-product firms exhibit modest diseconomies of scope. In general, however, economies of scope do not appear to be important in the securities industry. These results suggest that there is room for both diversified and specialty firms, as long as they are above minimum efficient scale.

(4) Economies of scale in the asset management industry are significant only up to a relatively small size threshold. The evidence is slightly more favourable for scope economies. Such findings are consistent with recent developments in the industry, in which asset management services are often distributed jointly with other financial products in order to reap the benefits from cross-selling.

(5) As is the case for commercial banks, smaller insurance companies could probably reduce their costs by taking advantage of potential economies of scale. However, the benefits are likely to disappear after a threshold that is well below the size of the largest firms. The existence of economies of scope with other financial institutions is unclear. The insurance industry is still very fragmented because of regulation and the specificity of some of its products. The dispersion of efficiency levels that results from these barriers to entry could probably be reduced if better managed firms acquired weaker ones, but the limited evidence available for the past and the rapid changes expected in the future make it difficult to assess the potential efficiency gains from M&As.

Views of practitioners versus results of research

Research on the ex post results of M&As seems to contradict most of the motivations given by practitioners for consolidation, which are largely related to issues of economies of scale and scope and to improvements in management quality. However, to a certain extent this puzzle might be only apparent because:

(6) practitioners may consider cost reductions or revenue increases per se to be a success, without also taking into account industry trends as a benchmark;

(7) practitioners may focus on absolute cost savings rather than on efficiency measures that compare costs to assets;

(8) while research finds no improvements on average, some institutions improve efficiency and some do not. Given the inside knowledge of their firm and the arm's-length knowledge of competitors, managers might be justified in believing that their institution might be among the ones that would benefit from a merger or acquisition; and

(9) deals done in the past might have suffered from stricter regulation (eg labour laws) that prevented firms involved in M&As from reaping all the benefits of the deal. Such regulations may not exist in the future.

Competition

The effects of consolidation on competition depend on the demand and supply conditions in the relevant economic markets, including the size of any barriers to entry by new firms.

Market definition

(1) On the demand side, markets for a number of key retail bank products appear to be primarily local. In empirical research, local markets are usually approximated by areas such as provinces, rural counties, cantons or metropolitan areas. In the United States, this assumption is supported by survey evidence indicating that both households and small businesses overwhelmingly procure banking services from suppliers located within a few miles of the customer; it is still rare to deal with institutions that can be reached only via the telephone or the internet. Despite the development of electronic banking and other advances, in Europe transport costs are still significant, and entry into foreign markets requires opening or acquiring a network of branches.

(2) There is also evidence on the supply side that some banking markets are local. The number of bank branches in most countries continues to increase despite a consolidation process that has reduced the number of independent banking organisations and statutory changes that have largely removed legal constraints on bank geographic expansion. This indicates that firms continue to feel the need for a local presence.

(3) Wholesale banking products generally have markets that are national or international in scope. In much of continental Europe, bond markets that tended to be national have expanded with the adoption of the euro; cross-border competition should also increase for services like correspondent banking. The geographic scope of markets is also national or international for investment banking services, money market trading, foreign exchange trading, derivatives trading and asset management.

(4) Geographic markets for most insurance activities appear to be national (statewide for the United States), although the barriers to entering geographic markets might be low relative to the barriers to entering different product lines.

Barriers to entry in financial markets

There are three main types of barriers to entry in financial markets: (a) regulatory barriers, including specific subsidies or public guarantees; (b) entry barriers due to differences in firms' costs, especially those that arise when entry requires significant sunk costs, such as the necessity to set up a network of branches; and (c) relatively inelastic customer demand, which may exist if costs of switching among financial service providers are large.

(5) It seems clear that regulatory barriers to entry have decreased with the deregulation and globalisation of financial markets. Introduction of the euro has reduced barriers to entry into some European markets.

(6) The impact of technology, driven in part by consolidation, is uncertain. On the one hand, technology might increase some fixed costs, including advertising expenses, and it might contribute to locking consumers in with their existing suppliers by increasing switching costs for customers. On the other hand, technology might expand the geographic limits of markets, thus enhancing competition from firms located in other areas.

Consolidation and prices

(7) Research using both European and US data generally finds that higher concentration in banking markets may lead to less favourable conditions for consumers. Studies using US data indicate the existence of market power in some markets for small business loans, retail deposits and payment services, although results are weaker for the 1990s than for the previous decade.

Studies that examine directly the pricing strategies of merging institutions support the view that M&As may influence market prices. Studies in the United States, Italy and Switzerland find that in-market concentrations have the potential to cause a reduction in deposit interest rates or an increase in loan rates.

(8) On balance, evidence suggests that investment banks may be exerting some degree of market power. Moreover, the importance of reputation and of the placing power of underwriters may create a barrier to entry that is likely to survive even the technological developments foreseeable in the near future. Therefore, in-market consolidation among large firms could affect negatively their consumers.

The investment banking industry is highly internationalised, as the largest firms are chartered in many different countries. However, the market is highly concentrated: a small group of firms dominates each segment. For example, the market share of equity underwriting of the five largest firms is above 50% both in the United States and in Europe. Nonetheless, there is little research available on the degree of competition in the investment banking sector.

In Italy, a thorough examination by the antitrust authorities concluded that, even though the market for investment banking was dominated by a small number of firms, there was no evidence of abuses. In contrast, studies of US securities markets found evidence of anticompetitive pricing and procompetitive effects of entry.

(9) In the last few years, the insurance markets in the nations studied have generally become more competitive, although the extent of competition seems to vary significantly from product to product and from country to country. Research on US insurance markets finds higher prices in more concentrated markets.

The potential impact of technology on competition

(10) The continued evolution of the internet and other forms of electronic commerce could have major implications for the definition of geographic markets, thereby altering the potential effects of consolidation. Although electronic finance is not yet widespread, forecasts suggest rapid growth in the near future. If financial services can be purchased or supplied effectively by electronic means without the need for physical branch offices, geographic limits to market expansion may disappear, increasing competition from firms located in other areas. Developments in electronic technology could also reduce entry barriers by reducing search costs for consumers.

(11) The development of e-finance may also reduce, rather than increase, competition. Financial institutions are increasingly operating in multiple sectors, partly in an attempt to sell bundles of products to customers. Due to technological progress, these bundles may become more and more customised for a large number of consumers. As a result, switching costs may rise, especially if suppliers provide enough products to justify “one-stop shopping” strategies. Finally, new ways of distributing financial services may be created which could only be exploited by vertical consolidation of financial institutions with non-financial partners such as telecom and media enterprises.

(12) The short- and medium-term benefits of e-finance, however, should not be exaggerated. Electronic banking does not reduce information costs for products where the bank has to rely on information about local markets. Furthermore, new entrants may be forced to back up their internet entry with significant advertising outlays before they can effectively compete. For some high-value, infrequently purchased products, customers may demand more than online contracts, however personalised. Generally speaking, consumers currently do not seem to view internet banking as a substitute for banking with an institution that has physical branches. Also, at the moment, the necessary legal framework is incomplete for internet commerce, in particular with regard to consumer protection and money laundering.

Credit flows

Small and medium-sized enterprises (SMEs) make a substantial contribution to the economies of the nations studied. For example, in 1996, on average, they accounted for 66% of total employment in Europe and more than 50% of the labour force in Canada and the United States. SMEs are also prominent in Japan. Currently, SMEs are highly dependent on banks, particularly in Europe.

In many countries, consolidation in the banking system has involved a large number of small banks. The reduction in the number of these institutions may affect the availability of credit to small firms. When consolidation occurs, the larger bank resulting from the merger is able to expand its lending capacity with respect to larger borrowers and it may restructure its portfolio, discontinuing credit relationships with smaller borrowers. To the extent that credit relationships between banks and small businesses are characterised by a greater degree of information asymmetries, small firms could face difficulties in finding credit from other sources.

Consolidation and credit rationing

(1) Statistical studies of the effect of consolidation of banks on small business lending are available for only a couple of countries (Italy and the United States). These studies suggest that banks reduce the percentage of their portfolio invested in small business loans after consolidation.

(2) However, the impact of M&As on small business lending depends crucially on the motivations of the deal and on the type of banks involved. Moreover, what is relevant is the effect on the total availability of credit to small borrowers and whether it is associated with more accurate pricing of risk. In the United States, studies that have examined the effect of M&As on small business lending by other banks in the same local markets found that other banks and new entrants tend to offset the reduction in the supply of credit to small firms by the consolidating banks. In Italy, consolidating banks tend to shift away from the worst borrowers.

Potential impact of technology on small business lending

(3) Credit scoring models, currently used mostly by large banks, will benefit mainly "transaction-type" loans, which, like credit card loans, do not need much information-intensive credit evaluation. Thus, some of the potentially negative effects of consolidation, such as a reduction in credit availability by banks involved in M&As, may be partially offset by such innovations. However, benefits to date seem quite limited. In addition, technology will not necessarily reduce the cost, and indeed may increase the relative cost, of processing the information typical of relationship lending, harming small borrowers who do not, for example, qualify for a sufficiently high credit score.

Policy implications

In the judgement of the Working Party, the most important policy implications of consolidation for efficiency, competition and credit flows are:

(1) Policymakers should carefully examine claims of substantial efficiency improvements by financial institutions proposing major consolidations, especially in cases in which a merger could raise significant issues of market power.

(2) The impact of consolidation on competition can only be assessed by using empirically supported definitions of the relevant product and geographic markets. Because financial markets are constantly changing, these definitions have to be scrutinised regularly, also taking into account the differential impact on different classes of consumers, such as households and small firms.

(3) The impact of technological changes could be more powerful for households than for small firms, because standardised techniques such as credit scoring models are more suited to the former. The analysis of relevant markets for antitrust purposes should take into account changes due to technological forces in the geographic and the product dimensions as well as changes in demand.

(4) In order to increase competition in an environment that is reducing significantly the number of providers of financial services, consideration could be given in some nations to removing obstacles to the mobility of customers across financial service providers. This could be done, for example, through greater transparency regarding products and prices, or by simplifying the process of changing providers. Better flows of information between customers and financial institutions could also decrease the asymmetric information problems between small firms and banks and limit the probability of credit rationing.

(5) To the extent that consolidation may harm small business lending, the problems faced by small firms in funding their projects might be alleviated if alternative sources of finance, in terms of both providers and products, are developed. This could be encouraged by, for example, fostering the development of equity markets or decreasing the costs of being listed on an exchange. Such measures, together with actions already taken, may foster the development of financial markets, particularly equity markets. Alternative sources of finance may become more available as costs of information generation and storage decrease, especially in Europe and Japan. Policies that encourage transparency and promote awareness of financial markets would probably be helpful in this respect.

(6) Cross-industry competition may benefit consumers by encouraging competition on existing and new products. Eliminating policies that limit cross-industry competition generally would have a beneficial effect.

(7) Effective antitrust policy implementation needs data on market shares, prices and volumes of activity in key financial services and products. The financial services industry already regularly provides some of the relevant data; however, it would be helpful to enrich the available information, especially at the firm level. The burden of these added reporting requirements should be minimised; authorities should explore ways to encourage financial institutions to contribute the needed data on an ongoing basis and authorities should focus on collecting data only in areas where consolidation is likely to have significant effects, such as small business lending and retail branch banking services. In general, it is important to consider what kind of information should be readily available so that the potential impacts of proposed M&As can be quickly assessed.

Payment and settlement systems

The ongoing consolidation of the financial industry is affecting the market infrastructures for payment and securities settlement, as well as banks' internal systems and procedures for payment and back office activities. At the global level, correspondent banking and the global custody businesses are becoming more concentrated among a smaller number of large market players. At the domestic level, banks are increasingly outsourcing payment and settlement activities to "processing factories" – transaction banks and non-bank service providers. On the demand side, users of payment and settlement services are increasingly calling for more efficient payment and securities processing. Consequently, they are often the main driving force behind a greater harmonisation of interbank systems and consolidation of systems within and across borders.

Effects of consolidation

Consolidation affects the efficiency of payment and securities settlement processes, the degree of competition between banks and between market infrastructures, and the level of financial and operational risk. It also has implications for central banks' approach to oversight of the payment system. The complexity of the consolidation processes taking place within the financial industry, however, makes it impossible to categorise clearly the net effects as either positive or negative.

Efficiency

(1) Consolidation has led to a greater concentration of payment and settlement flows among fewer parties within the financial sector. Indeed, consolidation tends to lead to the emergence of very large financial institutions and non-bank service providers that specialise in providing a wide range of payment and settlement services to third parties. Interbank transactions may increasingly become in-house transactions, which do not involve external exchanges of payment messages and hence tend to be cheaper to process.

(2) Because of the significant economies of scale in electronic payments technologies, the large institutions resulting from consolidation may be better able to invest in new, often costly technologies, and to decrease unit costs by capturing economies of scale.

(3) Due to their specific business needs, the emerging global firms are pressuring the operators of payment and securities settlement systems to enhance their systems, reduce overall processing redundancies through consolidation of systems, and to increase efficiency and reduce costs to users. In this connection, operators of payment and securities settlement systems may face increasing demands for remote access capabilities and for a wider range of eligible collateral that can be used across a variety of systems. Remote access and broader collateral, however, involve complex policy and legal considerations that require further analysis.

Competition

(1) The overall effects of consolidation on competition in the provision of payment services are likely to vary according to the type of consolidation being considered (eg consolidation of financial institutions or of market infrastructures), the definition of the market (ie local, national or global), the market's degree of competitiveness, the extent of existing market concentration, and the legal and policy framework governing competition.

(2) On one level, a reduction in the number of institutions providing payment and securities settlement activities beyond a certain limit might result in increased prices for settlement services and lower incentives for innovation. To the extent that large players have sunk costs in a particular clearing technology, an established customer base with switching costs, and market power, they may actively discourage or slow the movement to more efficient technologies or processes for clearing. On the other hand, large institutions may be more capable and willing to invest in better risk management systems and form alliances with other clearers to clear payments and securities more efficiently. Whether any such efficiency gains are passed on to customers is open to debate.

(3) On another level, consolidation among payment and settlement systems may also affect competition, but the effects may vary depending on the model used. Three policy views of system consolidation exist in the literature – a competing network model, a public utility model, and a model for promoting intra-network competition. The competitive effects of system consolidation under each of these models largely depend on such factors as the governance structure of the surviving system, access criteria, market demand for downstream services, and

economies of scale. For example, under an intra-network competition model, shared automated teller machine (ATM) networks may reduce competition at the network level, but simultaneously enhance competition among banks by allowing small and large banks to offer ATM services on an equal basis at a similar number of locations. The ownership structure and the governance of a specific system are crucial points in this respect. To the extent that one or a few large participants dominate the network's decisions, access, efficiency and innovation may be affected, possibly to the detriment of other participants or would-be participants.

(4) Apart from these considerations, policymakers should be aware that competition is a dynamic process where effects observed over the short term might not be indicative of competition effects over the longer term.

Risk

The payment system risk implications of financial consolidation are complex.

(1) On the one hand, consolidation may help to improve the effectiveness of institutions' credit and liquidity risk controls. For example, increased concentration of payment flows may reduce liquidity tensions due to the greater degree of offset between payments received and payments sent by individual participants.

(2) On the other hand, consolidation (especially through specialisation and outsourcing) may lead to a significant shift of risk from settlement systems to customer banks and third-party service providers. Moreover, consolidation may lead to a greater proportion of on-us large-value payments, which may raise questions about the certainty of final settlement and the concentration of payments within a few banks.

(3) To the extent that institutional and system consolidations result in a greater concentration of payment flows, potential effects of an operational problem may increase. For example, if a major payment processor were to fail or were no longer able to process payment orders, serious repercussions might arise, not only for the liquidity situation of individual market participants that would not receive expected incoming funds, but also for the money, capital and foreign exchange markets in general.

(4) The emergence of multinational institutions and specialised service providers with involvement in several payment and securities settlement systems in different countries, as well as the increasing liquidity interdependence of different systems, further serve to accentuate the potential role of payment and settlement systems in the transmission of contagion effects.

(5) In order to properly manage these risks, banks need to have well developed risk control mechanisms in place to monitor service providers and the service relationship that is applicable to intraday and overnight credit, liquidity and operational exposures.

(6) At the interbank systems infrastructure level, central banks have made major efforts over the past decades to reduce and contain systemic risk by operating and promoting real-time gross settlement systems, and by insisting on the implementation of risk control measures in net settlement systems. To the extent that these efforts have increased the robustness of interbank systems' risk controls, interbank systems should help to dampen and contain any contagion effects being transmitted through the payment system.

Policy implications

The key policy implications identified by the Working Party are:

(1) Because of consolidation, central bank oversight of interbank payment systems is becoming more closely linked with traditional bank safety and soundness supervision at the individual firm level. Increasing cooperation and communication between banking supervisors and payment system overseers may be necessary both domestically and cross-border.

(2) At the current time, it does not appear that consolidation has adversely affected competition in the provision of payment and securities settlement services. It may be advisable,

however, for government authorities to continue to monitor competition in the payment system as short-term effects of consolidation may not be indicative of longer-term effects.

(3) In specific cases, public authorities may want to consider removing potential obstacles to consolidation if such action would enable the market to develop initiatives aimed at reducing risks and enhancing efficiency in the field of payment and securities settlement.

(4) With regard to risk management, central banks and bank supervisors should carefully monitor the impact of consolidation on the payment and settlement business, and should define safety standards when appropriate. In particular, central banks, in conjunction with bank supervisors, may need to consider various approaches, possibly including standards, that could be used to limit potential liquidity, credit and operational risks stemming from concentrated payment flows through a few very large players participating in payment systems. With regard to major payment systems, the Core Principles for Systemically Important Payment Systems now provide a key set of evaluative standards for the relevant authorities.

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