THE REGULATORY AND BUSINESS ENVIRONMENT FOR RISK MANAGEMENT PRACTICES IN THE BANKING SECTORS OF APEC ECONOMIES

REPORT OF A COLLABORATIVE SURVEY UNDERTAKEN BY THE PACIFIC ECONOMIC COOPERATION COUNCIL (PECC) FINANCE FORUM, THE ASIAN BANKERS' ASSOCIATION (ABA) AND THE CHINESE TAIPEI PACIFIC ECONOMIC COOPERATION COMMITTEE (CTPECC)

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INTRODUCTION

Risk management in the banking sector is a key issue linked to financial system stability. Unsound risk management practices governing bank lending played a central role in recent episodes of financial turmoil, most notably during the Asian crisis of 1997-98. Lax prudential rules and financial oversight have been cited as major factors behind such practices, but the regulatory framework governing the standards of bank capital was also at fault.[1]

The 1988 Basel accord – the current framework - made the concept of risk-weighted capital adequacy the global standard and introduced uniformity in capital measurement. However, it was, due to major flaws, ineffective in promoting sound risk management practices.[2] Consequently, the Basel Committee on Banking Supervision has moved to revise the framework. The new capital accord is now being finalized and is scheduled for implementation at the end of 2006.

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1 Stanley Fisher, *The Asian Crisis: A View from the IMF. Address at the Midwinter Conference of the Bankers' Association for Foreign Trade* (Washington, D.C., February 3, 1999).

2 The accord attempted to link the capital that banks must set aside with the risks that they are running. Ideally, banks would have to increase their holdings of capital as the riskiness of their assets increase. This goal, however, was not achieved due to certain factors. First, the rules did not sufficiently discriminate between different levels of risk, and in certain areas rewarded risky lending and investing. Second, the accord has not kept pace with the growing sophistication of risk management, which has increasingly enabled banks to structure their portfolios in ways that go around the capital standard. See "Financial Regulation: Basle Bust," *The Economist* (April 30, 2000). See also Jonathan Golin, "Basel 2 and the New Contours of Capital," *Finance Asia* (June 2001), p. 30, and "Sweeter Basle," *The Economist* (January 18, 2000).

This new accord promises to encourage banks to improve risk management practices.[3] It contains the following significant innovations:

- In measuring the riskiness of assets to determine the minimum capital requirement, operational risk has been added to credit and market risk in order to reflect the broader set of risks involved in bank operations[4].
- Major changes are being introduced in measuring credit risk, which remains the most important factor in determining banks' minimum capital requirements. The new accord proposes a menu of approaches from which banks could choose. It provides incentives for large and complex banking organizations to migrate to the more advanced approaches.
- It reserves crucial roles for supervisory authorities and disclosure rules, reflecting the necessity of adjusting to the increasing sophistication of markets and complexity of modern banking organizations.[5]

The successful implementation of the new accord faces significant challenges, especially in the region's emerging markets.[6] Its adoption is seen to involve significant costs for many banks as well as major improvements in practices and operations.[7] It is also expected to entail extensive preparation on the part of financial regulatory and supervisory authorities, significant legal and regulatory changes, and intensified international cooperation among

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[3] The accord hopes to do this in three major ways. (1) The proposed new accord makes the setting of a regulatory minimum for capital, on which the 1998 accord solely relied, part of a more elaborate three pillar-structure, which now also includes increased supervisory review of banks' assessments of their own capital adequacy and additional public disclosure of bank risk profiles. (2) It seeks to replace the previous accord's "one-size-fits-all" approach (the use of only one option for measuring appropriate capital) with a flexible and incentive-compatible menu-based approach that encourages banks to continue improving their internal risk management practices. (3) It seeks to introduce greater risk sensitivity, to put capital requirements more in line with underlying risks, while retaining the overall level of regulatory capital. Replacing the 1988 accord's broad-brush structure with a more risk-sensitive one would facilitate the measurement of relative risk, which is critical for avoiding capital arbitrage. See Basel Committee on Banking Supervision, *The New Basel Capital Accord: An Explanatory Note* (Basel, January 2001). See also Laurence H. Meyer, *Remarks at the Bank Administration Institute's Conference on Treasury, Investment, ALM and Risk Management* (New York, October 15, 2001).

[4] These risks are defined as follows: credit risk-the risk of loss arising from default by a creditor or counterparty; market risk-the risk of losses in trading positions when prices move adversely; operational risk-the risk of direct or indirect loss from inadequate or failed internal processes, people and systems, or from external events.

[5] The interdependence among the three pillars of minimum capital requirements, supervisory review process and market discipline has been well summed up as follows: "The proposed accord requires banks to establish comprehensive risk management policies and then follow them. Supervisory oversight is designed broadly to test that this is occurring. Public disclosure is intended to harness market discipline so that supervisors can, in fact, be less intrusive as the market becomes more so," Laurence H. Meyer, *Remarks at the Annual Washington Conference of the Institute of International Bankers* (Washington, D.C., March 5, 2001).

[6] For a fuller discussion of these issues with specific reference to Asian banks, refer to Julius Caesar Parrenas, "The Proposed New Basel Accord: A Challenge for Asian Banks and Regulators," *ICBC Economic Review* (March-April 2002), pp. 6-16.

[7] Many observers point out that internal risk management systems in most Asian economies still do not measure up to the Basel standards, see Adam Lincoln, "Credit Ratings: A New Balance," *CFO Asia* (April 2000), p. 8.

relevant authorities.[8] In addition, there is a need to address problems of comparability of practices across jurisdictions.[9]

To assist in these preparations on the part of banks and supervisory authorities, the PECC Finance Forum and the Asian Bankers' Association have undertaken a survey. Specifically, this survey aims to: (a) provide a comprehensive picture of risk management practices across the region for banks to consider in further developing their risk management capabilities; (b) provide valuable information for the design and implementation of capacity-building measures; and (c) produce recommendations to facilitate the policy and regulatory reforms needed by the banking sector.

THE SURVEY OF BANKS AND BANK SUPERVISORY AUTHORITIES

The survey was conducted in March and April 2003. Questionnaires were sent to banks and bank supervisory authorities in the 21 APEC economies. A substantial part, though not all, of APEC member economies were covered by the responses received. A total of 18 supervisory authorities from 16 economies and 57 banks from 15 economies submitted responses. For purposes of this survey, the different economies are classified into three major categories,[10] which are as follows:

- **Mature markets (MMs)**: Australia (AU), Canada (CA), Japan (JP),* New Zealand (NZ),** United States (US)**
- **More developed emerging markets (MDEMs)**: Hong Kong (HK), Singapore (SG), South Korea (KR), Chinese Taipei (CT), Chile (CL)
- **Less developed emerging markets (LDEMs)**: Malaysia (MY), Mexico (MX),* Russian Federation (RU),* Thailand (TH), Peru (PE),* China (CN),*** Philippines (PH), Indonesia (ID), Papua New Guinea (PG), Vietnam (VN)** and Brunei Darussalam (BN).***

*No response from banks
**No response from supervisory authorities
***No response from both supervisory authorities and banks

There was a very good response from supervisory authorities. Although major economies such as the United States and China were not represented among the responding institutions, all the supervisory authorities from MDEMs, as well as most of those from LDEMs and several from MMs responded to the survey. In the case of banks, a good number – 27 from

[8] It has been argued that the supervisory review process is actually the most important issue for Asian banks, as these standards form the basis for internal improvement and adequate governance in regulatory supervision, see Philip D. Sherman, "Banking on Basel," *The Asian Wall Street Journal* (August 2, 2001).

[9] Hans Tietmeyer, "Evolving Cooperation and Coordination in Financial Market Surveillance," *Journal of Banking and Finance* Volume XIV (1999) No. 2, pp. 56-57.

[10] While acknowledging the lack of a widely-accepted definition of the term "emerging markets," this study will use the term to refer to economies that within the last three decades have made substantial economic progress and considerably narrowed the gap between them and more developed economies, which are herein referred to as "mature markets." The division of "emerging markets" into more developed and less developed ones is based partly on the World Bank's classification of economies using GDP per capita (low income economies with less than US$755; lower middle income from US$755 to 2,995; upper middle from US$ 2,995 to 9,265; and high income with over US$9,265). In the study, "emerging markets" that belong to the high income group are categorized as "more developed emerging markets." However, the level of development of financial markets is also considered. Hence, Brunei Darussalam is included among the "less developed emerging markets," with which it shares more similarities in this regard. For this same reason, New Zealand is also counted among the "mature markets" even though its per capita GDP is lower than some of the more developed emerging markets.

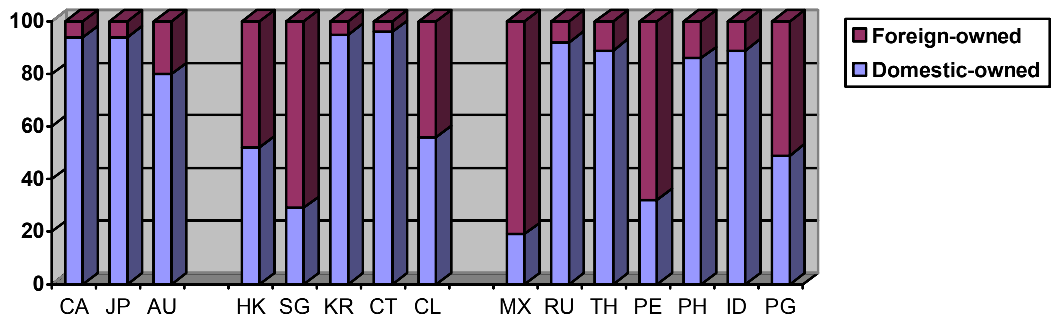
MDEMs and 24 from LDEMs – submitted responses. While very few responses came from MMs, they are still useful as points of reference for comparison. All in all, the responses received, both in quantity and quality, do provide sufficient information to enable the achievement of the aims stated above, most especially with regard to capacity-building.

ASIA-PACIFIC BANKING SYSTEMS: AN OVERVIEW

MAJOR FEATURES OF ASIA-PACIFIC BANKING SYSTEMS

Bank ownership. There is wide variety in bank ownership patterns within the region. The degree of foreign ownership in terms of assets ranges from a low of 4% to a high of 81%. Among those with high levels of foreign ownership[11] are small MDEMs aspiring to become financial centers such as Singapore (71%) and Hong Kong (48%), as well as a number of LDEMs like Mexico (81%), Peru (68%) and Papua New Guinea (51%). Among those with low levels of foreign ownership are MMs such as Canada and Japan (both 6%), MDEMs like Chinese Taipei (4%) and Korea (5%) and LDEMs like Russia (8%), Thailand (11%), Indonesia (11%) and the Philippines (14%). [*See Figure 1.*]

FIGURE 1: Assets of domestic and foreign-owned banks as percent of total assets of the banking system, End-2002

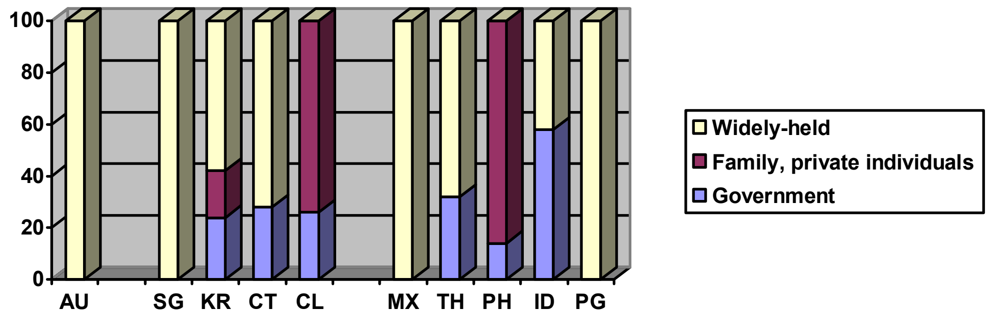


Source: Bank supervisory authorities

There is also wide variety in the types of controlling shareholders, divided into widely-held banks (including those owned by widely-help financial institutions and corporations), banks controlled by families, private individuals or unlisted firms, and government-owned banks. Widely-held banks dominate the banking sector in most economies. Family- and privately-owned banks predominate in Chile and the Philippines. Government-owned banks control most banking assets in Indonesia.

[11] Foreign-owned banks include both fully-owned branches and majority-owned subsidiaries.

FIGURE 2: Ownership of domestic banks (percent of total assets of domestic banks), End-2002

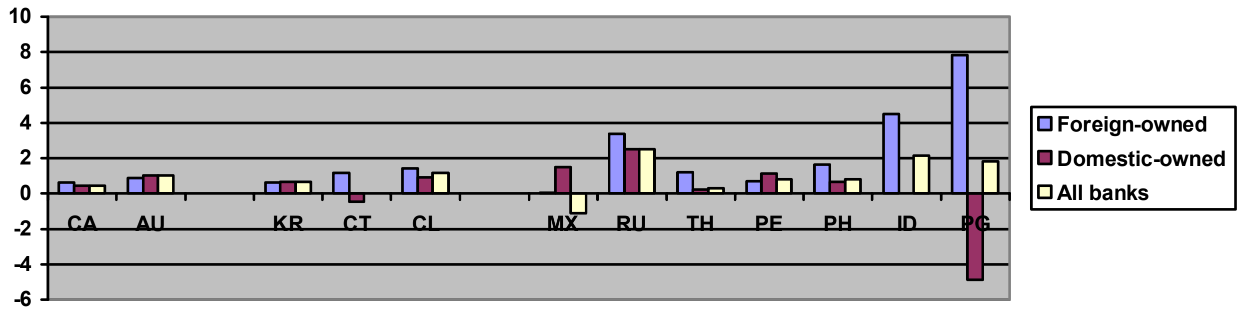


Source: Bank supervisory authorities

Banking system performance. Overall, banks in LDEMs appear to outperform those in MDEMs in profitability, with MM banks lagging behind. However, as Figure 3, and much more clearly, Figure 4 shows, this is true mainly for foreign-owned banks operating in these markets. The opposite is true in the case of domestically owned banks, with those in mature markets posting the best performance, followed by MDEM and LDEM banks, in that order. [*See Figures 3 and 4.*]

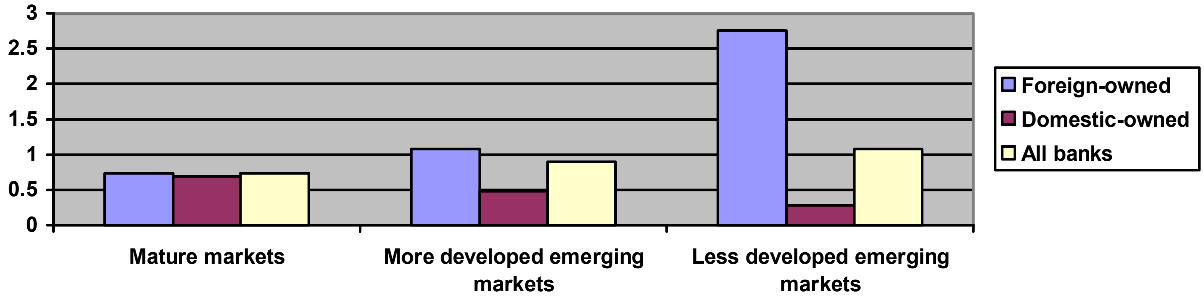
Among domestically owned banks, family- and privately-owned banks turn in the best performance in MDEMs, while government-owned banks are the most profitable in LDEMs. Banks that are widely-held or controlled by widely-held corporations and financial institutions have not performed as well as government and family-owned banks in LDEMs. [*See Figure 5.*]

FIGURE 3: Return on assets of banks in selected APEC economies, 2002



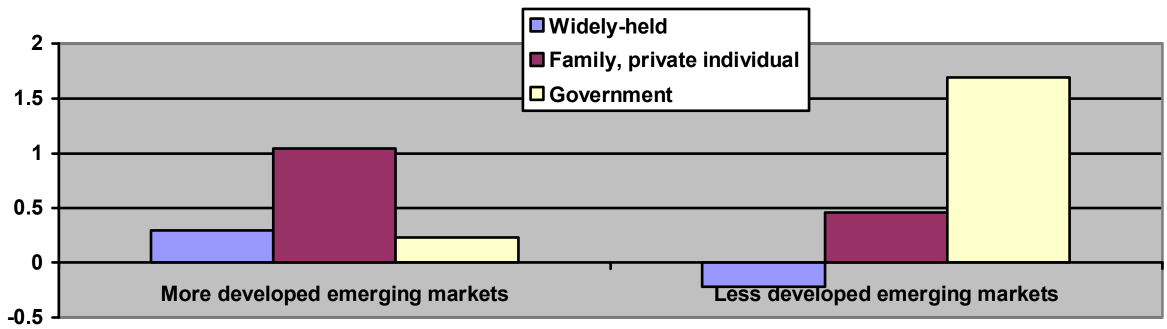
Source: Bank supervisory authorities

FIGURE 4: Return on assets of banks in APEC economies (average by category), 2002



Source: Bank supervisory authorities

FIGURE 5: Return on assets of domestically owned banks in APEC economies (average, by sub-category), 2002



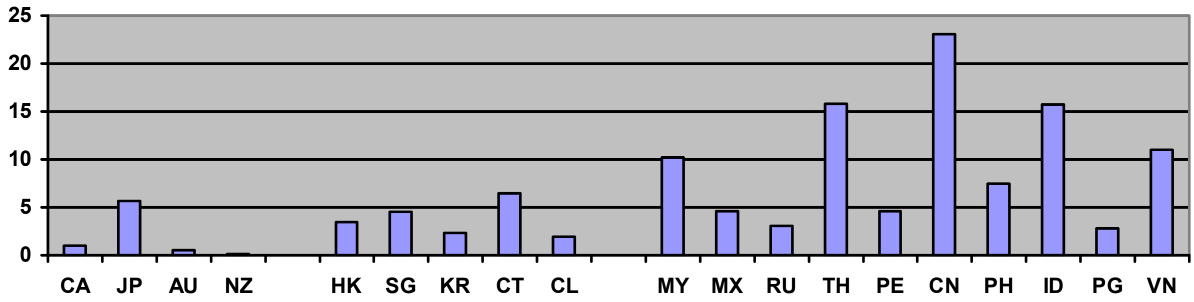
Source: Bank supervisory authorities

These figures indicate that (a) foreign-owned banks are generally more profitable than domestically owned ones, (b) foreign banks in less developed markets are more profitable than those in more developed ones, (c) domestic banks in more developed markets are generally more profitable than their counterparts in less developed ones, and (d) among domestic banks in less developed markets, government and family-owned banks perform better than widely-held banks.

This reflects to a significant extent the remaining effects of the Asian financial crisis of 1997-98. While there has been a significant amount of recovery in recent years, problems persist as financial restructuring in a number of developing Asian economies has progressed at a slow pace.[12] Non-performing loans (NPLs) continue to be a serious problem in several Asian economies, especially in the less developed markets. [*See Figure 6.*]

[12] This also echoes the Asian Development Bank's assessment that banking sectors in the region are "slowly returning to health, although the agenda of restructuring and reforms is far from complete," *ADB Asia Economic Monitor 2003*, February 2003 update (http://aric.adb.org), p. 24.

FIGURE 6: Non-performing loan ratio of the banking system in APEC economies, End-2002

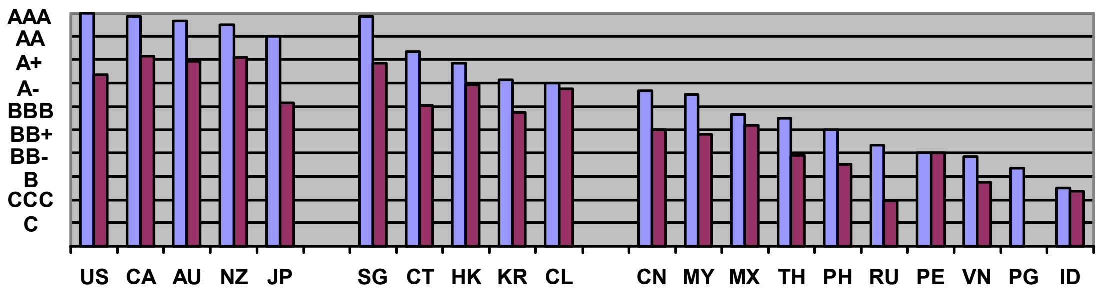


***Notes**: (1) It must be noted that the definition of NPLs applied by bank supervisory authorities varies among economies, and that the figures for several developing economies would be higher if stricter definitions used in key developed markets were to be used. In addition, these figures do not include NPLs that have been transferred to asset management companies. (2) Data for New Zealand represent average data for the 7 locally incorporated banks. (3) Data for Singapore apply only to domestic banks. (4) Data for Chinese Taipei come from the Central Bank of China and apply only to domestic banks; slightly different figures are given by the Ministry of Finance. (5) Data for China apply only to the NPLs of the four largest state-owned banks as of June 2002. (6) Data for the Philippines apply only to commercial banks. (7) Data for Vietnam apply to end-2001 as presented by the ADB in its Asia Economic Monitor 2002 July update. (8) Data for Indonesia and Hong Kong are for aggregate NPL (including those transferred to asset management companies and not yet disposed of).*

Source: Bank supervisory authorities

Risks confronting the banking industry. Sovereign and bank credit ratings indicate the higher level of risks in less developed economies compared to the more developed ones. This is partly reflected in the higher capital adequacy ratios of LDEMs compared to MDEMs and MMs. [*See Figures 7 and 8.*] About half of all supervisory authorities in APEC (and the majority in LDEMs) require higher capital adequacy requirements for banks compared to the requirements in the current capital accord.

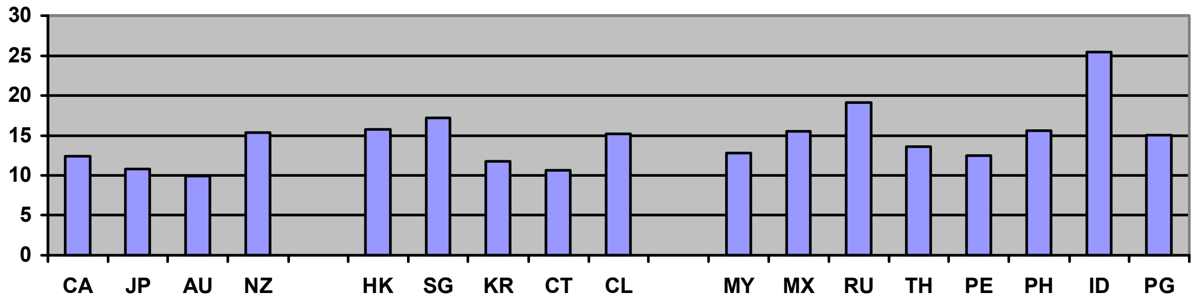
FIGURE 7: Sovereign and banks' credit ratings, 2nd quarter 2003



***Notes**: (1) Sovereign ratings are derived from the average long-term foreign currency ratings provided by Fitch, Moody's and S&P, converted into equivalent S&P rating scales. (2) Banking sector ratings represent the average for local currency ratings given by S&P to banks in each economy. (3) Data are as of May 2003.*

Source: Standard & Poor's, Fitch and Moody's

FIGURE 8: Capital adequacy ratio of the banking industry in APEC economies, End-2002



Source: Bank supervisory authorities

PROFILE OF BANKS RESPONDING TO THE SURVEY

The following describes the profile of banks that responded to the survey:

Size. Most (63%) are large banks with assets greater than US$5 billion; some (19%) are medium-sized with assets of US$1-5 billion.

Controlling shareholders. About half (51%) are widely-held or owned by widely-held financial institutions or corporations and one third (32%) are controlled by government entities. A small portion (13%) are controlled either by a family, a private individual or an unlisted company.

Domestic vs. foreign ownership. The overwhelming majority (81%) are domestically owned. Among foreign-owned banks, two-thirds are fully foreign-owned, while the rest are domestic subsidiaries of foreign banks.

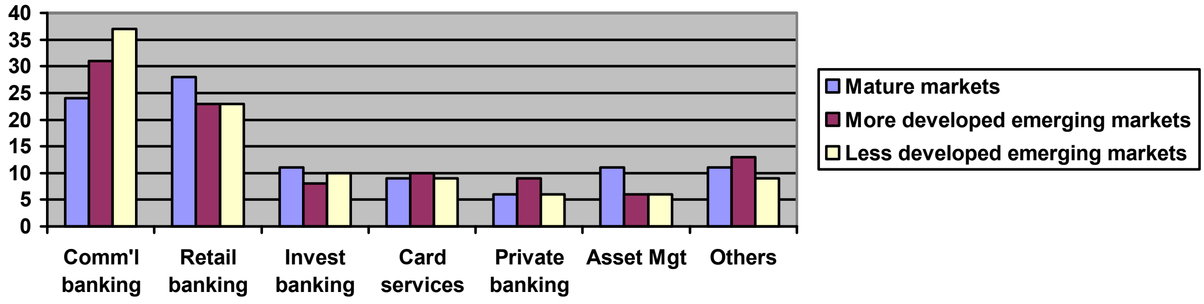
Membership in conglomerates. The overwhelming majority (71%) of banks from LDEMs have controlling shareholders that also control other non-financial companies. Such banks make up only less than half of the total in MDEMs (46%) and a third in MMs (33%). Half of banks from MMs are part of financial holding companies; the figure for MDEMs is lower (40%), and for LDEMs even much lower (25%).

Geographical scope of operations. Almost three-fourths (74%) are mainly engaged in domestic (national and local) operations. Of the remaining banks, half are principally regional (cross-border) banks and the other half are globally operating banks.

International lending and investment activities. An overwhelming majority (81%) are engaged in international lending and investment activities, although such activities are not yet considered significant overall.

Business lines. Retail and commercial banking are the dominant business lines, accounting for 57% of total revenues. Most of the remaining revenues are evenly divided among card services (9%), investment banking (9%), private banking (7%) and asset management (7%). MM banks are more focused on retail than commercial banking, while the opposite is true in emerging markets, and much more so in the LDEMs. [*See Figure 9.*]

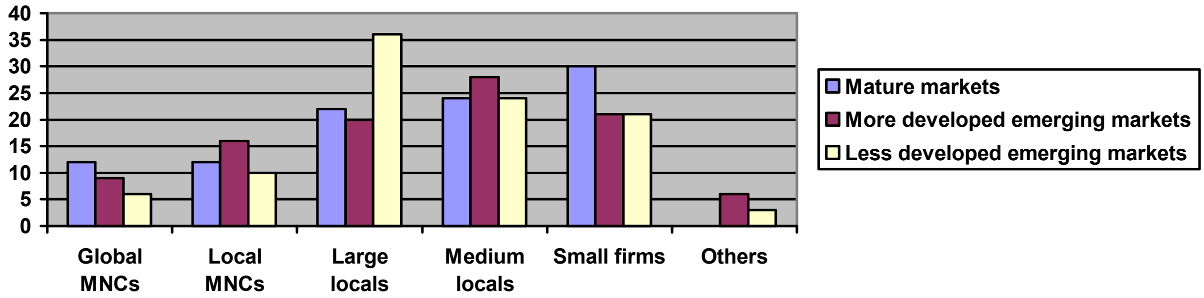
FIGURE 9: Business lines (% of total revenues), 2003



Source: Survey of banks

Markets served (corporate lending). Local firms account for 75% of all the banks' corporate lending revenues. There are some significant differences among economies; banks tend to focus on small business in MMs, medium-sized firms in MDEMs and large local firms in LDEMs. In the case of lending to MNCs, there is much greater focus of banks in MDEMs to serving local MNCs, while banks in MMs equally serve global as well as local MNCs. [*See Figure 10.*]

FIGURE 10: Markets for corporate lending (% of corporate lending revenues), 2003

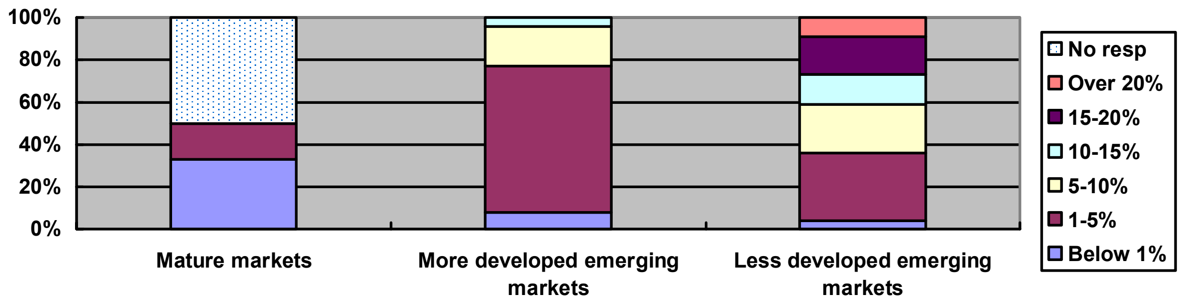


Source: Survey of banks

Ratings of corporate clients. A large majority (65%) of medium- to large-sized corporate clients of banks do not have external credit ratings. Of those that are rated, an overwhelming majority (71%) have investment-grade ratings. This also indicates that there is limited lending by banks to sub-investment grade firms.

Non-performing loans. Many LDEM banks are still beset with significant NPL problems. This is much less so in MDEMs, where the NPL ratio of most banks falls between 1% and 5%. [*See Figure 11.*]

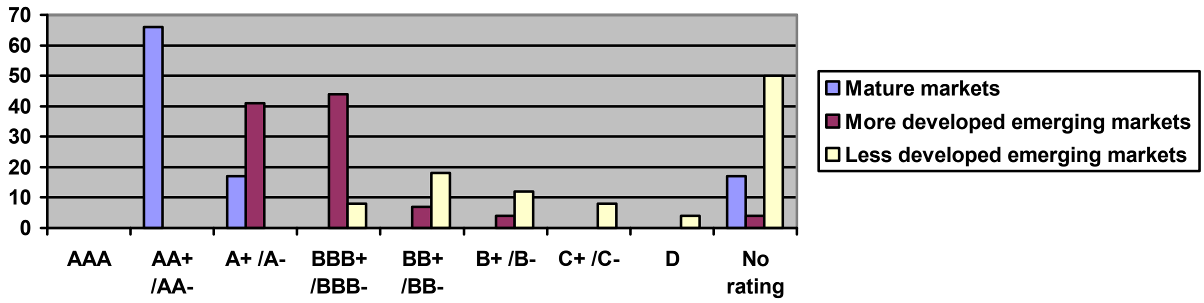
FIGURE 11: Non-performing loan ratio, 2003 (% of banks)



Source: Survey of banks

Banks' credit ratings. While the overwhelming majority of banks in MMs and MDEMs are rated by global credit rating agencies, half of LDEM banks are unrated. Of those LDEM banks that are rated, a significant portion are below investment grade. MM banks have the best ratings. MDEM banks, most of which are rated investment grade, are not far behind. [*See Figure 12*.]

FIGURE 12: Banks' long-term credit ratings given by global rating agencies, 2003 (% of banks)



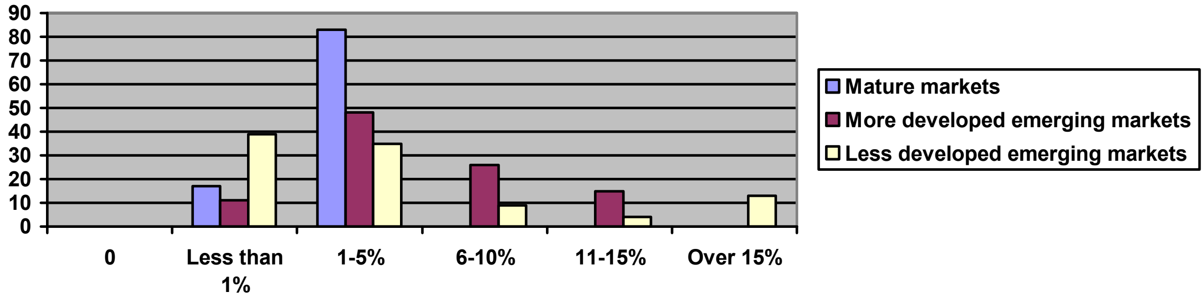
Source: Survey of banks

RISK MANAGEMENT PRACTICES OF BANKS IN APEC ECONOMIES

BANKS' RISK MANAGEMENT PRACTICES IN GENERAL

Employees assigned to risk management tasks. Most MM banks assign between 1% and 5% of their employees to principally undertake risk management tasks. Most MDEM banks follow this norm, although an equally significant number assign a larger percentage of their personnel to these tasks. LDEM banks are divided evenly among three categories: those which follow this norm, those which fall behind and those which allocate a larger part of their personnel to risk management functions. [*See Figure 13*.]

FIGURE 13: Portion of employees assigned principally to risk management tasks (% of banks)



Source: Survey of banks

Frequency of reporting risk exposure as part of regulatory requirements. Most MM banks report market and credit risk exposure as part of regulatory requirements on a quarterly basis. There is more frequent reporting on the part of MDEM and LDEM banks. [*See Figures 14-A and B*.] Most regulators in MDEMs and LDEMs review the risk exposure of domestic banks and domestic subsidiaries of foreign banks on a monthly basis, and to a lesser extent, quarterly.

FIGURE 14: Frequency of submitting risk exposure reports as part of regulatory requirements (% of banks)

Figure 14-A: For Market Risk

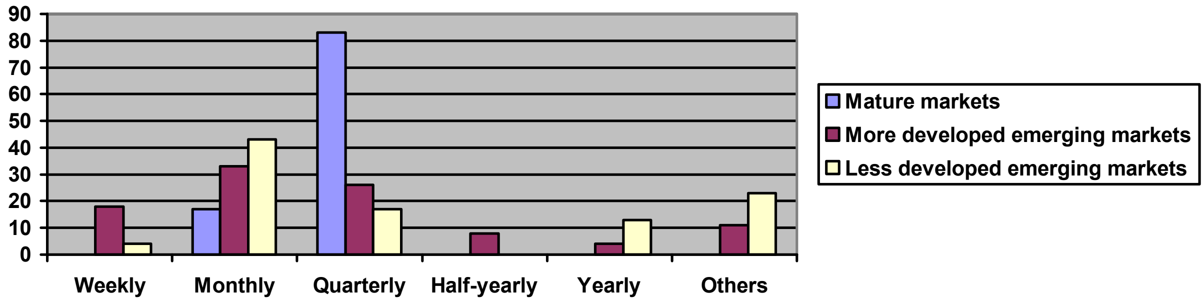
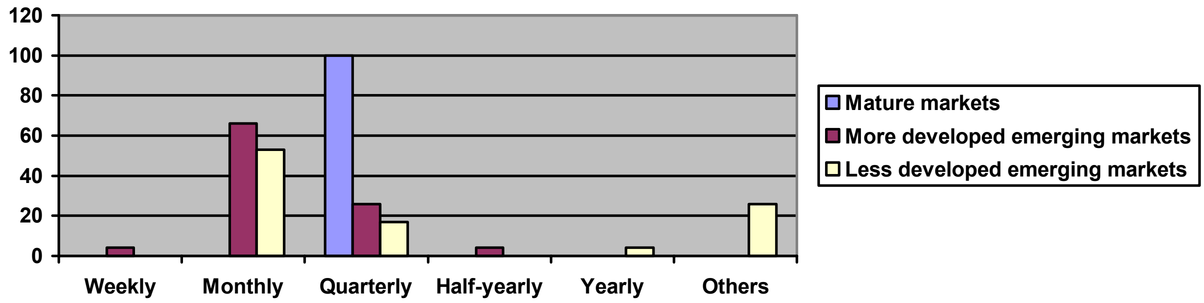


Figure 14-B: For Credit Risk



Source: Survey of banks

Frequency of reporting risk exposure as part of accounting (investor reporting) requirements. Most MM banks report market and credit risk exposure as part of investor reporting requirements on a quarterly and yearly basis. There is more frequent reporting on the part of MDEM and LDEM banks. [*See Figures 15 A and B.*]

FIGURE 15: Frequency of submitting risk exposure reports as part of accounting (investor reporting) requirements (% of banks)

Figure 15-A: For Market Risk

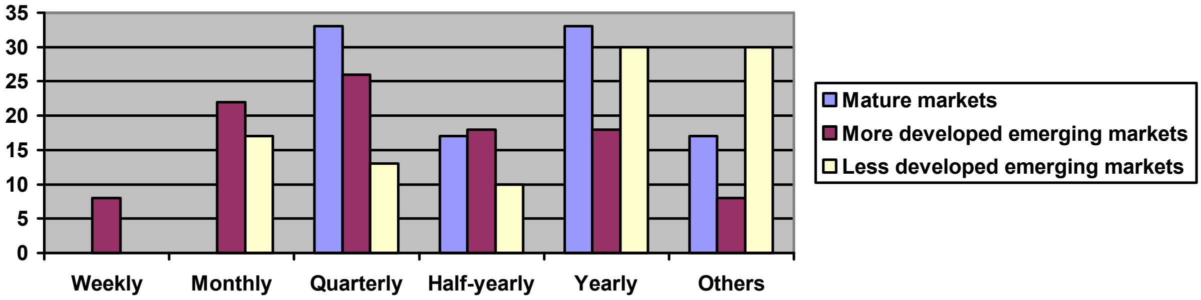
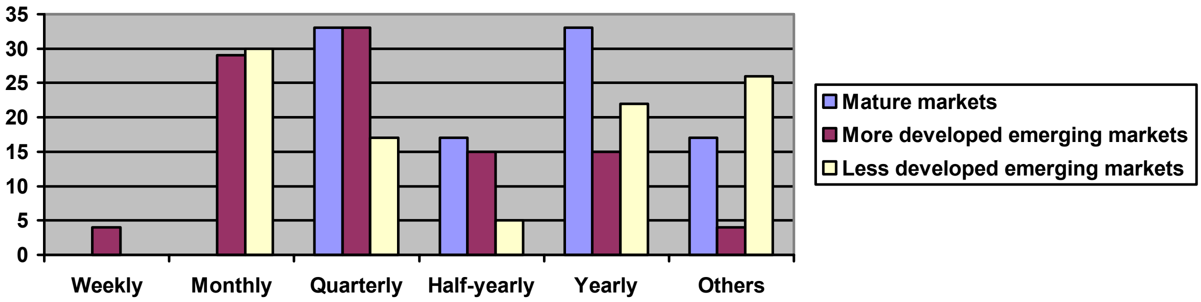


Figure 15-B: For Credit Risk



Source: Survey of banks

Frequency of reporting risk exposure as part of management requirements. There is variety in the frequency of risk exposure reporting as part of management requirements. In general, however, MDEM and LDEM banks report as frequently, if not more, than MM banks. [*See Figures 16-A and B.*]

FIGURE 16: Frequency of submitting risk exposure reports as part of management requirements (% of banks)

Figure 16-A: For Market Risk

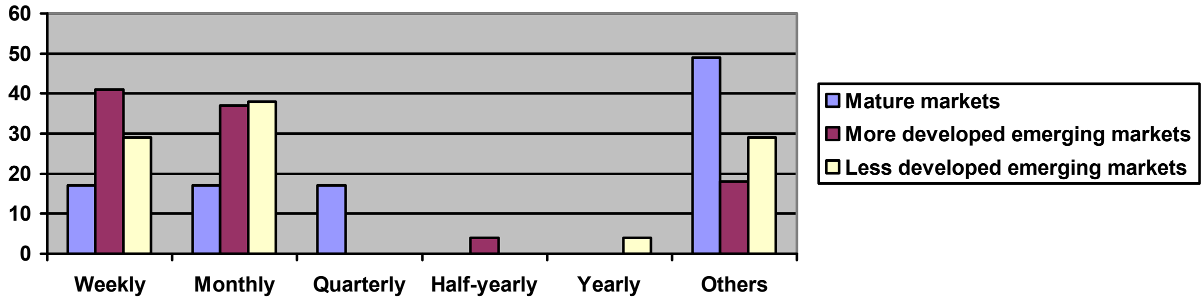
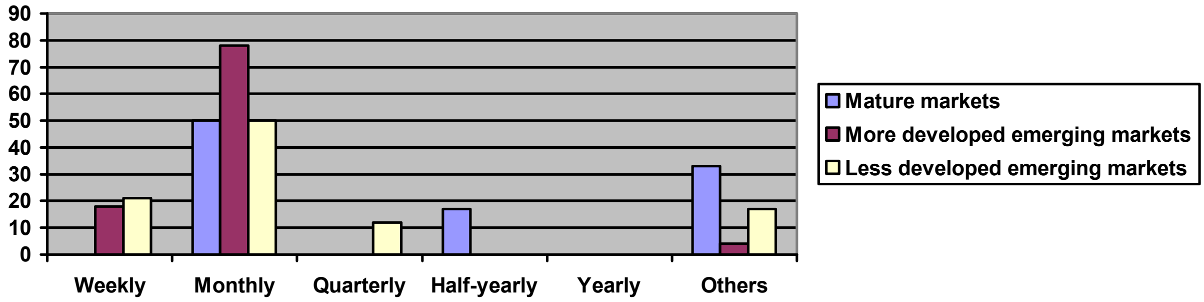


Figure 16-B: For Credit Risk



Source: Survey of banks

Review of banks' risk management techniques and procedures. In MMs, most banks' risk management techniques and procedures come under review by the management (through the management committee or other responsible bodies) and by the supervisory authority both on a yearly basis. The majority of banks in MDEMs and LDEMs likewise undergo yearly reviews; however, a significant number come under more frequent review (every quarter or every semester) both by their own management and by their respective bank supervisors.

Risk management systems in use. In general, most MM banks develop their own risk management systems in-house, while the LDEM banks tend to rely on manual systems. In between these two groups, MDEM banks are found among users of in-house, purchased and manual systems, though systems purchased outside are more popular for use in measuring market risk, in-house systems for credit risk and manual systems for operational risk. [*See Figures 17-A, B and C.*]

FIGURE 17: Type of risk management system used (% of banks)

Figure 17-A: For Market Risk

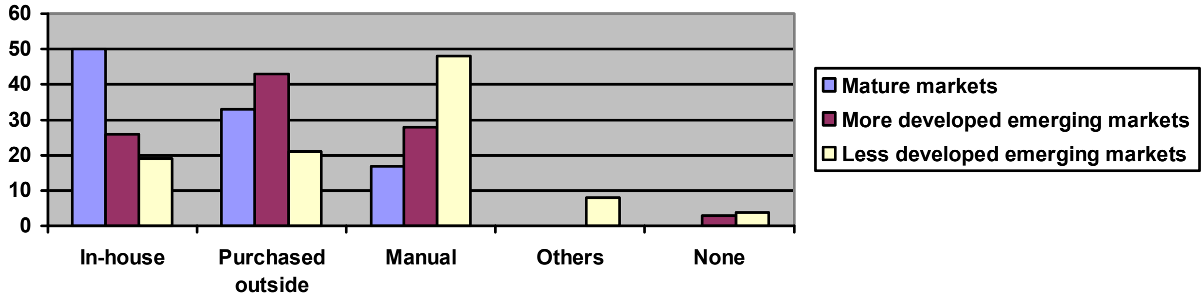


Figure 17-B: For Credit Risk

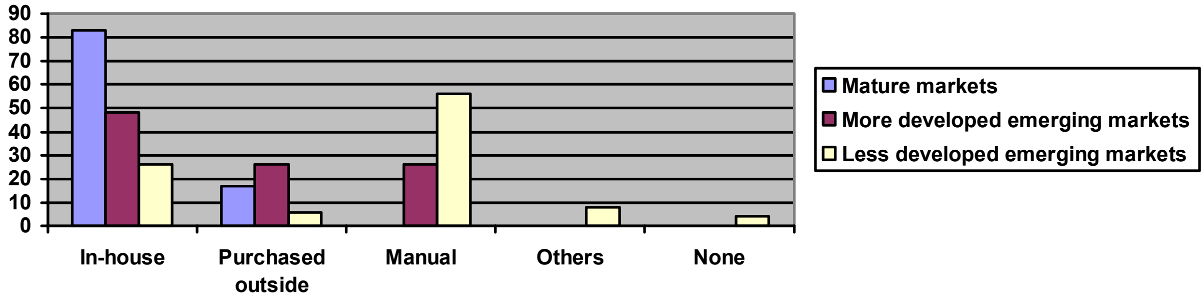
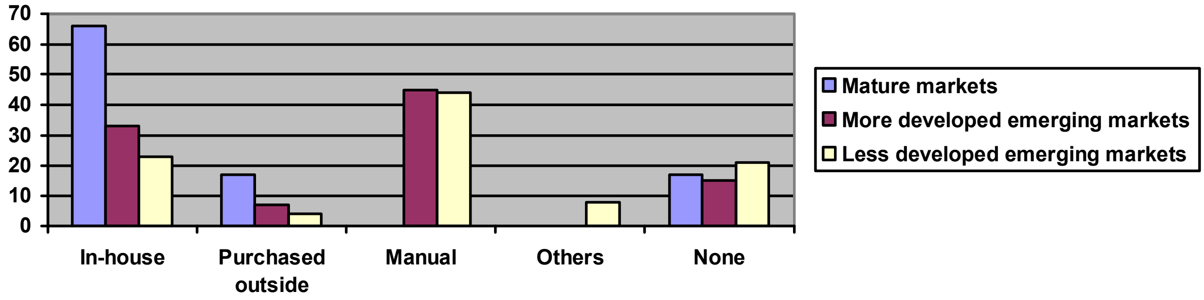


Figure 17-C: For Operational Risk



Source: Survey of banks

Use of derivative instruments. Interest rate and foreign exchange derivatives are used widely in MMs and to a significant extent also in MDEMs. While banks in MMs are able to actually use these instruments, as well as equity derivatives, to the extent that they are needed, banks in MDEMs and LDEMs see a significant need to increase their use. Credit derivatives (for single name corporate, portfolio and consumer) are still not used as much as they are actually needed. However, in MDEMs and LDEMs, the extent to which they are both used and needed remain insignificant. [*See Figures 18-A and B.*]

FIGURE 18: Desired level vs. actual use of derivative instruments (average)

Figure 18-A: Interest rate, exchange rate and equity derivatives

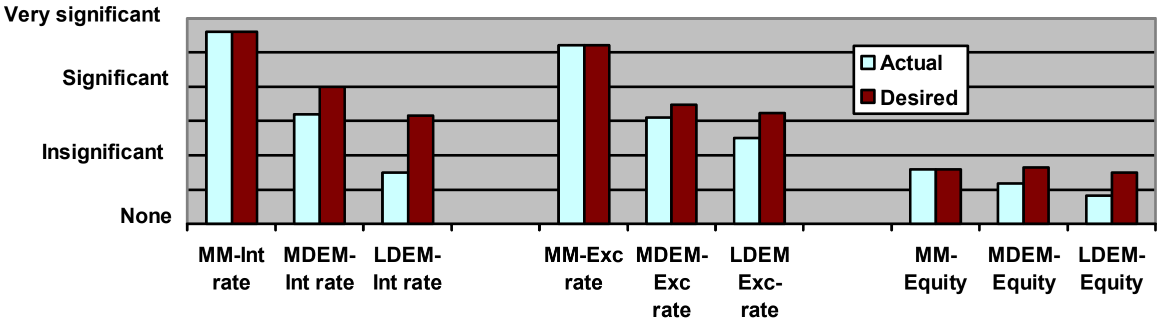
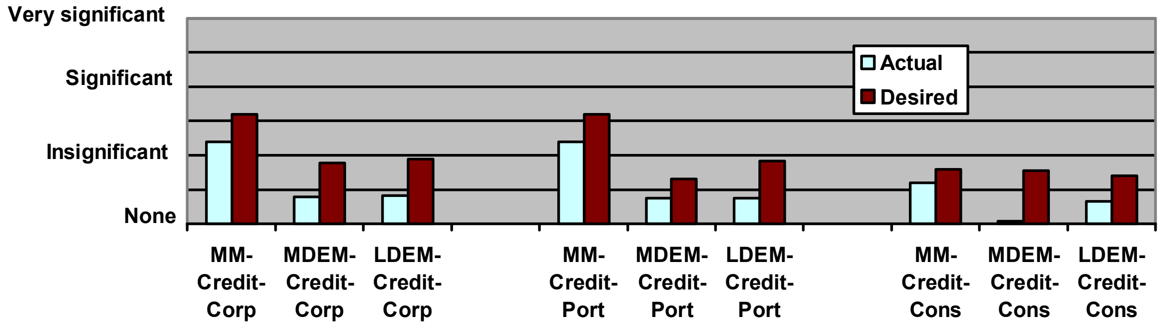


Figure 18-B: Credit derivatives – single name corporate, portfolio and consumer



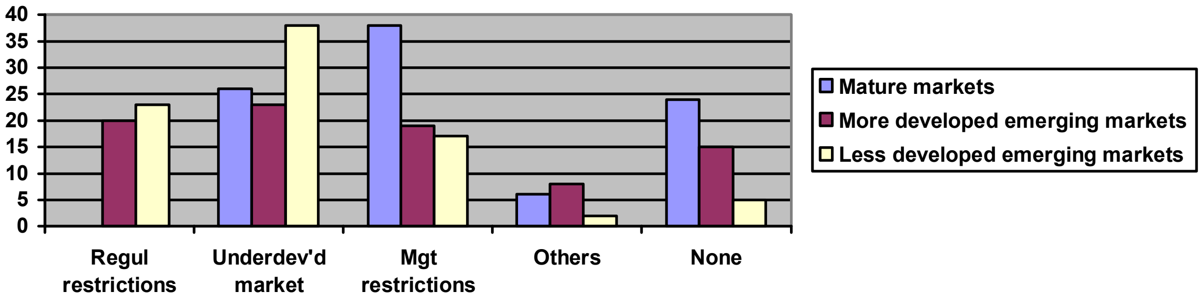
Source: Survey of banks

Regarding the purposes behind the use of derivatives, the greater part of MM banks (60%) use them equally for hedging and trading. In the case of MDEMs and LDEMs, most banks use them mainly for hedging purposes (69% of MDEM banks and 50% of LDEM banks using derivatives), although a significant portion of MDEM banks (23%) use derivatives equally for hedging and trading.

As to the factors that significantly limit the use of derivative instruments, there are important differences between MMs on one hand, and MDEMs and LDEMs on the other. In MMs, regulatory restrictions do not play any significant role, while management restrictions are the main factor limiting the use of derivatives, and in the case of credit derivatives, underdeveloped markets. In MDEMs and LDEMs, underdeveloped markets are the most significant factor (which is especially pronounced in the case of LDEMs), with regulatory restrictions coming in second. [*See Figure 19.*]

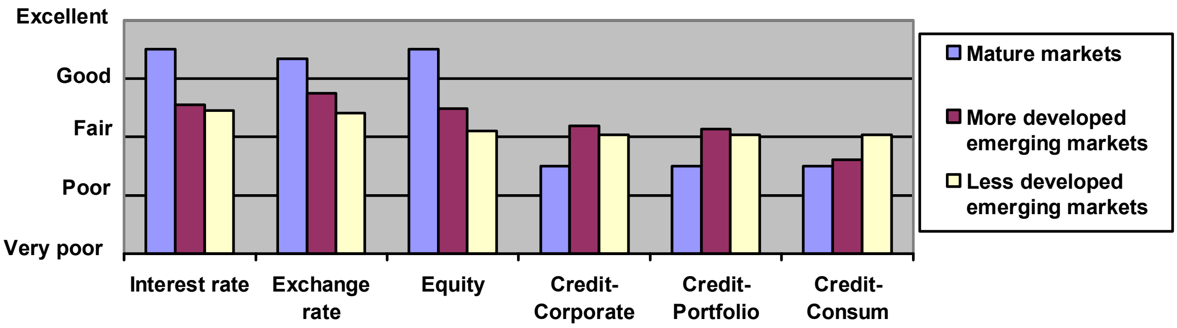
The value of services from derivative market participants are rated as very good by banks in MMs in the case of interest rate and exchange rate derivatives, and quite good by MDEM banks. Banks in MMs rate participants in the credit derivatives market even more poorly than MDEM and LDEM banks. LDEM banks judged the value of services from participants in all markets as fair, with those in interest rate and exchange rate derivatives earning a slightly favorable rating. [*See Figure 20.*]

FIGURE 19: Factors significantly limiting use of derivatives (% of banks' total answers)



Source: Survey of banks

FIGURE 20: Banks' assessment of value of services from derivative market participants in their respective host economies (average)



Source: Survey of banks

CREDIT RISK MANAGEMENT PRACTICES

Major sources of credit risk. Most credit risk losses for banks are generated primarily by counterparty risk. In LDEMs, there is some concern about pre-settlement and settlement risk.

Credit risk environment. In its Principles for the Management of Credit Risk,[13] the Basel Committee stated as Principle 1 that:

> *The board of directors should have responsibility for approving and periodically (at least annually) reviewing the credit risk strategy and significant credit risk policies of the bank. The strategy should reflect the bank's tolerance for risk and the level of profitability the bank expects to achieve for incurring various credit risks.*

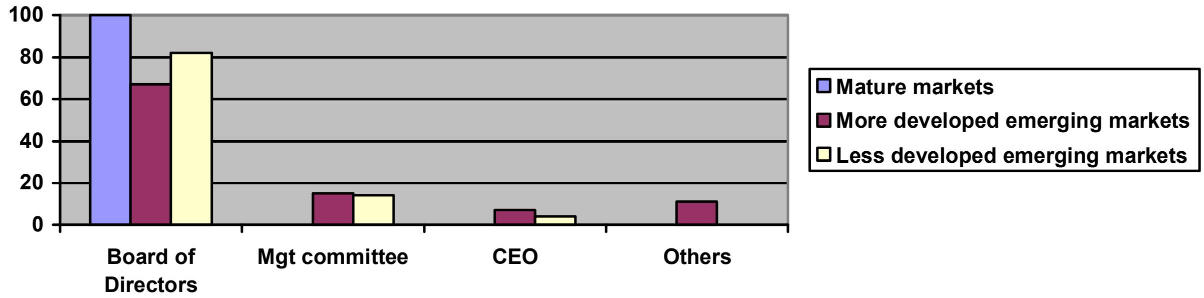
Banks in MMs generally comply with this principle, where the task of approving the credit risk strategy is reserved to the board of directors, and this strategy is reviewed annually in most cases. The practices of a majority of banks in MDEMs and LDEMs also conform to this principle, although a significant portion, especially in MDEMs, maintain a different practice, where management (either the management committee or the CEO) undertakes the approval of credit risk strategy. In terms of frequency of review, a majority of MDEM and LDEM

[13] Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 3

banks also undertake such reviews on a yearly basis, but a significant portion of MDEM banks opt for more frequent reviews. In the case of LDEM banks, the remainder are evenly divided between those which undertake more frequent (half-yearly) reviews and those which carry out no reviews at all. [*See Figures 21 and 22*.]

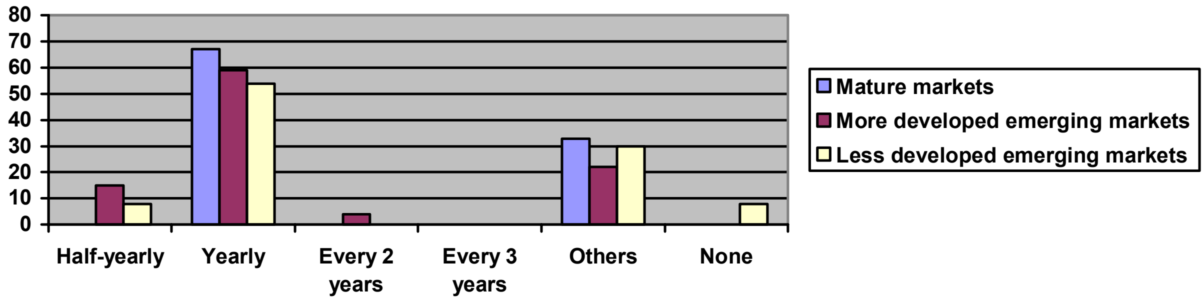
In terms of the content of the credit risk strategy, all the major items suggested in the Basel Committee principles (credit-granting criteria, level of diversification, concentration tolerances and identification of target markets) are evenly considered as part of the strategy across economies. As far as including these various items into the strategy, MDEM and LDEM banks tend to do this more comprehensively than their counterparts in MMs. [*See Figure 23*.]

FIGURE 21: Unit responsible for approving credit risk strategy and major credit risk policies of the bank (% of banks)



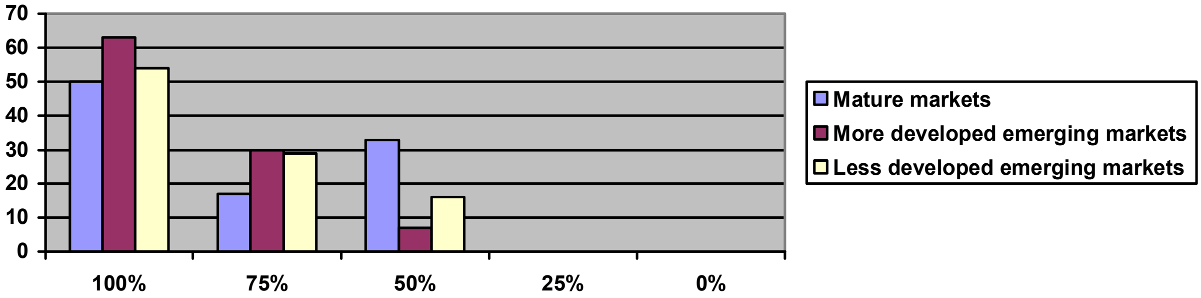
Source: Survey of banks

FIGURE 22: Frequency of internal review of credit risk strategy (% of banks)



Source: Survey of banks

FIGURE 23: Level of conformity with Basel Committee Principles for the Management of Credit Risk related to items for inclusion in credit risk strategy (% of banks)



Source: Survey of banks

Credit-granting process. One of the Basel Committee principles for the management of credit risk emphasizes the need for sound, well-defined credit-granting criteria, which "should include a thorough understanding of the borrower or counterparty, as well as the purpose and structure of the credit, and its source of repayment."[14] The Basel Committee enumerates a list of elements, which as a minimum, should be considered in granting credits.[15]

All the elements enumerated by the Basel Committee are included in the credit granting criteria of the majority of banks in all economies. Credit granting practices of banks from MMs and LDEMs exhibit a high level of conformity with the Basel Committee principle in terms of the number of elements included in their credit-granting criteria, while a portion of MDEM banks omit a number of these elements. [*See Figure 24*.]

The Basel Committee also stresses the need for banks to become familiar with a counterparty or borrower prior to establishing a new credit relationship, and spells out ways to ensure that the borrower or counterparty is not engaged in fraudulent activities.[16] The Committee cautions banks from granting credits on the sole basis of the borrower being known to the bank or is perceived to be highly reputable.

In general, banks from all economies observe most of these guidelines, although MM banks tend to rely very much on objective information as compared to MDEM and LDEM banks,

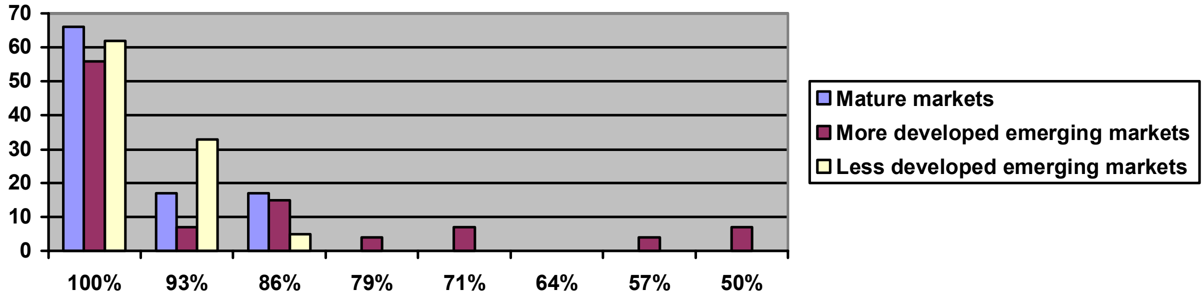
[14] Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 9.

[15] These factors include the following: the purpose of the credit and sources of repayment; the current risk profile (including the nature and aggregate amounts of risks) of the borrower or counterparty and collateral and its sensitivity to economic and market developments; the borrower's repayment history and current capacity to repay, based on historical financial trends and future cash flow projections, under various scenarios; for commercial credits, the borrower's business expertise and the status of the borrower's economic sector and its position within that sector; the proposed terms and conditions of the credit, including covenants designed to limit changes in the future risk profile of the borrower; and where applicable, the adequacy and enforceability of collateral or guarantees, including under various scenarios. In addition, in approving borrowers or counterparties for the first time, consideration should be given to the integrity and reputation of the borrower or counterparty as well as their legal capacity to assume the liability, Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 9.

[16] These include the following: asking for references from known parties, accessing credit registries, and becoming familiar with individuals responsible for managing a company and checking their personal references and financial condition.

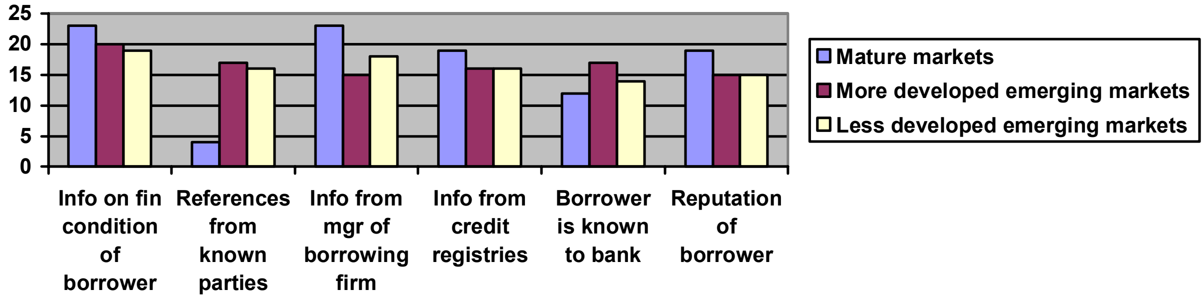
which give more weight to references from known parties than their counterparts in MMs. [*See Figure 25*.] MDEM and LDEM banks tend to abide by the Basel Committee principles in terms of adopting most of its suggestions regarding this matter. [*See Figure 26*.]

FIGURE 24: Level of conformity with Basel Committee Principles for the Management of Credit Risk related to inclusion of elements for consideration in credit-granting (% of banks)



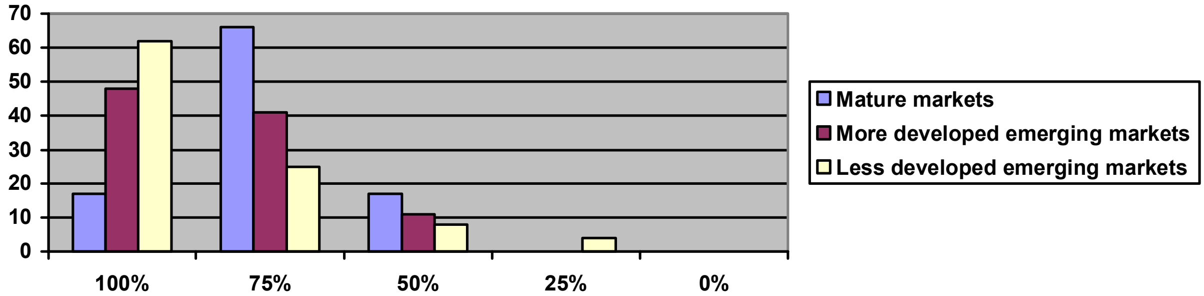
Source: Survey of banks

FIGURE 25: Factors considered when deciding to enter into new credit relationships (% of banks' total answers)



Source: Survey of banks

FIGURE 26: Level of conformity with Basel Committee Principles for the Management of Credit Risk related to inclusion of factors for consideration in entering into new credit relationships (% of banks)



Source: Survey of banks

Credit administration, measurement and monitoring process. The importance of a well-structured internal risk rating system in monitoring and controlling credit risk is underlined in the Principles for the Management of Credit Risk.[17] While the number of categories varies from simpler systems to ones with numerous gradations, how banks categorize credits into a number of classes to take into account gradations of risk has an impact on how they can effectively differentiate the degree of credit risk in their different credit exposures.

MM banks tend to have a larger number of grades for non-impaired exposures, and to a lesser extent in the case of impaired exposures, compared to MDEM and LDEM banks. [*See Figures 27-A and B*.] In terms of number of grades reported, most emerging market banks reflect the industry average in the case of impaired grades, but fall below this average in the case of non-impaired grades.[18]

In terms of analytical techniques for quantifying the risk involved in exposures to borrowers or counterparties, more LDEM banks tend to rely on statistical models than on expert judgment and external ratings, especially in dealing with small corporate borrowers.[19] The large part of MDEM and MM banks rely on expert judgment and external ratings in dealing with large borrowers, and on expert judgment in dealing with small and medium borrowers. [*See Figure 28*.]

The *Principles for the Management of Credit Risk* also identify the elements of an effective credit monitoring system, which is important for monitoring the condition of individual credits and determining the adequacy of provisions and reserves.[20] More MDEM and LDEM banks, especially the latter, tend to more comprehensively include these elements in their credit monitoring systems. [*See Figure 29*.]

[17] This is presented as Principle 10: "Banks are encouraged to develop and utilise an internal risk rating system in managing credit risk. The rating system should be consistent with the nature, size and complexity of a bank's activities," Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 14.

[18] The average number of grades reported by banks in a survey undertaken by the Basel Committee on Banking Supervision in 2000 for non-impaired grades is 10 and for impaired grades 3, Basel Committee on Banking Supervision, *Range of Practice in Banks' Internal Ratings Systems* (Basel, January 2000), p. 14.

[19] These categories are based on the work of the Basel Committee's Models Task Force, Basel Committee on Banking Supervision, *Range of Practice in Banks' Internal Ratings Systems* (Basel, January 2000), p. 17.

[20] These are measures to "ensure that the bank understands the current financial condition of the borrower or counterparty; monitor compliance with existing covenants; assess, where applicable, collateral coverage relative to the obligor's current condition; identify contractual payment delinquencies and classify potential problem credits on a timely basis; and direct promptly problems for remedial management," Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 14.

FIGURE 27: Number of grades covering corporate loans in banks' internal risk rating system (% of banks)

Figure 27-A: For non-impaired exposures

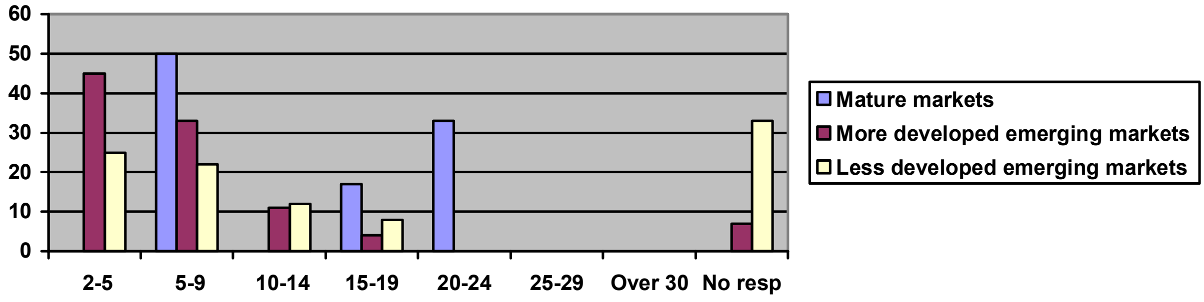
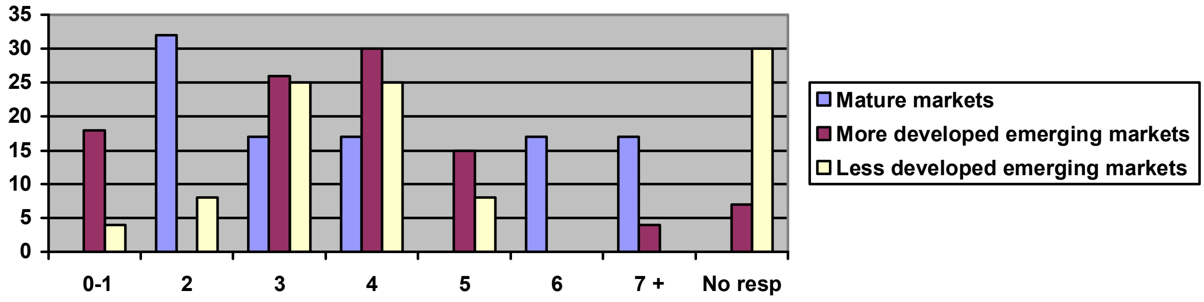
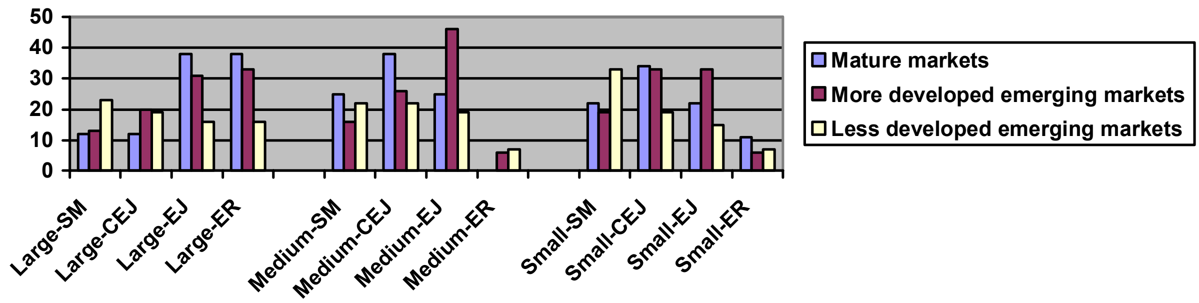


Figure 27-B: For impaired exposures



Source: Survey of banks

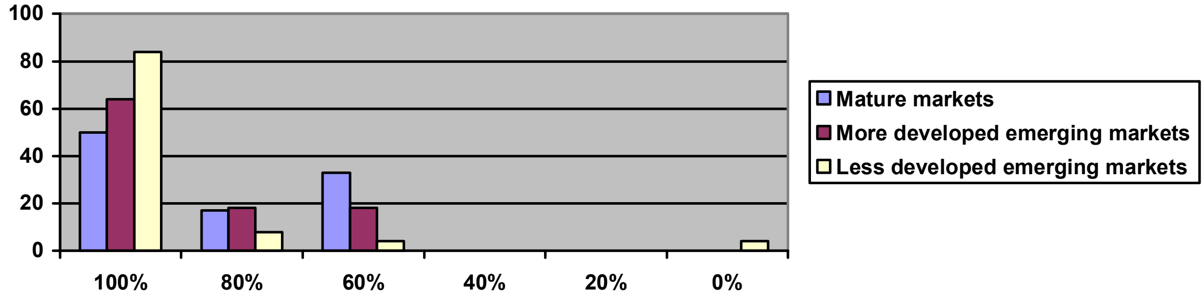
FIGURE 28: Techniques used by banks in the credit rating process for large, middle-market and small corporates (% of banks)



SM = Statistical models
CEJ = Constrained expert judgment
EJ = Expert judgment
ER = External ratings

Source: Survey of banks

FIGURE 29: Level of conformity with Basel Committee Principles for the Management of Credit Risk related to inclusion of items to monitor related to condition of individual borrowers and single obligors (% of banks)



Source: Survey of banks

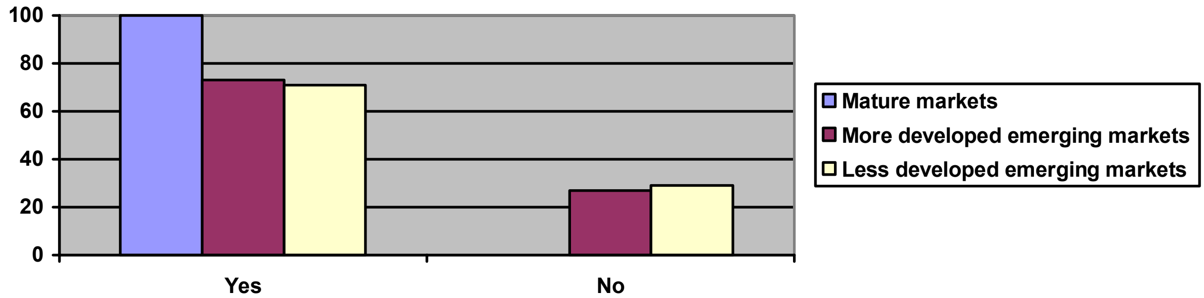
In the section of the principles dealing with internal risk ratings, the Basel Committee states:[21]

> *Because of the importance of ensuring that internal ratings are consistent and accurately reflect the quality of individual credits, responsibility for setting or confirming such ratings should rest with a credit review function independent of that which originated the credit concerned. It is also important that the consistency and accuracy of ratings is examined periodically by a function such as an independent credit review group.*

The undertaking of assignment and review of customer risk grades in the bank by an independent credit unit is widely practised in MMs. Although a majority of MDEM and LDEM banks also comply with this requirement, a significant portion, especially in LDEMs (29%) still do not conform to this standard. [*See Figure 30*.]

As to the types of credit risk models used by banks, expected default frequency is a popular option among banks in MMs, and to a certain extent in LDEMs, while credit VaR is used by a significant portion of MDEM banks. However, a significant plurality of banks in emerging markets (41% of MDEM banks and 38% of LDEM banks) are not using credit risk models. [*See Figure 31*.]

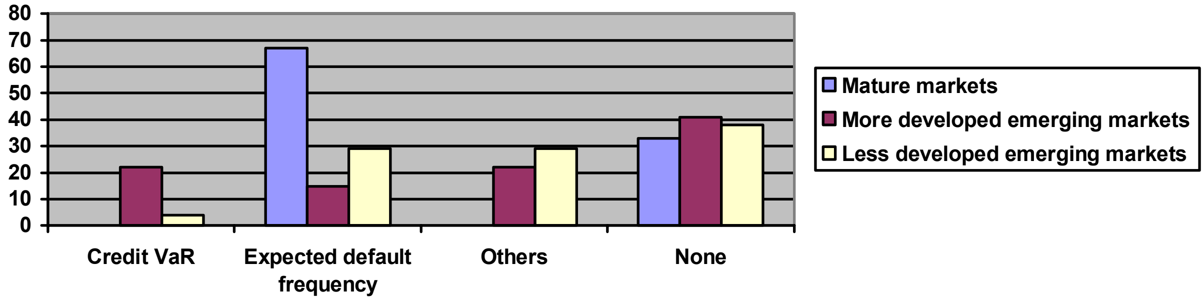
FIGURE 30: Existence of independent credit unit responsible for assignment and/or review of customer risk grades in the bank (% of responding banks)



Source: Survey of banks

[21] Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 15.

FIGURE 31: Credit risk models used by banks (% of banks)

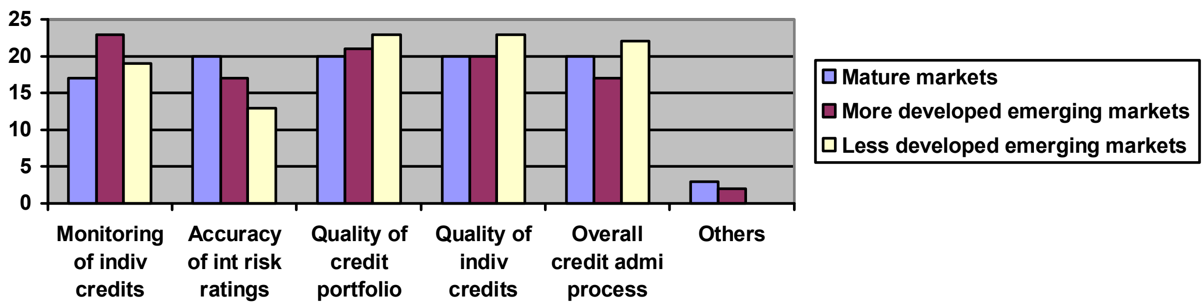


Source: Survey of banks

Controls over credit risk. The Principles for the Management of Credit Risk underscores the need for "internal credit reviews conducted by individuals independent from the business function," and lists several items that such credit reviews should focus on as part of the internal assessment of the credit risk management process.[22] These items form part of most banks' credit reviews across all economies, although to a certain extent there is less emphasis on the monitoring of individual credits among MM banks and on the accuracy of internal risk ratings on the part of MDEM and LDEM banks. [*See Figure 32*.] Although the majority of banks in all economies include all these items in internal credit reviews, a significant portion of MDEM and LDEM banks are not as comprehensive in their reviews. [*See Figure 33*.]

The Basel Committee also stated in one of the Principles for the Management of Credit Risk (Principle 14) that banks "should establish a system of independent, ongoing credit review and that such reviews should be communicated directly" to "the board of directors, a committee with audit responsibilities or senior management without lending authority."[23] All MM banks and a majority of LDEM banks conform to this principle, but not the majority of MDEM banks. [*See Figure 34*.]

FIGURE 32: Items regularly reviewed by banks as part of internal assessment of the credit risk management process (% of banks' answers)

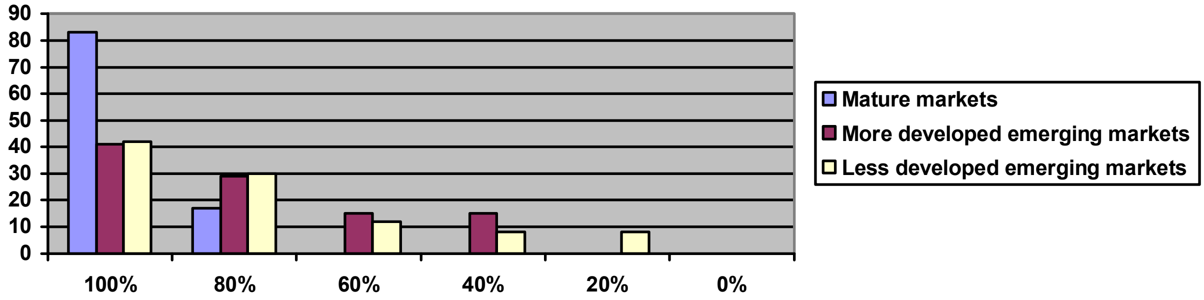


Source: Survey of banks

[22] Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 18.

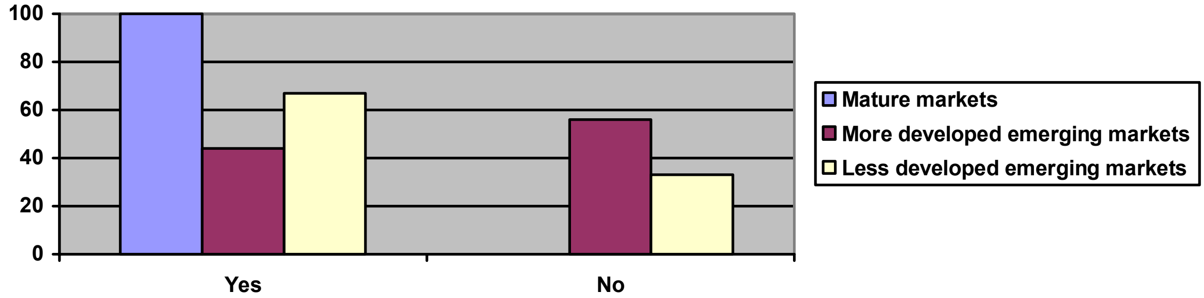
[23] Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 4.

FIGURE 33: Level of conformity with Basel Committee Principles for the Management of Credit Risk related to inclusion of items regularly reviewed as part of banks' internal assessment of the credit risk management process (% of banks)



Source: Survey of banks

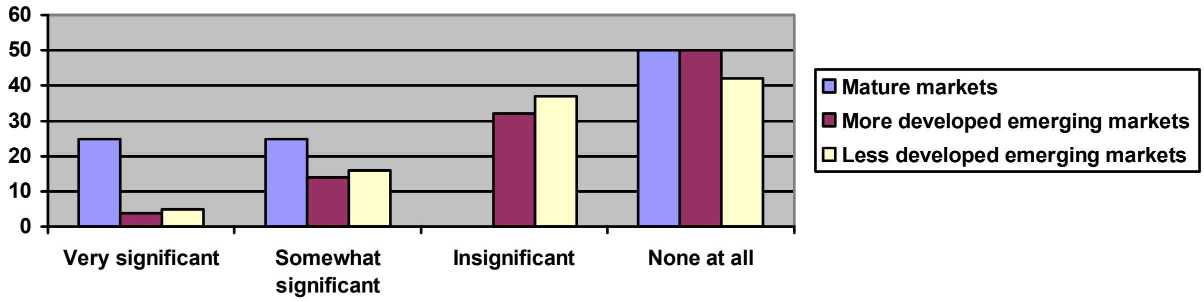
FIGURE 34: Whether the credit review function reports directly to the board of directors, a committee with audit responsibilities or senior management without lending authority (% of responding banks)



Source: Survey of banks

Application of securitization to the loan book. Many banks, including in MMs, do not apply securitization to the loan book for reducing risk concentration. MM banks who do so, however, are able to use securitization to a significant extent, while its application in MDEMs and LDEMs is rather limited. [*See Figure 35*.]

FIGURE 35: Extent of application of securitization to the loan book for reducing risk concentration (% of responding banks)



Source: Survey of banks

MARKET RISK MANAGEMENT PRACTICES

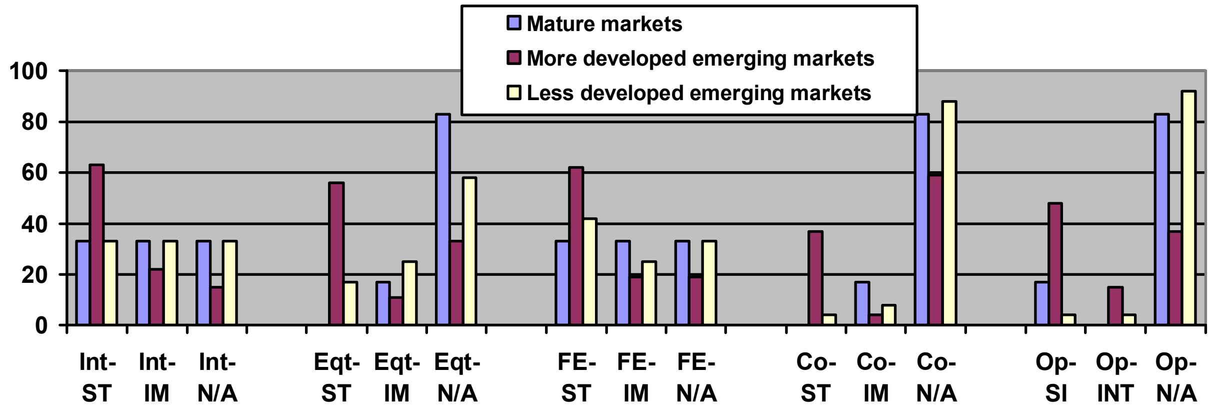
Major sources of market risk. In LDEMs, interest rate and foreign exchange risks generate the most market risk losses for banks, as in MMs. In MDEMs, interest rate risk is the largest source of losses from market risk, followed by equity position risk and foreign exchange risk.

Approaches to measuring market risk. In general, MDEM and LDEM banks use the more basic approaches to calculate market risk capital. Most MDEM banks, which measure the various types of market risk, except commodities risk, use the standardized approach for measuring interest rate, foreign exchange and equity position risk and the simplified approach for options risk. Most LDEM banks measure mainly interest rate and foreign exchange risk, and, to a more limited extent, equity position risk. LDEM banks' use of more advanced approaches in measuring these risks, although very limited, exceeds that of their MDEM counterparts. [*See Figure 36.*]

FIGURE 36: Approach used to calculate market risk capital (% of responding banks)

For: Interest rate risk (Int), Equity position risk (Eqt), Foreign exchange rate risk (FE), Commodities risk (Co) and Options risk (Op)

Approaches: Standardized (ST), Internal Models (IM), Simplified (SI), Intermediate (INT); N/A stands for "not applicable"



Source: Survey of banks

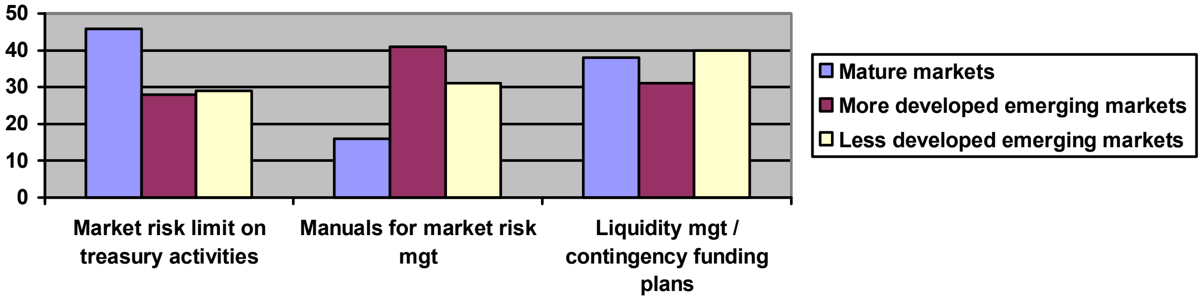
System for market risk management. Systems for market risk management vary across economies. In general, MM banks tend to rely more on market risk limits applied to controlling treasury activities (such as VaR limit), and to some extent also on liquidity management and contingency funding plans. MDEM banks tend to rely on manuals for market risk management. Most LDEM banks use liquidity management and contingency funding plans to a significant extent. [*See Figure 37.*]

An overwhelming majority of banks across all economies include at least two of these items in their system for market risk management. In LDEMs, a relatively large portion of banks with comprehensive market risk management systems coexists with a significant portion that does not include key elements in their systems. [*See Figure 38.*]

In MMs, banks generally review their overall risk management process annually, the minimum suggested by the Basel Committee.[24] This is also the case for most banks in MDEMs and LDEMs, although some banks review their systems more often (half-yearly or quarterly). [*See Figure 39.*]

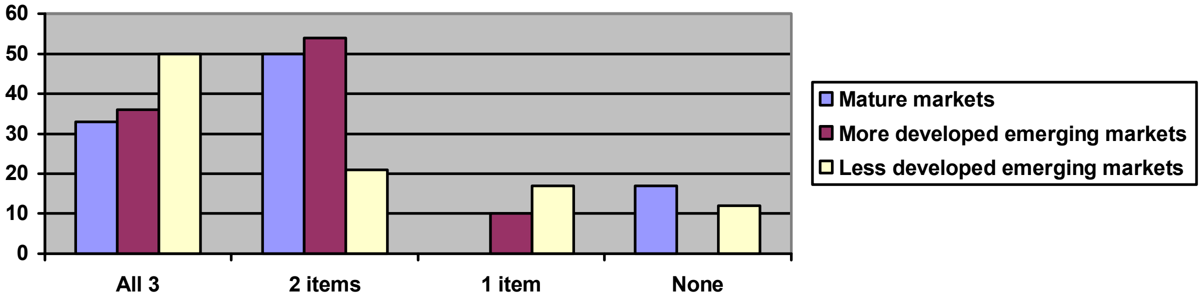
[24] Basel Committee on Banking Supervision, *Amendment to the Capital Accord to Incorporate Market Risks* (Basel, January 1996, updated to April 1998), p. 40.

FIGURE 37: Items included in market risk management system (% of banks' answers)



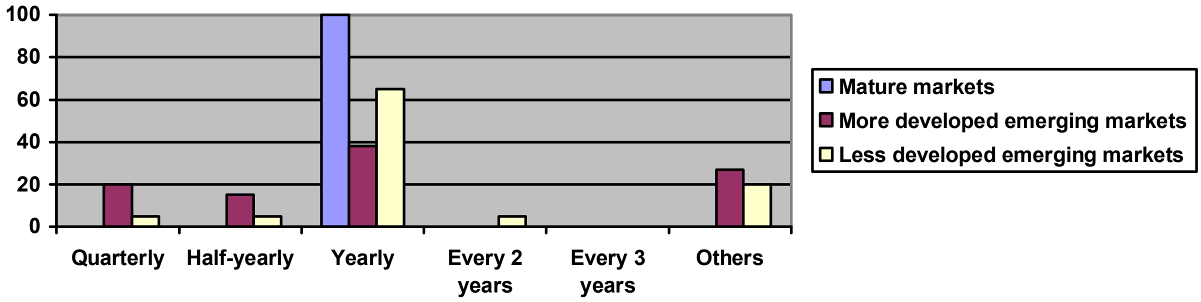
Source: Survey of banks

FIGURE 38: Use of market risk limits, manuals and liquidity management/contingency funding plans as part of market risk management (% of banks)



Source: Survey of banks

FIGURE 39: Frequency of internal review of system for market risk management (% of banks)



Source: Survey of banks

Several items have been identified by the Basel Committee as key issues that should be covered in reviews of market risk management systems.[25] In the case of most MM banks,

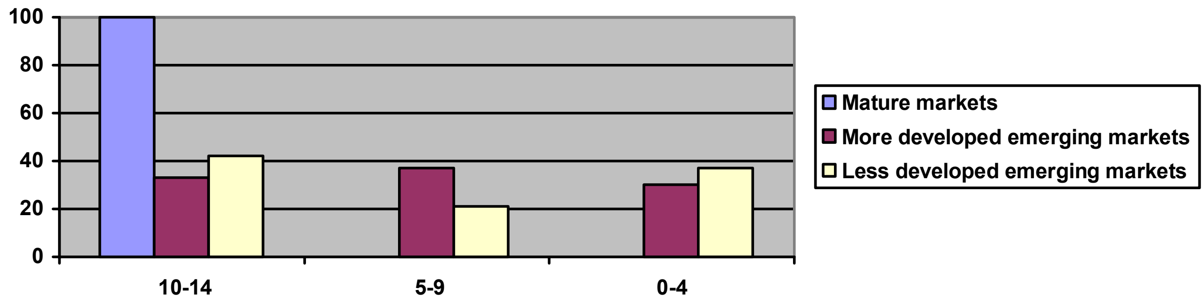
[25] These are availability of reliable market prices for rarely traded products and instruments; organization of the risk control unit; integration of market risk measures into daily risk management; approval process for risk pricing models and valuation systems; validation of significant changes in the risk measurement process; scope of market risks captured by the risk measurement model; integrity of management information system; accuracy and completeness of position data; consistency, timeliness and reliability of data sources used in internal models; independence of data sources used in internal models; accuracy and appropriateness of volatility and correlation assumptions; accuracy of valuation and risk transformation calculations; verification of model's accuracy through frequent back-testing; and documentation of system and process, see Part B.2 (h) of Basel

these issues are comprehensively covered in internal reviews. This is not the case with MDEM and LDEM banks; although roughly a third cover these issues as comprehensively as MM banks, another third include only very few of these key issues in their reviews of systems for market risk management. [*See Figure 40*.]

Those issues most covered by MDEM banks are (a) accuracy and completeness of position data, (b) integration of market risk measures into daily risk management, and (c) the accuracy of valuation and risk transformation calculations. Those least covered are (a) independence of data sources used in internal models and (b) verification of the model's accuracy through frequent backtesting.

Those issues most covered by LDEM banks are (a) integrity of management information system, (b) availability of reliable market prices for rarely traded products and instruments, and (c) accuracy and completeness of position data. Those least covered are (a) validation of significant changes in the risk measurement process and (b) the accuracy and appropriateness of volatility and correlation assumptions.

FIGURE 40: Number of key issues covered in review of market risk management systems (% of banks)

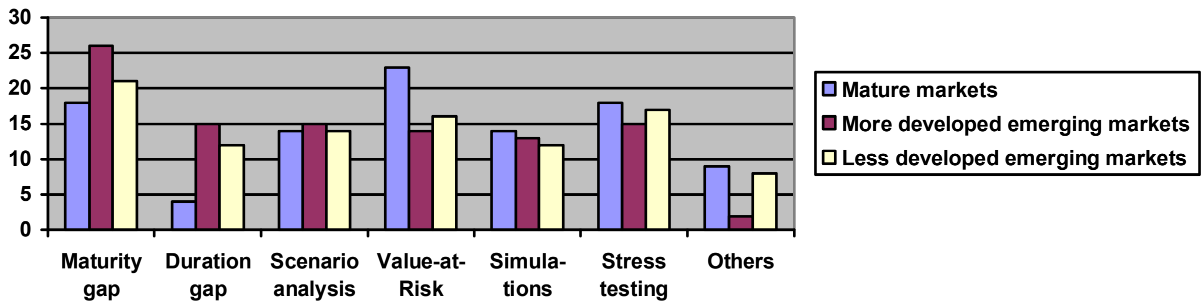


Source: Survey of banks

Use of risk assessment models. Maturity gap, Value-at-Risk and stress testing are the most frequently used risk assessment models across economies. Value-at-Risk is preferred by most MM banks, while maturity gap is favored by MDEM and LDEM banks. [*See Figure 41*.] About a third of all banks use 5 or 6 models, while a slightly larger percentage use 3-4 models. Overall, the survey shows not much difference among MM, MDEM and LDEM banks in the number of risk assessment models used. However, this may not be conclusive in the case of MM banks due to the small sample size of this group. [*See Figure 42*.]

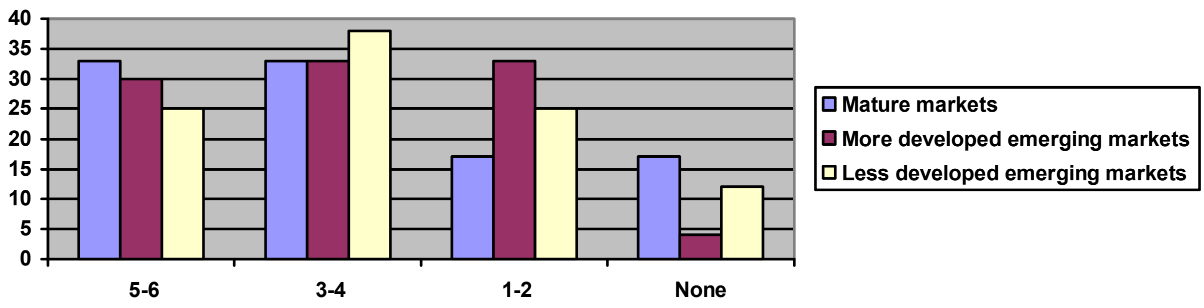
Committee on Banking Supervision, *Amendment to the Capital Accord to Incorporate Market Risks* (Basel, January 1996, updated to April 1998), p. 40.

FIGURE 41: Types of risk assessment models used by bank (% of banks' answers)



Source: Survey of banks

FIGURE 42: Numbers of risk assessment models used by bank (% of banks)

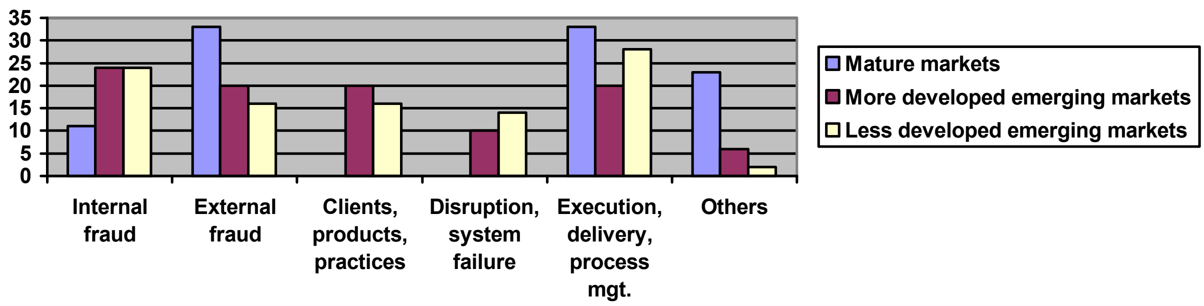


Source: Survey of banks

OPERATIONAL RISK MANAGEMENT PRACTICES

Major sources of operational risk. In order of overall importance, the five major sources of operational risk identified by banks are (a) execution, delivery and process management, (b) external fraud, (c) internal fraud, (d) clients, products and business practices and (e) business disruption and system failures. MM banks are mainly concerned about the first two. [*See Figure 43*.]

FIGURE 43: Major sources of operational risk (% of banks)



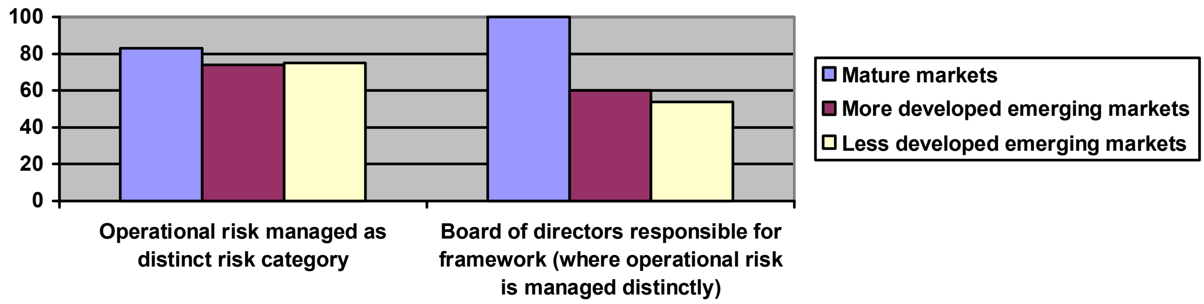
Source: Survey of banks

Banks' operational risk management environment. The Basel Committee's *Sound Practices for the Management and Supervision of Operational Risk* states the following as its first principle:

The board of directors should be aware of the major aspects of the bank's operational risks as a distinct risk category that should be managed, and it should approve and periodically review the bank's operational risk management framework.[26]

This principle is more widely applied in MMs than in MDEMs and LDEMs. Over 75% of emerging market banks manage operational risk as a distinct risk category. Where operational risk is managed in a such a way, the board of directors takes responsibility for the risk framework in MMs, and for the most part in emerging markets. However, this is not practised in a significant portion of MDEM and LDEM banks. [*See Figure 44*.]

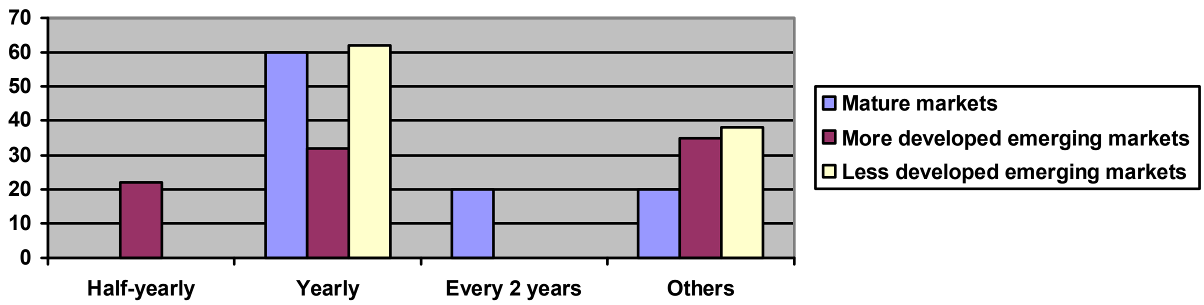
FIGURE 44: Management of and responsibility for operational risk (% of banks)



Source: Survey of banks

The Basel Committee recommends the regular review of the framework "to ensure that the bank is managing the operational risks arising from external market changes and other environmental factors, as well as those operational risks associated with new products, activities or systems,"[27] Most MM banks undertake such reviews annually or every two years. LDEM banks that manage operational risk as a distinct category tend to review their frameworks as frequently as MM banks. In the case of MDEM banks, these reviews occur either as frequently as or more frequently than MM banks. [*See Figure 45*.]

FIGURE 45: Frequency of review of operational risk framework (% of responding banks)



Source: Survey of banks

Identification, assessment and mitigation/control of operational risk. The *Sound Practices for the Management and Supervision of Operational Risk* underscores the importance of risk

[26] Basel Committee on Banking Supervision, *Sound Practices for the Management and Supervision of Operational Risk* (Basel, Bank for International Settlements, July 2002), p. 6.

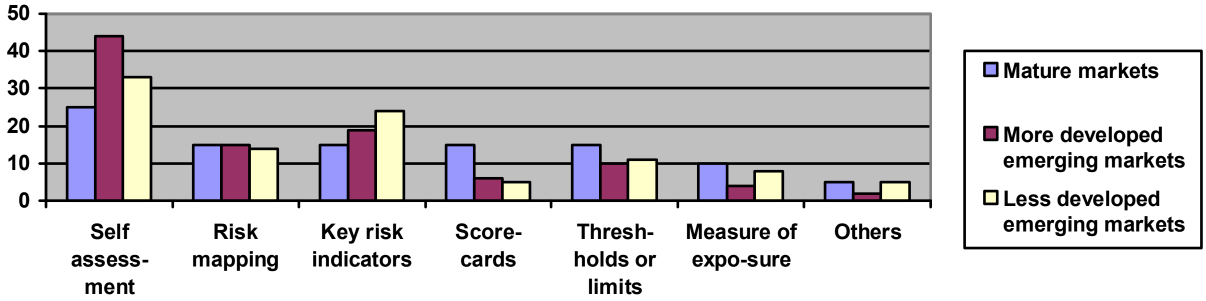
[27] Basel Committee on Banking Supervision, *Sound Practices for the Management and Supervision of Operational Risk,* p. 6.

identification, which is needed for developing effective operational monitoring and control, as well as risk assessment, which facilitates the understanding of a bank's risk profile and the efficient use of risk management resources.[28]

A number of processes are widely used by banks for identifying and assessing operational risk.[29] Among these, self-/risk-assessment is the most widely used in all markets. Many MDEM and LDEM banks also use key risk indicators. Among the least used are scorecards in LDEMs and measurement of exposure in MDEMs and MMs. [*See Figure 46*.]

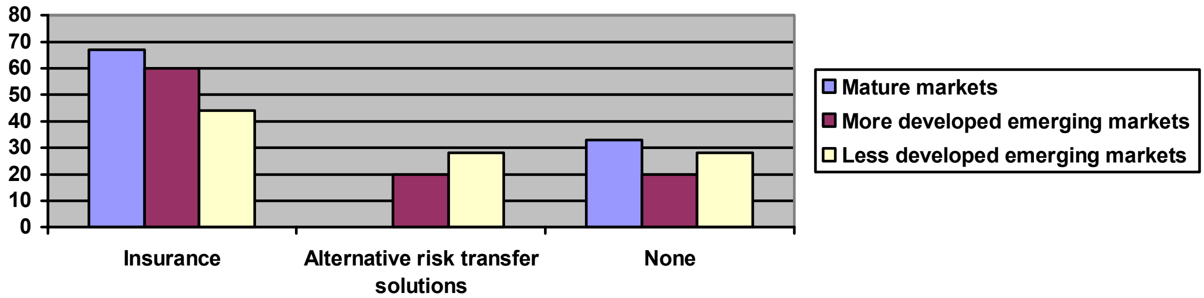
A majority of banks in MMs and MDEMs purchase insurance for operational losses. While this is also done by the largest portion of banks in LDEMs, a significant portion also use alternative risk transfer solutions to hedge against operational risks. [*See Figure 47*.]

FIGURE 46: Processes used by banks in identifying and assessing operational risk (% of responding banks)



Source: Survey of banks

FIGURE 47: Use of insurance for operational losses and alternative risk transfer solutions to hedge against operational risks (% of banks)



Source: Survey of banks

[28] Basel Committee on Banking Supervision, *Sound Practices for the Management and Supervision of Operational Risk,* p. 8.

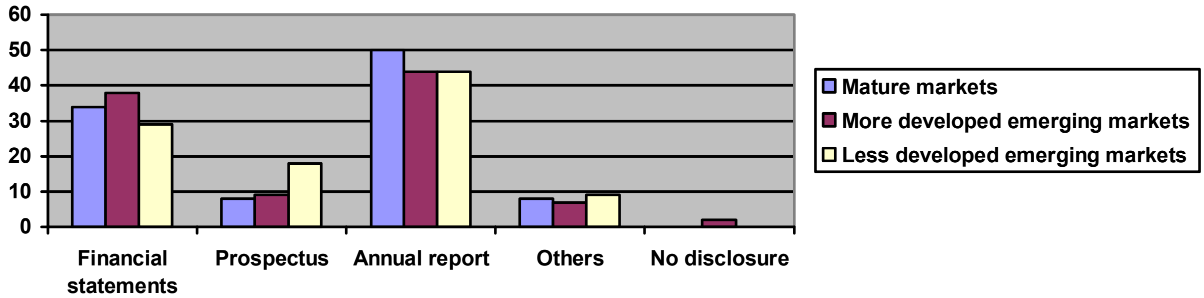
[29] These are: ***Self- or Risk Assessment*** (assessment of operations and activities against a menu of potential operational risk vulnerabilities; internally driven using checklists or workshops to identify strengths and weaknesses of the operational risk environment); ***Risk Mapping*** (business units, organizational functions or process flows are mapped by risk type); ***Key Risk Indicators*** (use of financial or other statistics and/or metrics, which may include such indicators as number of failed trades, staff turnover rates, frequency and severity of errors and omissions); ***Scorecards*** (translating qualitative assessments into quantitative metrics to produce a relative ranking of different types of operational risk exposures); ***Thresholds or Limits*** (use of threshold levels or changes in key risk indicators which, when exceeded, can alert management to areas of potential problems); and ***Measurement of Exposure*** (quantifying exposure to operational risk using data through such approaches as using internal and external loss data, scenario analyses and quantitative assessment factors).

PUBLIC DISCLOSURE RELATED TO CAPITAL AND RISK EXPOSURE

General. The New Basel Accord, as per the third consultative paper, sets out disclosure requirements for banks. The general disclosure principle states that banks "should have a formal disclosure policy approved by the board of directors that addresses the bank's approach for determining what disclosures it will make and the internal controls over the disclosure process."[30] Most banks across all markets issue public disclosure related to capital and risk exposure through several channels. Of these, annual reports are the most widely used, followed by financial statements. Prospectuses are also used for this purpose by a significant portion of banks in LDEMs. [*See Figure 48*.]

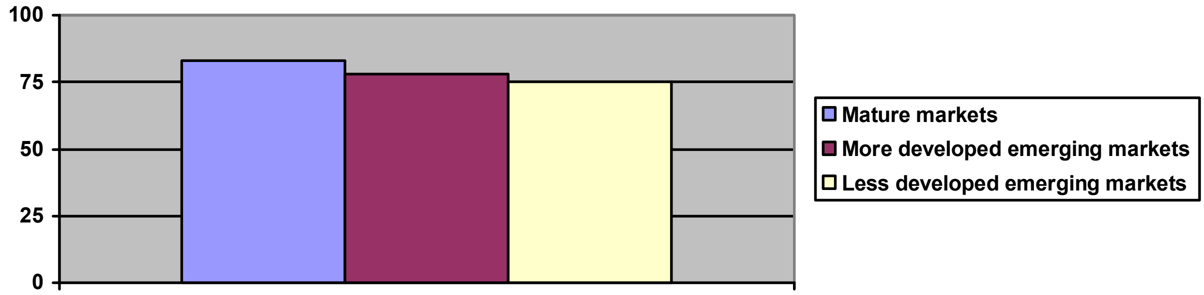
Across all economies, most banks (over 75%) have a formal disclosure policy governing the public disclosure of information on its financial condition and performance. [*See Figure 49*.]

FIGURE 48: Ways of issuing public disclosure related to capital and risk exposure (% of banks' answers)



Source: Survey of banks

FIGURE 49: Banks with formal disclosure policy (% of banks)



Source: Survey of banks

Public disclosure related to capital. The Basel Committee has proposed specific disclosure requirements for capital and risk exposure under the New Basel Capital Accord.[31] With regard to the content of public disclosure related to capital, the most widely disclosed items across all economies are the amount of total Tier 1 capital and the paid-up share capital and common stock. Among MM banks, there is a good amount of disclosure across all other items, with the exception of minority interests in equity of subsidiaries. Among a significant portion of MDEM and LDEM banks, the total amount of Tier 2 and Tier 3 capital, goodwill

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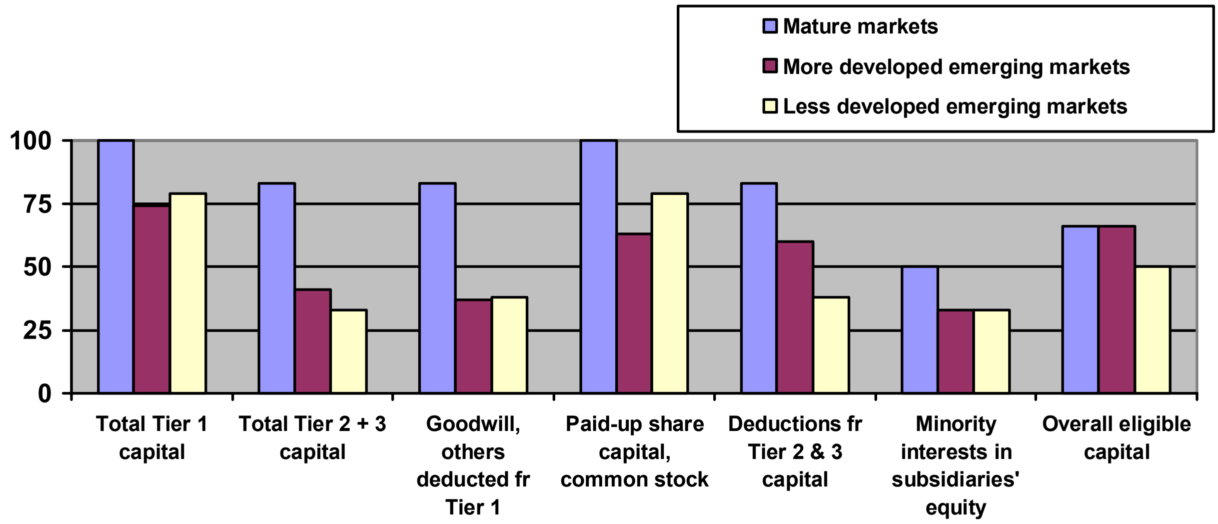
[30] Basel Committee on Banking Supervision, *The New Basel Capital Accord.* (Basel, April 2003), p. 157.

[31] Basel Committee on Banking Supervision, *The New Basel Capital Accord.* (Basel, April 2003), pp. 158-169.

and others deducted from Tier 1 capital and minority interests in equity of subsidiaries are not included in publicly disclosed information. [*See Figure 50*.]

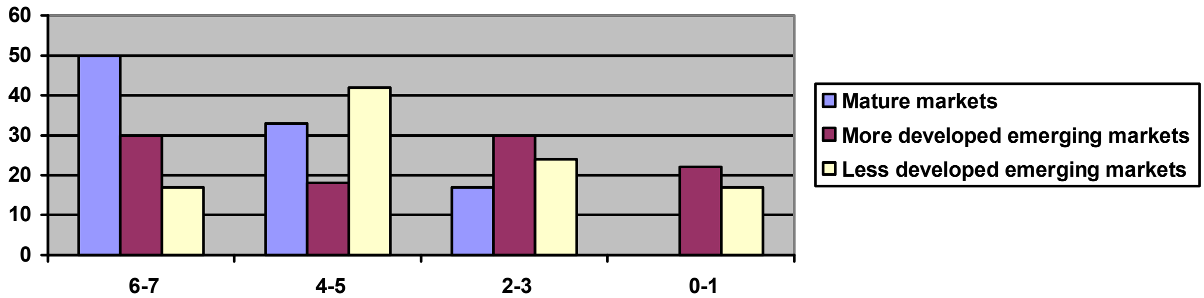
With regard to the amount of information disclosed, MM banks are ahead of MDEM and LDEM banks, with 83% disclosing all or most of the key information related to capital. In the case of LDEM banks, normally not all of the key information are contained in the public disclosure, but almost 60% disclose most of these information. MDEM banks lag behind MM and LDEM banks in this regard, with less than half able to disclose most of the key information. [*See Figure 51*.]

FIGURE 50: Content of regular public disclosure related to capital (% of banks)



Source: Survey of banks

FIGURE 51: Number of key items included in regular public disclosure related to capital (% of banks)

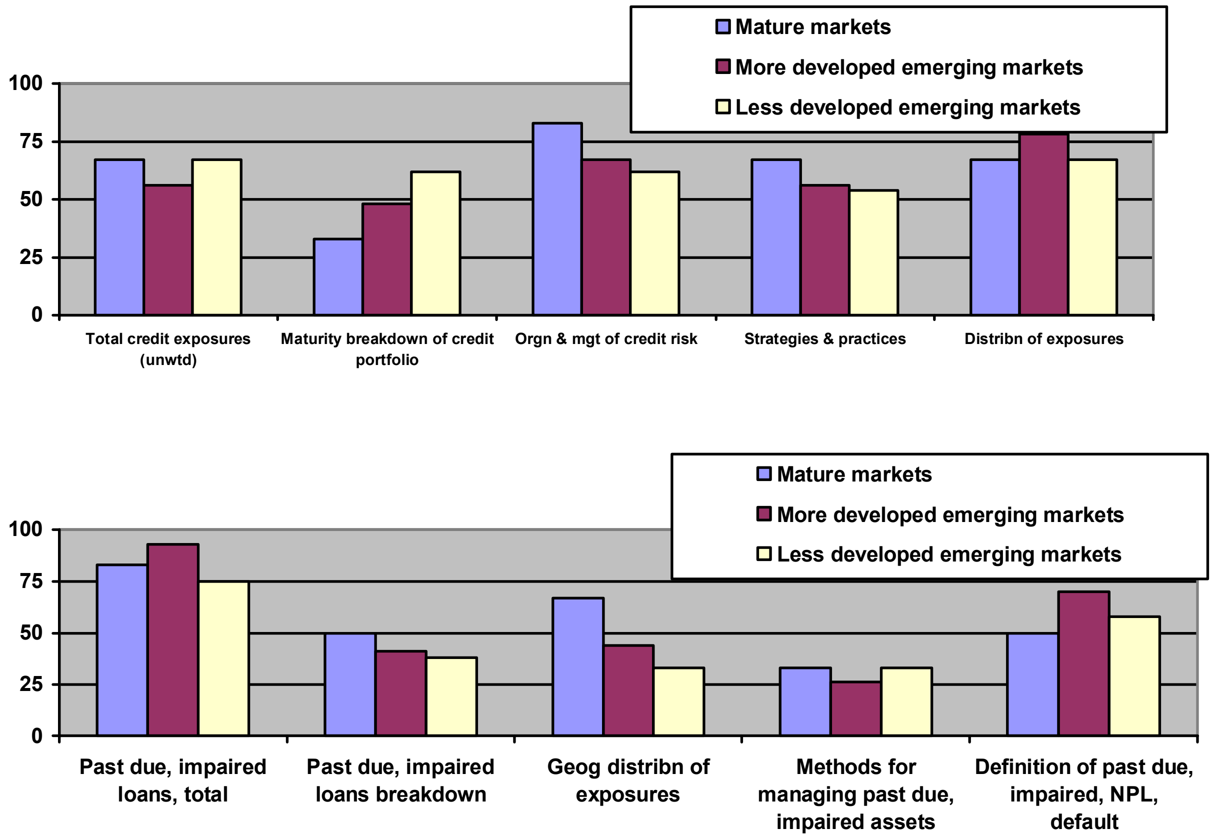


Source: Survey of banks

Public disclosure related to credit risk exposures. With regard to the content of public disclosure related to credit risk exposures, the most widely disclosed among key items across all economies are total of past due and impaired loans, information on the organization and management of the credit risk function, industry and counterparty type distribution of credit exposures and total unweighted credit exposures. Among MM banks, there is also a good amount of disclosure on the geographical distribution of credit exposures, but not in other key items, especially the maturity breakdown of the credit portfolio and information on techniques and methods for managing past due and impaired assets. Among a significant portion of MDEM and LDEM banks, information on techniques and methods for managing past due and impaired assets, geographic distribution of credit exposures and definitions of default and non-performing, past due and im information on techniques and methods for managing past due and impaired assets paired loans are not included in publicly disclosed information. [*See Figure 52.*]

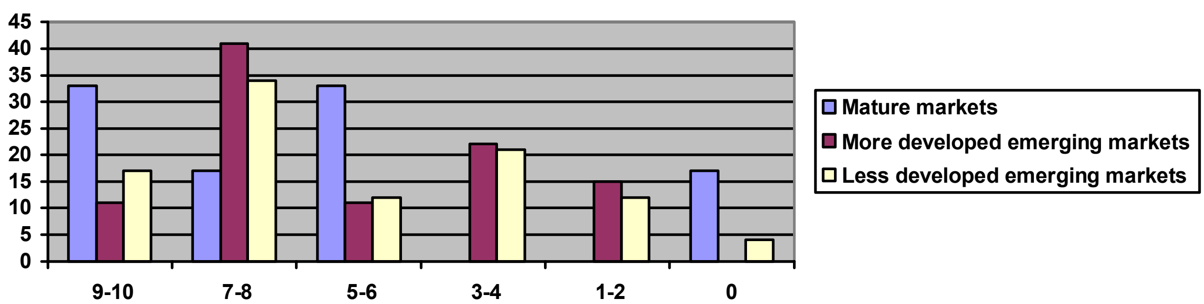
With regard to the amount of information disclosed, about half of banks in all economies disclose all or most of the key information related to credit risk exposures. Many banks, however, most especially in MDEMs and LDEMs, still do not disclose a significant number of these key items. [*See Figure 53.*]

FIGURE 52: Content of regular public disclosure related to credit risk exposure (% of banks)



Source: Survey of banks

FIGURE 53: Number of key items included in regular public disclosure related to credit risk exposure (% of banks)



Source: Survey of banks

Public disclosure related to market risk exposures. Among the key items considered important for public disclosure related to market risk exposure for banks using the standardized approach are (a) capital requirement for various types of market risks, (b) which portfolios are covered, (c) methods used for each portfolio and (d) capital charge for position in options. In the case of banks using the internal models approach, these are (a) which portfolios are covered, (b) description of the stress test program, (c) information on the characteristics of the internal models used, (d) back tests results (aggregated level), and (e) level and variability of market risks.

In general, the level of disclosure related to market risk exposure, in terms of key information included in the disclosure, is much lower compared to credit risk exposure, most especially in the case of banks using the standardized approach to measuring market risks. There is a much higher level of disclosure among banks using the internal models approach. In general, MM banks within this latter group tend to disclose more key information, followed by LDEM banks. A majority of MDEM banks in this group do not publicly disclose any of the above key information related to market risk exposure. [*See Figures 54-A and B.*]

FIGURE 54: Number of key items included in regular public disclosure related to market risk exposure (% of banks)

Figure 54-A: For banks using the standardized approach

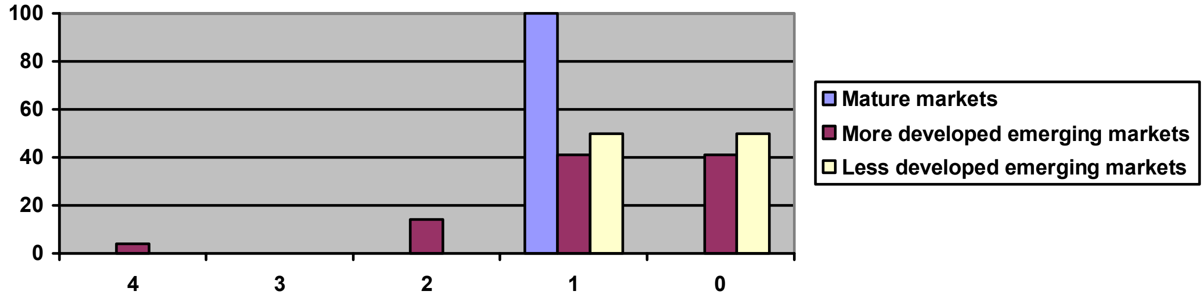
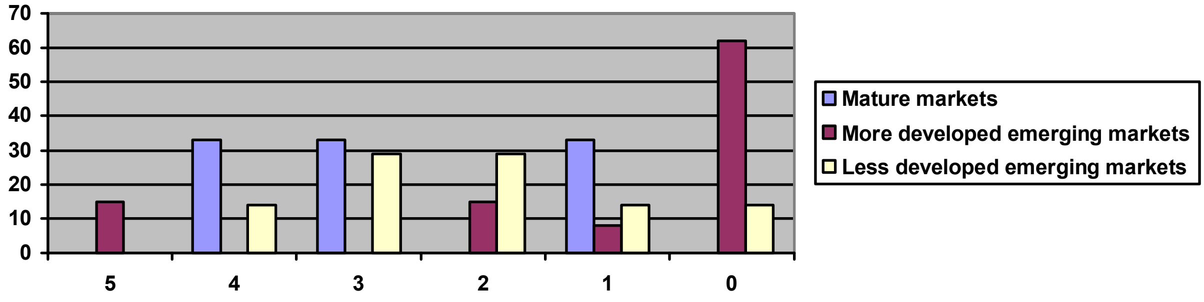


Figure 54-B: For banks using the internal models approach



Source: Survey of banks

PREPAREDNESS FOR IMPLEMENTATION OF THE NEW BASEL ACCORD

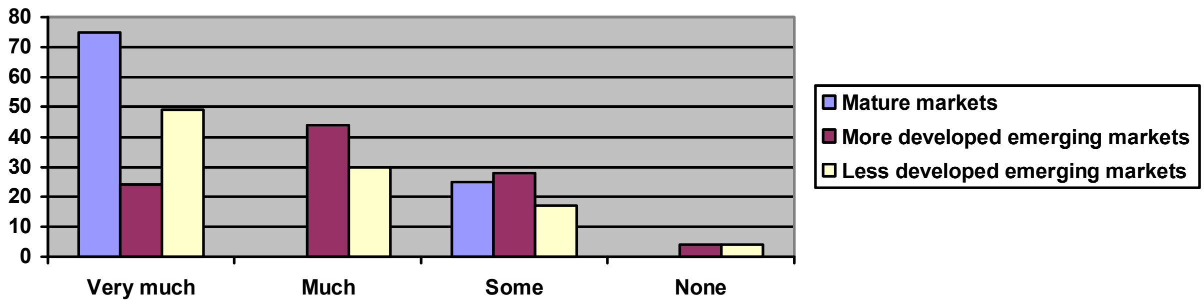
PREPAREDNESS OF THE BANKING SECTOR

Expected preparations and costs. Most banks in the region consider capital requirements as important to their operations. Of all the banks responding to the question, 61% characterized capital requirements as "very important," while another 30% characterized them as "important."

An overwhelming portion of responding banks expect that the eventual implementation of the new Basel Capital Accord will require substantial preparations on their part. Very considerable preparations are foreseen by MM banks, which are expected to opt for the more advanced approaches, as well as by LDEM banks. [*See Figure 55*.]

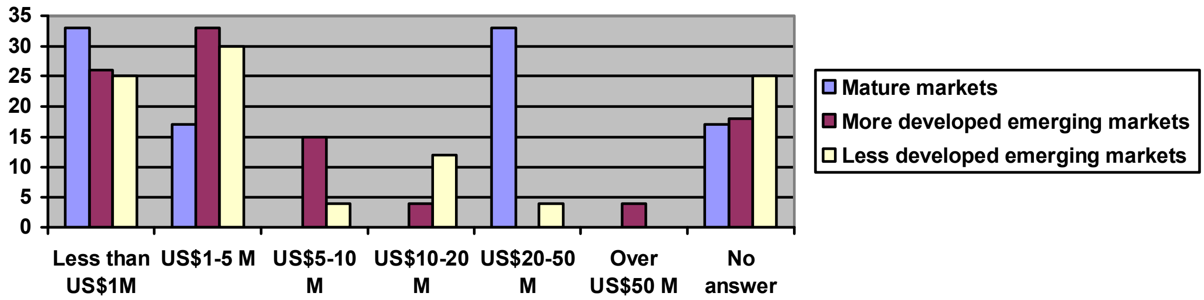
Expected costs of complying with the new accord vary widely among banks throughout the region. Only a third of MM banks and a quarter of MDEM and LDEM banks think that the costs would be under US$1 million. The average expected spending per bank for this purpose falls between US$5 million and US$10 million. [*See Figure 56*.]

FIGURE 55: Level of preparations seen as required on the part of banks for the new Basel Capital Accord (% of banks)



Source: Survey of banks

FIGURE 56: Expected total cost of compliance by each bank with the new Basel Capital Accord (% of banks)



Source: Survey of banks

Adequacy of resources. Banks were asked to rate the adequacy of various resources available to them at present in relation to their preparedness for the new accord given their chosen level of compliance for the three categories of risk. In general, technology and data availability are the areas where resources are deemed to be most inadequate, particularly in emerging markets. [*See Figures 57-A, B and C*.]

For credit risk, staffing and funding resources are generally adequate in all markets. Technology and data availability are inadequate in MDEMs and LDEMs. Staffing is a borderline issue in MDEMs.

For market risk, staffing and funding resources are likewise adequate in all markets. Data availability is inadequate in MDEMs, while technology is a borderline issue in LDEMs.

Operational risk poses the most resource constraints. In all markets, funding is adequate but data availability is a problem. Technology is a problem for MDEMs and LDEMs. Staffing is inadequate in LDEMs.

FIGURE 57: Adequacy of resources in relation to preparedness for the new Basel Capital Accord given chosen level of compliance (average for banks' responses)

Figure 57-A: For credit risk

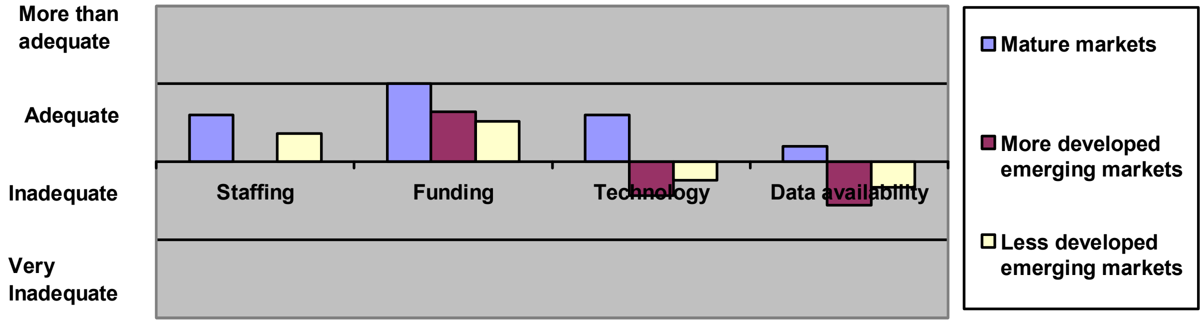


Figure 57-B: For market risk

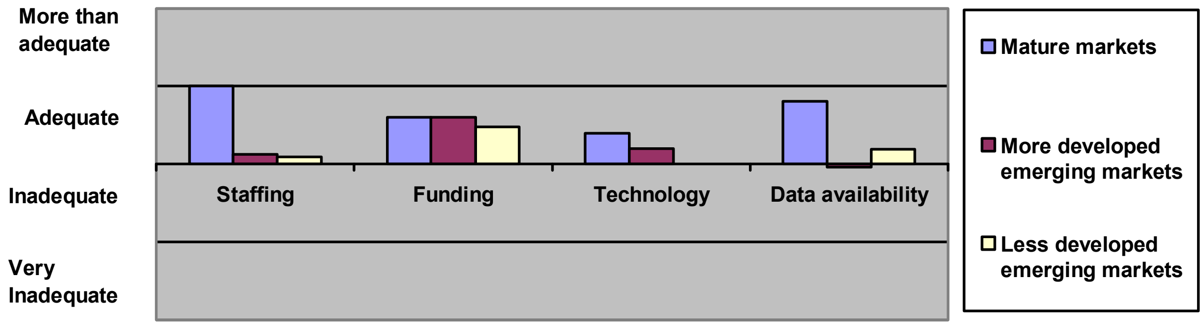
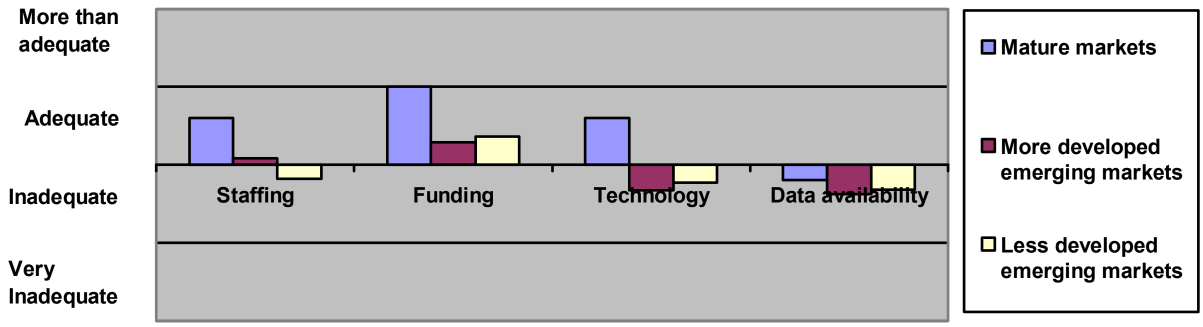


Figure 57-C: For operational risk

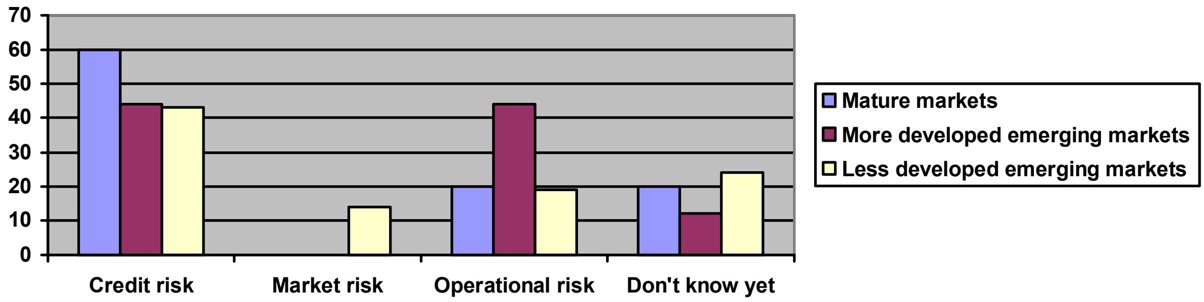


Source: Survey of banks

Expectations on the impact of the new Basel Capital Accord. A large majority of banks in all economies (60% of MMs and LDEMs and 67% of MDEMs) believe that the eventual implementation of the new accord in their respective host markets will have a positive impact on their operations compared to the current accord.

As to which areas the new accord will have the greatest impact on the bank, most banks cite credit risk, especially in MMs. Operational risk is a concern of an equal portion of banks in MDEMs. Market risk is not an area of concern for banks in MMs and MDEMs, but some LDEM banks consider it is an area where the new accord will affect them most. [*See Figure 58.*]

FIGURE 58: Area where the new Basel Accord is expected to have the greatest impact on the bank (% of banks)



Source: Survey of banks

Approaches to risk measurement. Most banks indicated which approaches they are likely to adopt or are already currently adopting to comply with the requirements of the new Basel Capital Accord. The survey shows that mature market banks will largely adopt the most advanced approaches and that emerging market banks are evenly divided between those planning to adopt the most basic approaches and those that choose more sophisticated approaches. [*See Figures 59-A, B and C.*]

For credit risk, most MM banks plan to adopt the Advanced IRB approach. LDEM banks are evenly divided between those that will adopt the Standardized and the Foundation IRB approaches. More than half of MDEM banks will adopt the IRB approach, with a few preparing themselves for the Advanced IRB approach.

For market risk, most MM banks will be using the more advanced Internal Models approach. MDEM and LDEM banks are evenly divided between those choosing the Standardized approach and the Internal Models approach.

For operational risk, the majority of MM banks will adopt the Advanced Measurement Approach (AMA), while some will be using the Standardized approach. MDEM and LDEM banks are evenly divided between those choosing the Basic Indicator approach and those that plan to adopt the Standardized approach.

Regarding the expected date of completion of preparations to adopt their chosen approaches, more than half of responding banks expect to be ready by end-2006, when the new Basel Accord is implemented. All MM banks expect to be ready by end-2006. In the case of MDEM and LDEM banks, a significant portion (28% of MDEM banks and 48% of LDEM banks) will not yet be able to complete their preparations by that date.

FIGURE 59: Approaches to risk measurement that the bank is likely to adopt or is adopting to comply with the new Basel Capital Accord (% of responding banks)

Figure 59-A: For credit risk

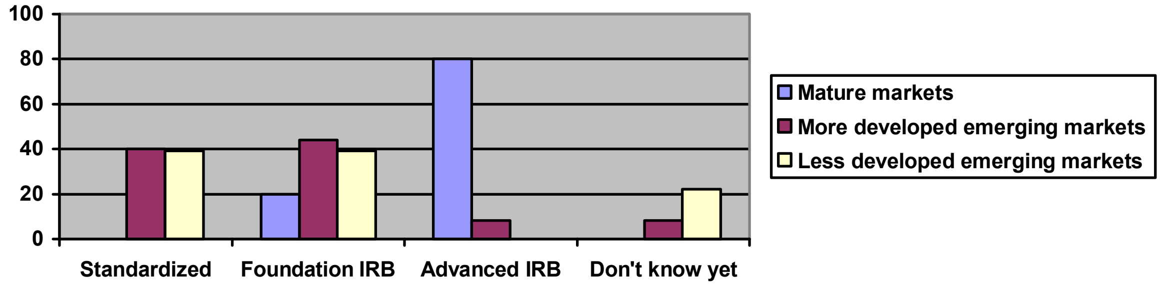


Figure 59-B: For market risk

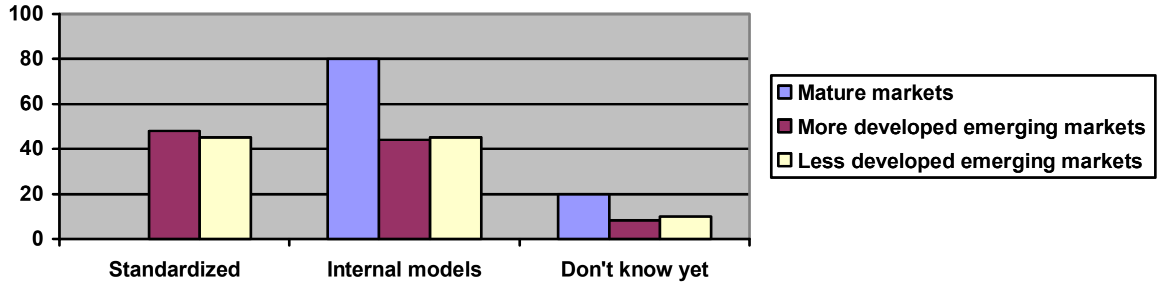
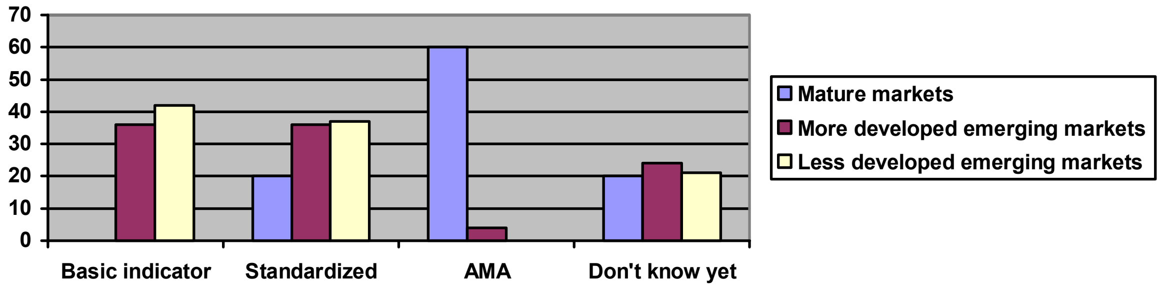


Figure 59-C: For operational risk



Source: Survey of banks

PREPAREDNESS OF BANK SUPERVISORY AUTHORITIES

Implementation of current (1988) Basel Capital Accord. All of the supervisory authorities surveyed indicated that the current accord has already been adopted in their respective economies. In most cases, actual guidelines on capital adequacy differ somewhat from the accord, and minimum capital requirements set higher than the Basel standard of 8%.

Plans and expectations related to risk measurement approaches under the new Basel Capital Accord. Bank supervisors expect that most banks in general will opt for the basic and intermediate approaches. [*See Figures 60-A, B and C.*] For credit risk, supervisors expect many banks in all markets to adopt the Standardized approach, with a significant portion of MM banks to adopt the Advanced IRB approach. Supervisors expect few MDEM and LDEM banks to use the IRB (Foundation and Advanced) approach.

For market risk, supervisors expect about half of MM banks and most MDEM and LDEM banks to opt for the Standardized approach.

For operational risk, supervisors foresee most MM and MDEM banks choosing the Standardized approach, with a significant portion of MM banks using the AMA. LDEM banks are expected to mostly opt for the Basic Indicator approach.

Current plans of supervisory authorities call for permitting all the approaches for all categories in MMs (regulators in the USA, which did not respond to this survey, have announced otherwise in its case).[32] A majority of MDEMs also intend to permit all or most of the approaches. In the case of LDEMs, most authorities currently plan to permit only the basic approaches in credit and market risk, while still undecided in the case of operational risk. [*See Figures 61-A, B and C.*]

FIGURE 60: Portion of banks expected to adopt alternative approaches on offer by supervisory authority (average)

Figure 60-A: For credit risk

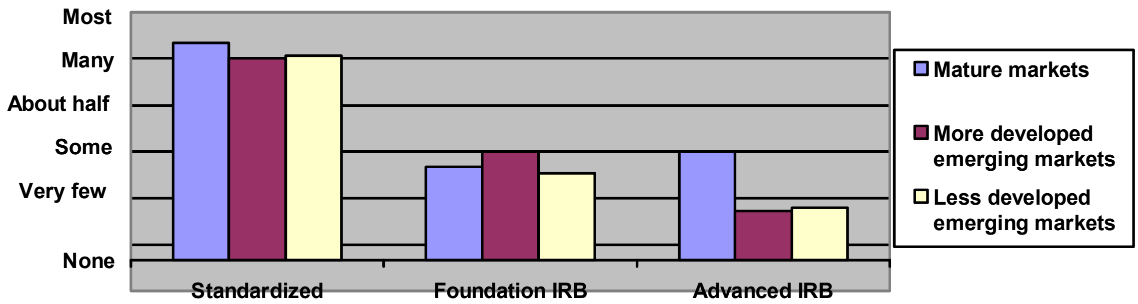
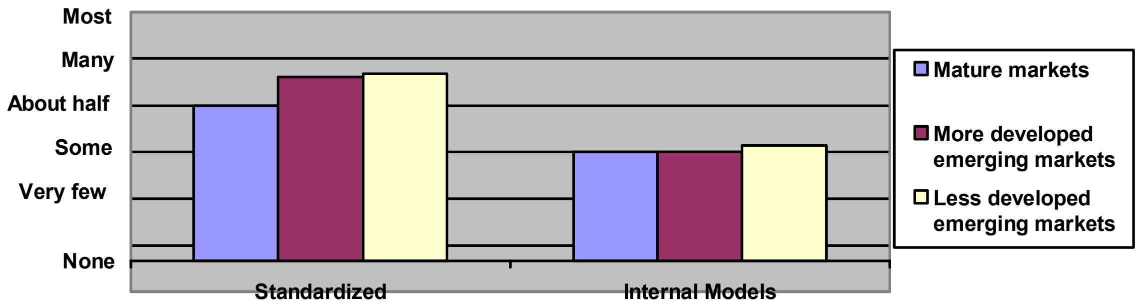
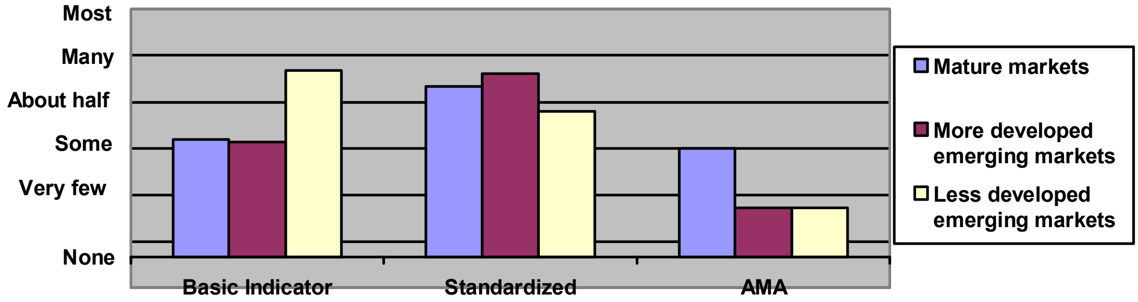


Figure 60-B: For market risk



[32] The US intends to require only large banks with significant foreign activities and permit only those that meet the infrastructure requirements for advanced approaches to follow Basel 2 capital requirements, offering only the Advanced IRB approach for credit risk and the Advanced Measurement Approach for operational risk. See Roger W. Ferguson, Jr., *Basel II: Scope of Application in the United States. Remarks before the Institute of International Bankers* (New York, June 10, 2003).

Figure 60-C: For operational risk



Source: Survey of banks

FIGURE 61: Approaches to risk measurement that the supervisory authority is likely to permit under the new Basel Capital Accord (% of supervisory authorities)

Figure 61-A: For credit risk

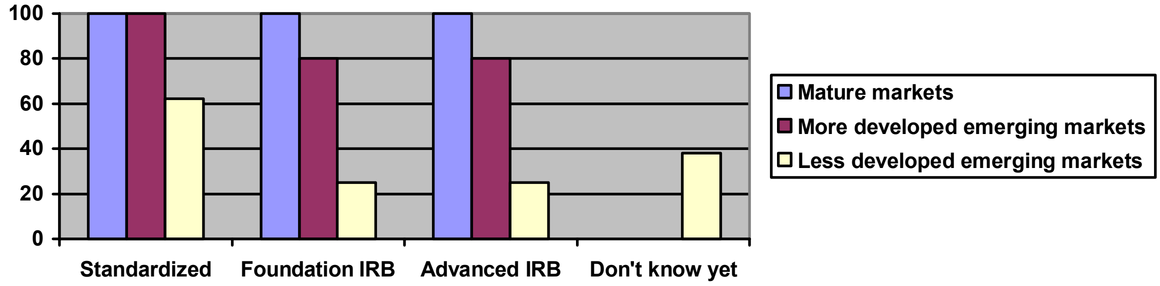


Figure 61-B: For market risk

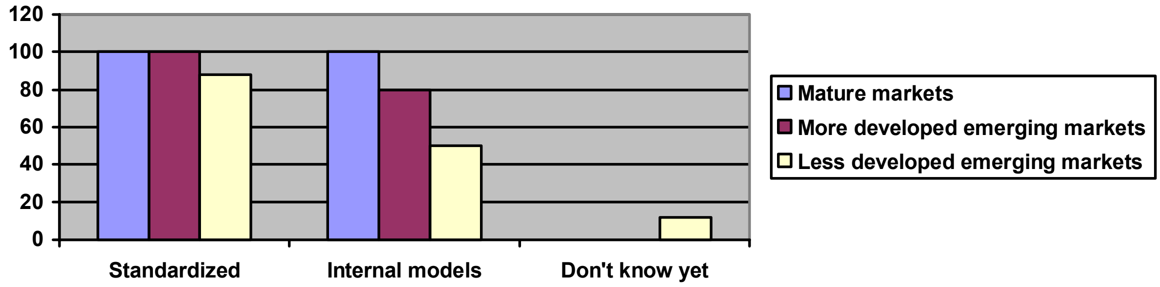
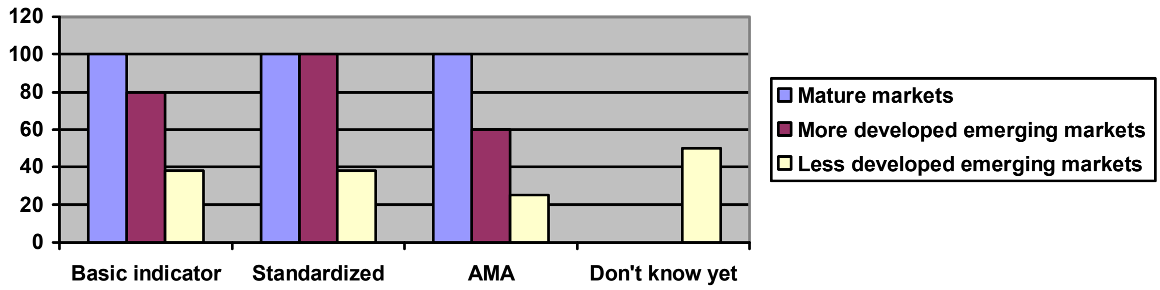


Figure 61-C: For operational risk



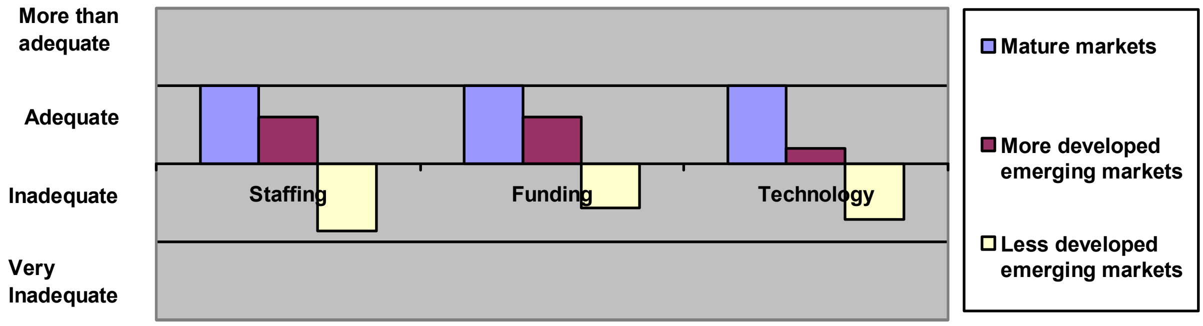
Source: Survey of banks

Expected requirements and adequacy of resources. Almost all supervisory authorities responding to the survey expect that the eventual implementation of the new Basel Capital Accord requires much preparation on their part.

As far as adequacy of resources is concerned, staffing, funding and technology are fully adequate in MMs and largely adequate in MDEMs. In the case of LDEMs, however, resources are considered inadequate, especially in the areas of staffing and technology. [*See Figure 62*.]

As to the date of completion of preparations for implementing the new accord, all responding supervisory authorities in MMs and MDEMs expect to be fully prepared by end-2006, while a majority in LDEMs (57%) see themselves unable to complete their preparations by this date.

FIGURE 62: Adequacy of resources in relation to preparedness for implementing the new Basel Capital Accord (average for supervisory authorities' responses)



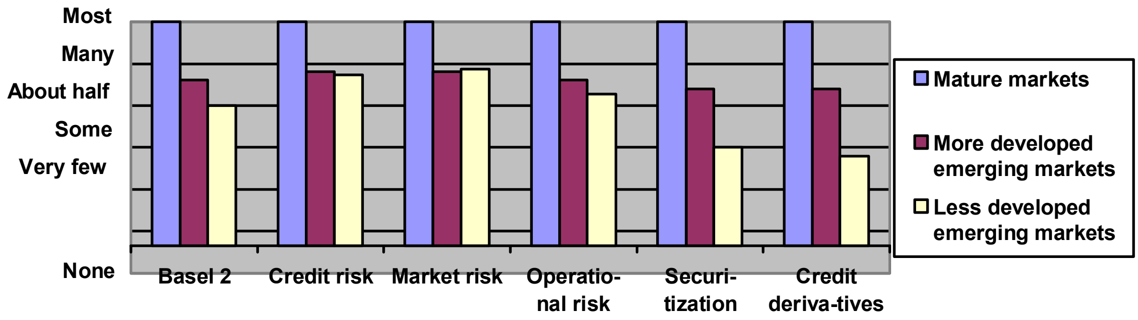
Source: Bank supervisory authorities

Expectations regarding the impact of the new Basel Capital Accord on the banking system. Supervisory authorities in MMs expect most banks in their jurisdiction to be ready for the new accord and all its requirements by 2006. In the case of MDEMs, bank supervisors expect a majority of their banks to be prepared for all these requirements. Supervisory authorities in LDEMs are not very confident about the readiness of banks in their jurisdictions: they expect half of banks not to be fully prepared for implementing the requirements for the new accord by 2006, and only some banks to be ready for the new requirements related to securitization and credit derivatives. [*See Figure 63*.]

Regarding the impact of the new accord on the banking system, all bank supervisory authorities in MMs and MDEMs expect the new accord to have a positive impact on their respective banking systems compared to the current accord (with the notable exception of South Korea, which sees the advantages enjoyed by its banks under the current accord owing to its membership in the OECD removed under the new accord).

Bank supervisors in LDEMs are more ambivalent about the new accord, with only half of those responding expecting a somewhat positive impact of the accord, while the other half divided between those who see the accord as having a neutral impact and those who are still unsure.

FIGURE 63: Portion of banks expected by supervisory authorities to be prepared for the new Basel Capital Accord and its requirements by 2006 (average)

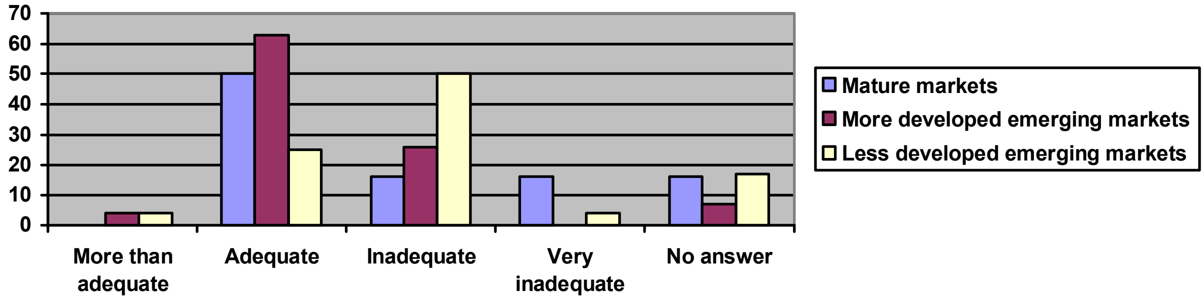


Source: Bank supervisory authorities

Banks' views on level of cooperation from authorities. Banks in MDEMs are generally satisfied with the adequacy of cooperation they obtain from authorities in preparing for the new accord. In MMs, about half of banks consider the level of such cooperation adequate. In LDEMs, most banks consider it inadequate. [*See Figure 64*.]

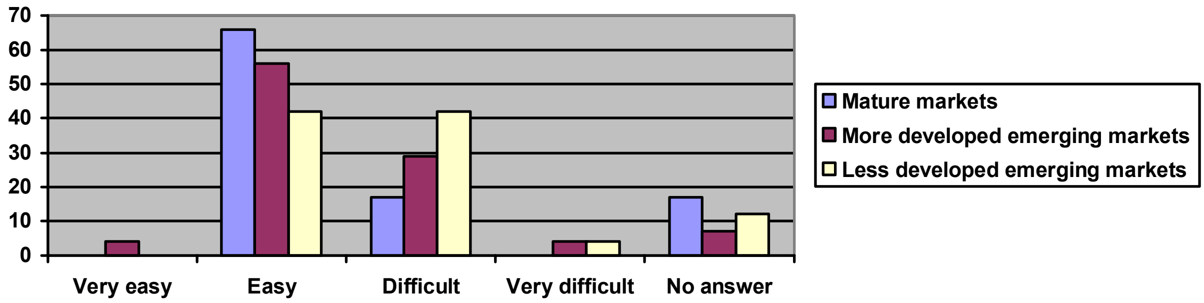
Regarding the accessibility of information on implementation details and clarification on the new accord, most banks in MMs and MDEMs consider it easy to obtain such information, while a slight majority of banks in LDEMs view it as difficult. [*See Figure 65*.]

FIGURE 64: Banks' views on adequacy of help from local authorities in preparing for the new accord (% of banks)



Source: Survey of banks

FIGURE 65: Banks' views on the level of difficulty of getting information and clarification on the new Basel Capital Accord (% of banks)



Source: Survey of banks

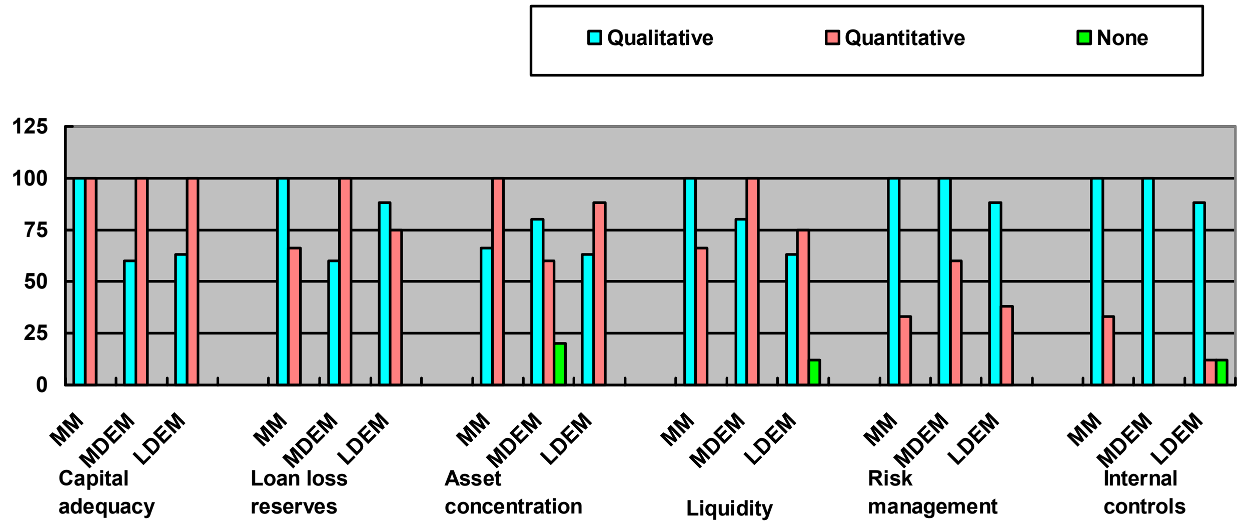
FACTORS AFFECTING RISK MANAGEMENT PRACTICES IN THE BANKING SECTOR

BANK REGULATION AND SUPERVISION

Frequency of reviews. Most bank supervisors review the risk exposures of domestic banks and domestic subsidiaries of foreign banks either on a monthly or quarterly basis.

Types of prudential requirements. Supervisory authorities use both quantitative and qualitative prudential requirements with respect to various areas under their supervision. Quantitative prudential requirements are more widely used in the area of capital adequacy in all economies. In addition, these are also more widely used than qualitative requirements for asset concentration in the case of MMs, for loan loss reserves and liquidity in the case of MDEMs and for asset concentration and liquidity in the case of LDEMs. Qualitative prudential requirements are mostly used by all economies in the areas of risk management and internal controls. [*See Figure 66*.]

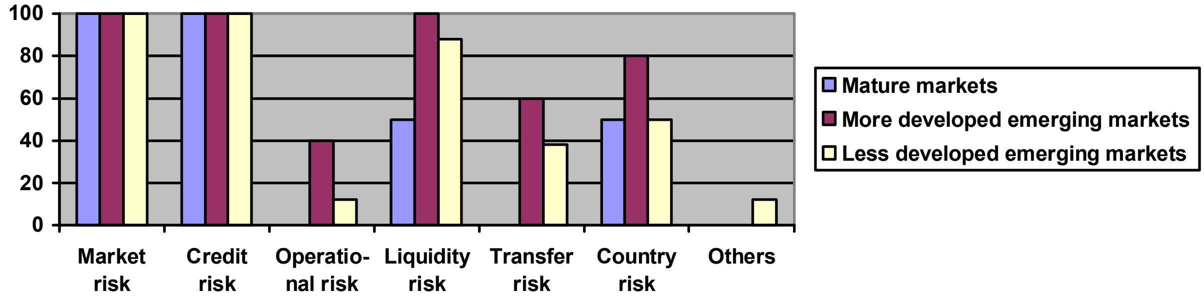
FIGURE 66: Types of prudential requirements applied (average)



Source: Bank supervisory authorities

Focus of risk management supervision. Current supervision of risk management in banks clearly focuses on market and credit risks, where all jurisdictions require banks to comply with specific regulations regarding their measurement. Authorities in MDEMs tend to impose this requirement with respect to other types of risks, such as liquidity, country and transfer risks, while LDEMs focus additionally on liquidity risk. [*See Figure 67*.]

FIGURE 67: Types of risks for which supervisory authorities require banks to comply with specific regulations regarding their measurement (% of responding supervisory authorities)

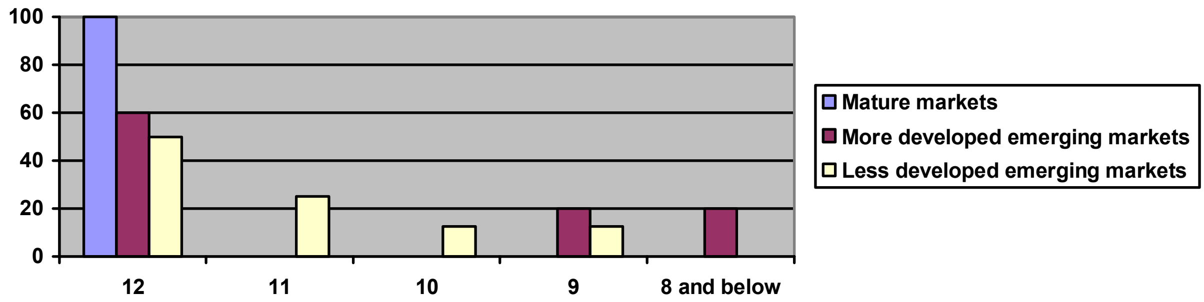


Source: Bank supervisory authorities

Content of supervision of banks'risk management systems. Several key items in the supervision of banks' risk management systems[33] include the following: (a) Involvement of the banks' board of directors in credit risk management process; (b) Assessment of banks' measurement tools (e.g., internal risk ratings and credit risk models; (c) Soundness of banks' asset valuation procedures; (d) Management monitoring of risk positions; (e) Quality of banks' internal validation process (where internal risk ratings and/or credit risk models are used); (f) Effectiveness of individual banks' credit risk management process across business lines, subsidiaries and national boundaries; (g) Results of banks' internal reviews of its credit granting and credit administration; (h) Banks' capital adequacy; (i) Results of reviews conducted by the bank's external auditors; (j) Trends within a bank's overall credit portfolio; (k) Excess concentrations; and (l) Classification of problem credits.

All these items are included in the supervision of banks' credit risk management systems in MMs. More supervisors in LDEMs tend to include more key items in their supervision than their counterparts in MDEMs. [*See Figure 68.*]

FIGURE 68: Number of key Items included in supervision of banks' credit risk management systems (% of responding supervisory authorities)



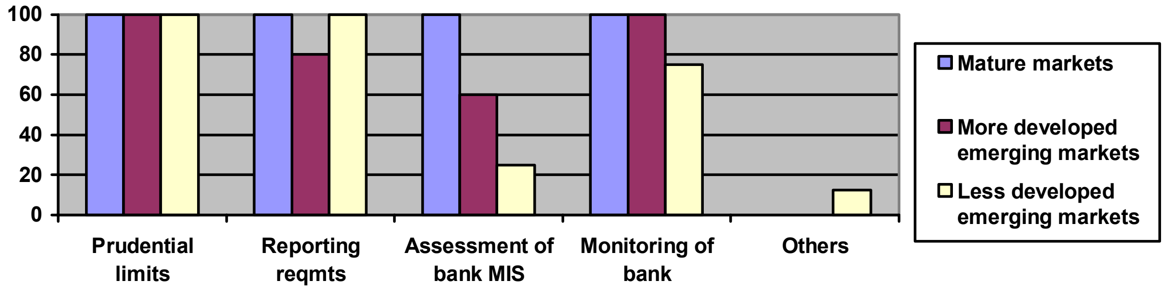
Source: Bank supervisory authorities

Measures used by bank supervisory authorities. The survey asked bank supervisors about measures available to them to deal with concentration of large exposures, connected and related party lending and to resolve problems in the banking sector.

[33] These are set forth in the Basel Committee's recommendation on the role of supervisors in the management of credit risk (Principle 17), Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), p. 19.

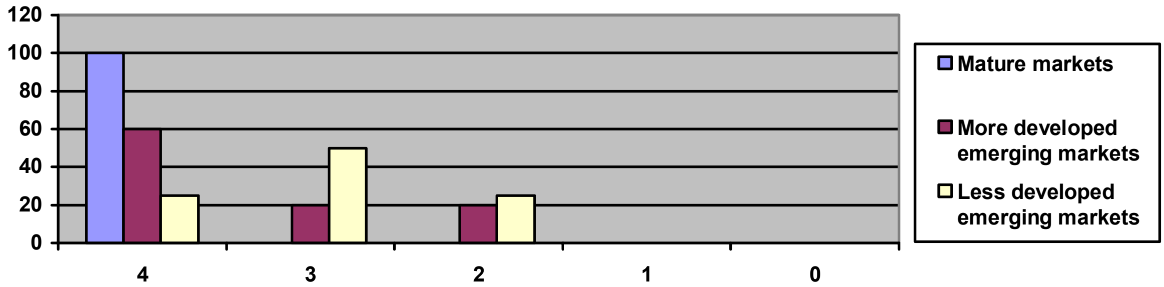
To deal with concentration of large exposures, all supervisory authorities in MMs resort to several types of measures, the most important of which are prudential limits, reporting requirements, assessment of banks' MIS and monitoring of concerned banks.[34] Most supervisors in MDEMs and LDEMs undertake similar measures with the notable exception of the assessment of banks' MIS. [*See Figure 69*.] MDEM supervisors also tend to have a more comprehensive array of measures available to them than their LDEM counterparts in dealing with concentration of large exposures. [*See Figure 70*.]

FIGURE 69: Types of measures used by bank supervisory authorities to deal with concentration of large exposures (% of responding supervisory authorities)



Source: Bank supervisory authorities

FIGURE 70: Number of types of measures used by bank supervisory authorities to deal with concentration of large exposures (% of responding supervisory authorities)



Source: Bank supervisory authorities

To deal with connected and related party lending, key types of measures available to supervisory authorities[35] are (a) requirements on terms and conditions of such credits; (b) deduction of such lending from capital when assessing capital adequacy; (c) limits on such lending; (d) requirement to collateralize such loans; (e) reporting requirements for

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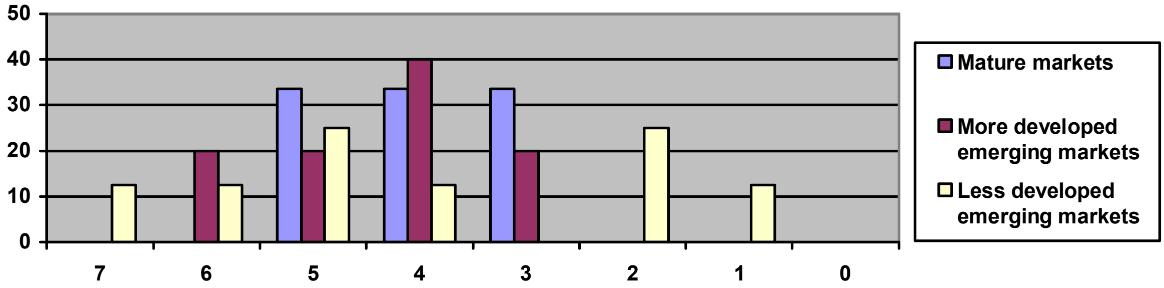
[34] This list of types of measures is based on both information provided by banks in the region, as well as the measures mentioned by the Basel Committee ("Supervisors should consider setting prudential limits [e.g., large exposure limits] that would apply to all banks, irrespective of the quality of their credit risk management process. Such limits would include restricting bank exposures to single borrowers or groups of connected counterparties. Supervisors may also want to impose certain reporting requirements for credits of a particular type or exceeding certain established levels. In particular, special attention needs to be paid to credits granted to counterparties 'connected' to the bank, or to each other."), Basel Committee on Banking Supervision, *Principles for the Management of Credit Risk* (Basel, September 2000), pp. 20-21.

[35] These are based on Principle 10 of the principles for banking supervision developed by the Basel Committee, see Basel Committee on Banking Supervision, *Core Principles for Effective Banking Supervision* (Basel, September 1997), pp. 26-27.

transactions with related parties; (f) supervision of banking organizations on a consolidated basis; and (g) prohibition of transactions with related parties.

MM supervisors tend to focus on supervision on a consolidated basis in dealing with this issue, while MDEM and LDEM supervisors rely more on limits on such lending and reporting transactions with related parties. MDEM supervisors tend to make use of a broader array of measures than their MM counterparts. In the case of LDEMs, about half use a larger number of measures in dealing with this issue than MDEMs and MM authorities. [*See Figure 71*.]

FIGURE 71: Number of types of measures used by bank supervisory authorities to deal with connected and related party lending (% of responding supervisory authorities)



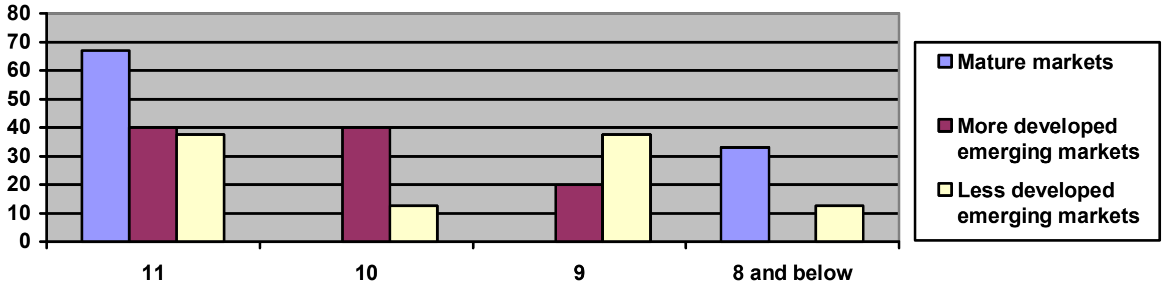
Source: Bank supervisory authorities

Among key types of measures bank supervisors could be empowered to take in order to resolve problems in the banking sector are (a) effecting a take-over of a bank by or merger with a healthier institution; (b) restrictions on asset transfers; (c) withholding of approval for new activities or acquisitions; (d) restrictions on the bank's purchase of its own shares; (e) restrictions on activities of banks; (f) restrictions on powers of controlling owners, directors and managers of banks; (g) barring individuals from the business of banking; (h) closing of unhealthy banks; (i) restriction or suspension of dividend or other payments to shareholders; (j) imposition of conservatorship over banks; and (k) replacement of controlling owners, directors and managers of banks.[36]

Most of these types of measures are available to supervisory authorities in all economies. Most MM bank supervisors are empowered to take all of the above measures. Only a minority of MDEM and LDEM supervisory authorities could comprehensively avail of all these measures. [*See Figure 72*.]

[36] These are based on Principle 22 of the Basel Committee's principles for banking supervision, see Basel Committee on Banking Supervision, *Core Principles for Effective Banking Supervision* (Basel, September 1997), p. 38.

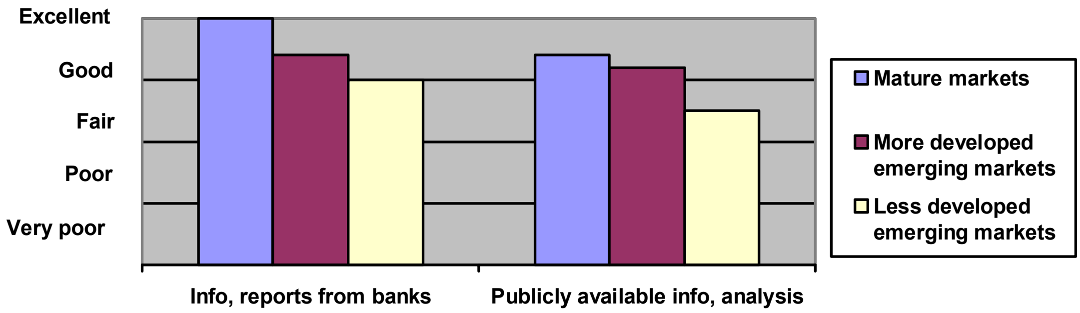
FIGURE 72: Number of types of measures bank supervisory authorities are empowered to take in order to resolve problems in the banking sector (% of responding supervisory authorities)



Source: Bank supervisory authorities

Usefulness of information available to bank supervisors. Supervisors rated the usefulness of information made available to them for the purpose of the off-site surveillance of banks. In general, information provided by banks are considered more useful than publicly available information and analysis. Information from both sources are considered more useful by MM supervisors than their counterparts in emerging markets, especially LDEMs. [*See Figure 73*.]

FIGURE 73: Rating of usefulness of information made available to bank supervisors



Source: Bank supervisory authorities

THE BROADER POLICY AND BUSINESS ENVIRONMENT FOR BANKS' RISK MANAGEMENT PRACTICES

In its Core Principles for Effective Banking Supervision, the Basel Committee enumerates the wider arrangements that are needed to promote stability in financial markets, of which banking supervision is a part and which form the preconditions for effective supervision of banks.[37] Taking these wider arrangements as composing the broader policy and business environment for banks' risk management practices, the survey questioned bank supervisory authorities and banks on the situation in their respective economies and host economies.

Bank supervisors' views. Bank supervisors positively rated all the key factors in the policy and business environment, in so far as their quality affects the effectiveness of bank supervision to promote robust risk management practices in the banking sector. Supervisory authorities in MDEMs and LDEMs tended to judge their respective systems even more positively than those in MMs. [*See Figures 74-A and B*.]

[37] Basel Committee on Banking Supervision, *Core Principles for Effective Banking Supervision* (Basel, September 1997), p. 11

Among the various key factors, bank supervisors in MMs value most the quality of financial information, while those in MDEMs and LDEMs judged banking laws most favorably.

Those least positively rated are macroeconomic policy, capital market laws, government-bank relations and the system of resolving problems in the banking sector for MMs, the system of resolving problems in the banking sector for MDEMs, and government-bank relations and corporate governance in non-financial institutions in LDEMs.

FIGURE 74: Views of supervisory authorities on how the quality of key factors affect the effectiveness of bank supervision to promote robust risk management practices (average for supervisory authorities' responses)

Figure 74-A: Government- and policy-related factors

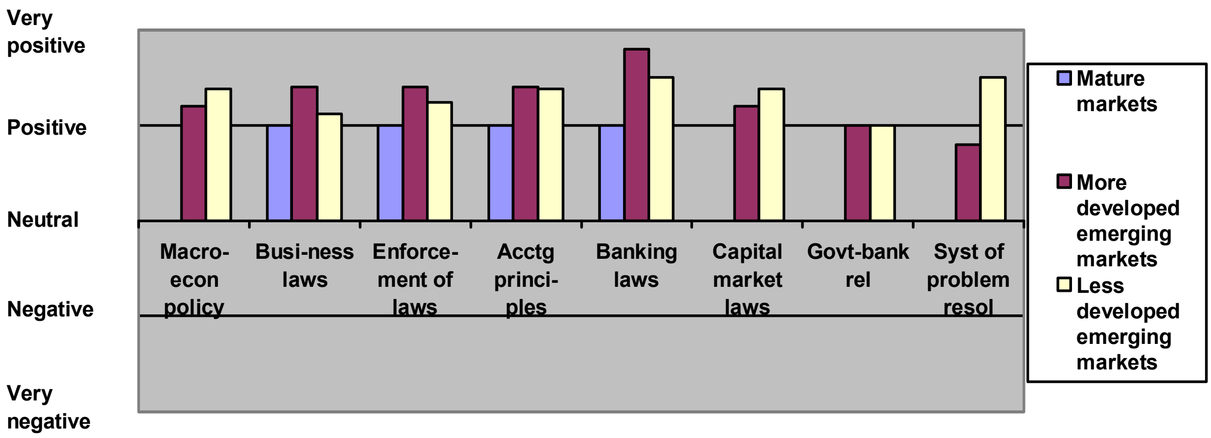
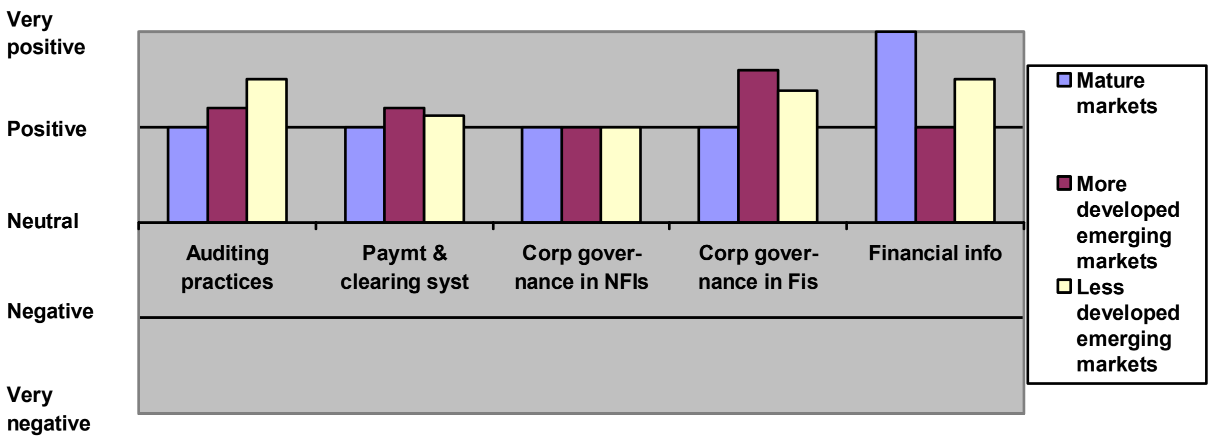


Figure 74-B: Business- and market-related factors



Source: Bank supervisory authorities

Banking sector views. In contrast to bank supervisors, bankers from MMs viewed the various factors in the environment affecting their ability to achieve and maintain robust risk management practices more positively than their counterparts in MDEMs and LDEMs. [*See Figures 75-A and B.*]

Among the various key factors, banks in MMs value most the quality of the clearing and settlement systems, those in MDEMs judge banking laws and supervision, capital market laws and financial information most favorably, and those in LDEMs cited banking laws and supervision.

Those least positively rated are financial information and corporate governance for MMs, the system of resolving problems in the banking sector, accounting principles, auditing practices, payment and clearing systems and corporate governance for MDEMs, and macroeconomic policy, government-bank relationship and the system of resolving banking sector problems in LDEMs.

FIGURE 75: Views of banks on how the quality of key factors affect their ability to achieve and maintain robust risk management practices (average for banks' responses)

Figure 75-A: Government- and policy-related factors

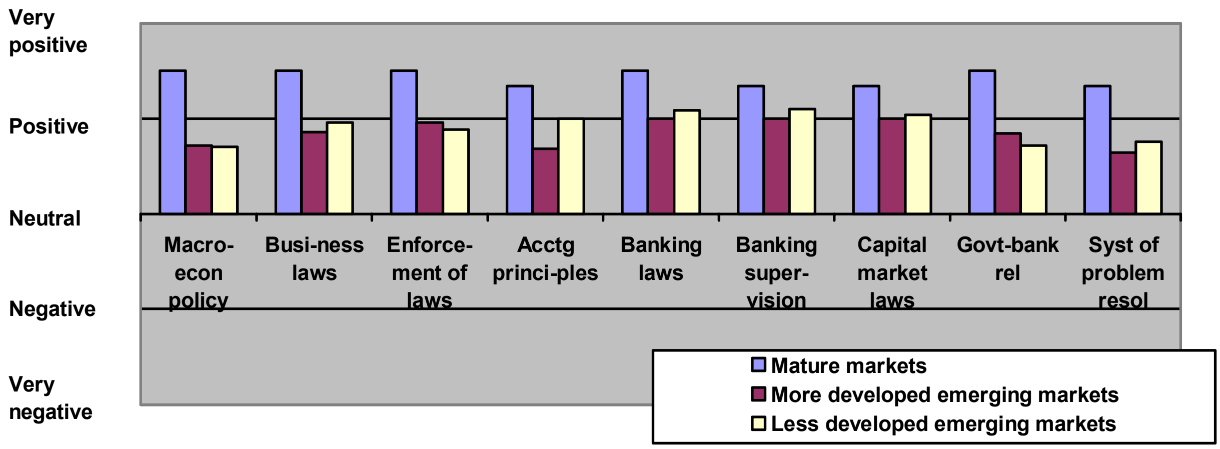
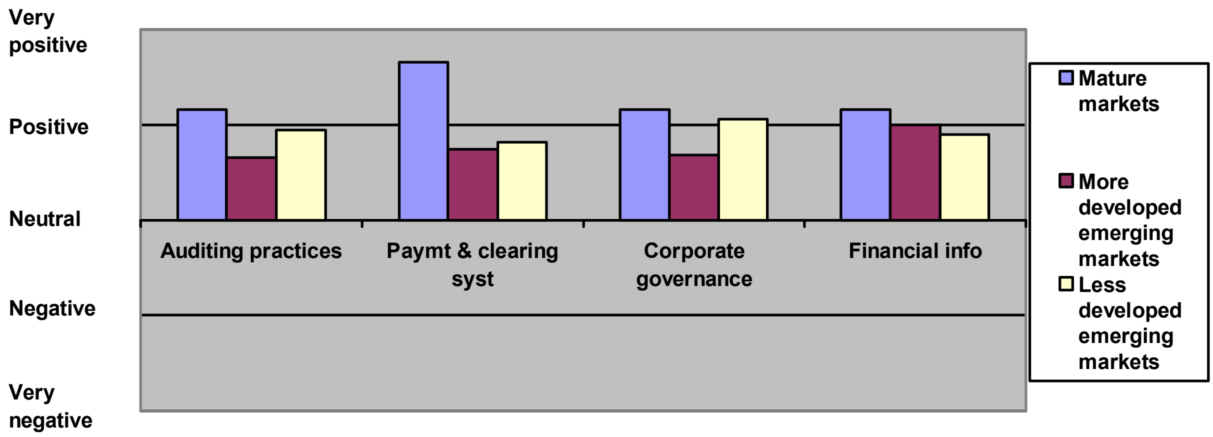


Figure 75-B: Business- and market-related factors



Source: Survey of banks

Bank ownership as a factor in risk management performance. Bank ownership appears to have some influence on risk management performance among banks. Looking at both credit ratings and non-performing loan ratios as performance indicators, banks that form part of widely-held financial groups are the best performers on average, with adequate credit quality and the lowest NPL ratios. Banks that are owned by widely-held corporations (non-financial institutions), on the other hand, have ratings that indicate significant credit risk though with ability to presently meet obligations, on average, and the highest NPL ratios.

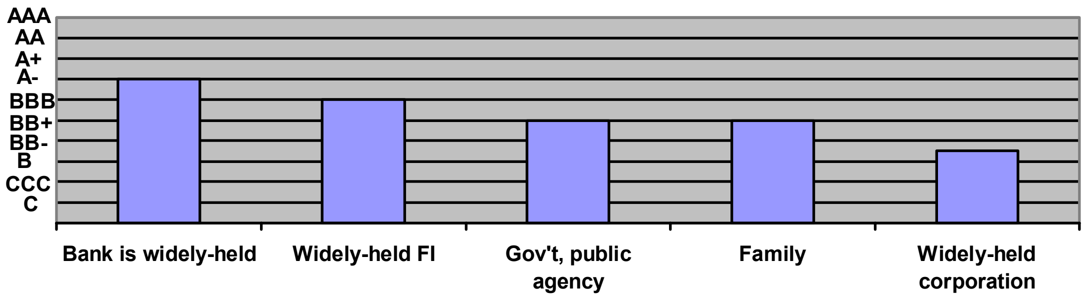
Widely-held, family-owned and government banks exhibit comparable performance. Each type includes banks along a wide spectrum of credit and asset quality. Banks that are widely-held have higher credit ratings, but do not have better NPL ratios than the other types of banks. Banks owned by families or private individuals have less problems with NPLs than the other two types of bank, though on average being rated below investment grade. Banks owned by governments, national and local, and state agencies are not far behind family-owned banks in performance. [*See Figures 76 and 77*.]

In terms of nationality of ownership, foreign-owned banks appear to generally perform better than domestically-owned banks, especially with respect to asset quality, though not so much with respect to credit ratings. [*See Figures 78 and 79*.] This must be qualified by the observation that the survey responses mostly cover emerging markets, and that foreign banks tend to do less well than domestic banks in mature markets, while the opposite is true in emerging markets, especially in less-developed ones.

Membership in diversified conglomerates also appears to have a significant impact on performance. Banks whose controlling shareholders also control non-financial corporations on average are rated below investment grade, while those that are not part of such arrangements have investment grade ratings. The NPL ratios in the latter group are also much lower in average than in the former. [*See Figures 80 and 81*.]

These results reflect the relative success of current efforts to improve governance among a wide range of banks in the region, including government, family-owned and widely-held institutions. They also underscore the challenge of ensuring sound risk management in banks that are part of diversified conglomerates, which form a significant part of the region's business landscape.

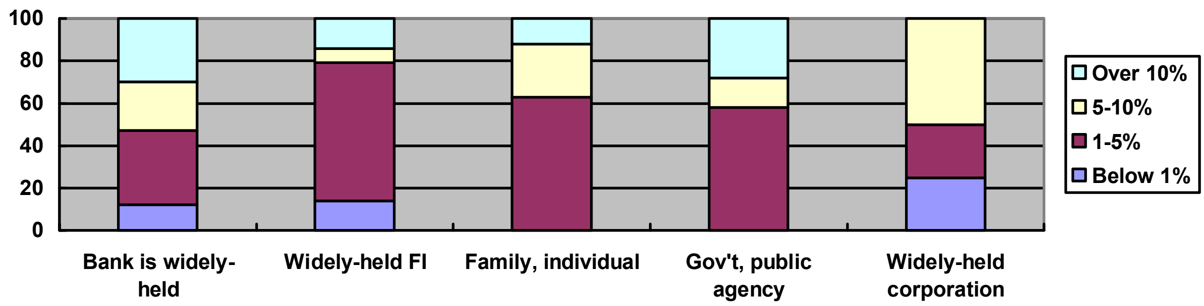
FIGURE 76: Controlling shareholders and credit ratings: Average credit ratings for each ownership category, 2nd quarter 2003



Notes: *(1) Credit ratings used were local long-term currency ratings provided by Fitch, Moody's and S&P, converted into equivalent S&P rating scales. (3) Data are as of May 2003.*

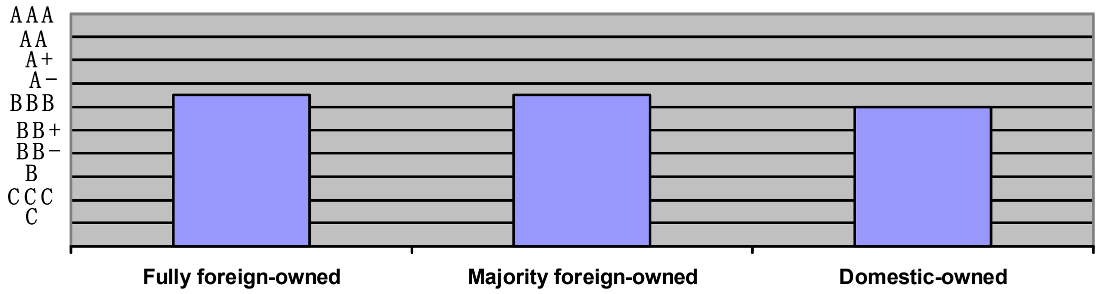
Source: Survey of banks

FIGURE 77: Controlling shareholders and NPL ratios: Average non-performing loan ratio for each ownership category, 2003 (% of responding banks in each category)



Source: Survey of banks

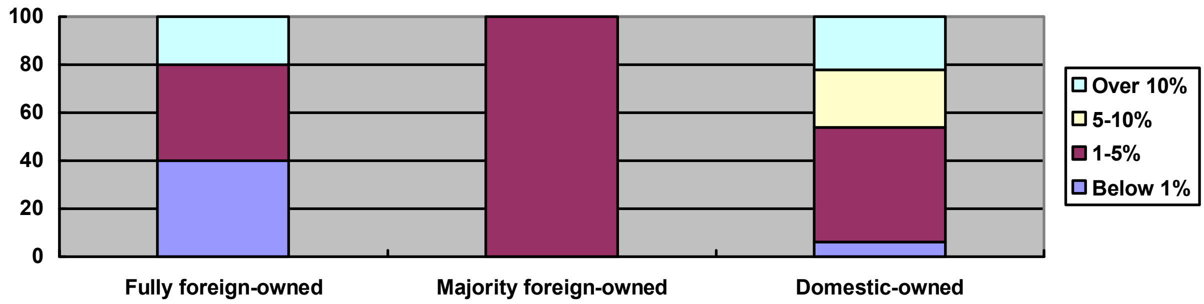
FIGURE 78: Nationality of ownership and credit ratings: Average credit ratings for each ownership category, 2nd quarter 2003



Notes: (1) Credit ratings used were local long-term currency ratings provided by Fitch, Moody's and S&P, converted into equivalent S&P rating scales. (3) Data are as of May 2003.

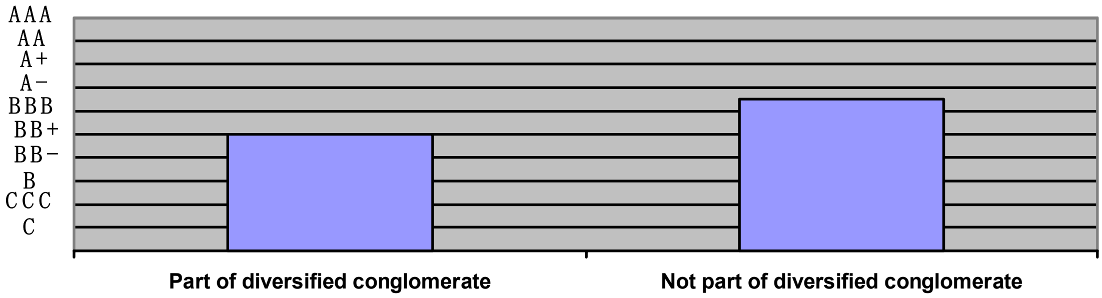
Source: Survey of banks

FIGURE 79: Nationality of ownership and NPL ratios: Average non-performing loan ratio for each ownership category, 2003 (% of responding banks in each category)



Source: Survey of banks

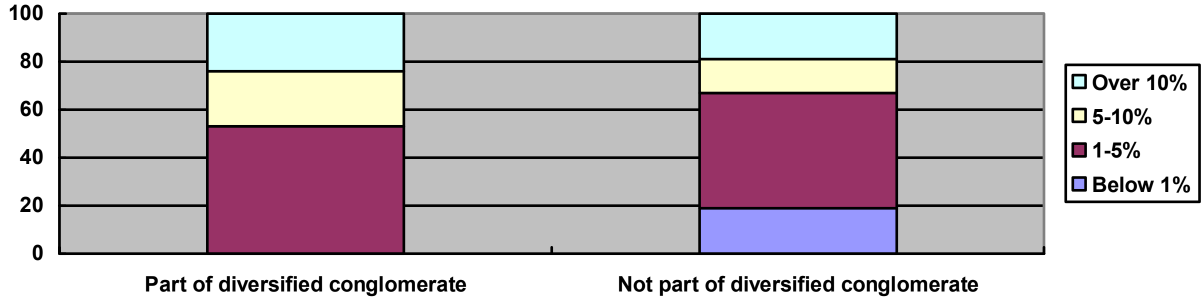
FIGURE 80: Membership in diversified conglomerates and credit ratings: Average credit ratings for each ownership category, 2nd quarter 2003



Notes: (1) Credit ratings used were local long-term currency ratings provided by Fitch, Moody's and S&P, converted into equivalent S&P rating scales. (3) Data are as of May 2003.

Source: Survey of banks

FIGURE 81: Membership in diversified conglomerates and NPL ratios: Average non-performing loan ratio for each ownership category, 2003 (% of responding banks in each category)



Source: Survey of banks

CONCLUSIONS

This survey highlights the broader array of risks facing banks in emerging markets, especially in the less developed ones, compared to their counterparts in mature markets, as can be seen clearly from the data on profitability, the level of non-performing loans and credit ratings. Considerable reliance on corporate lending to large local firms, most of which are unrated, as well as being part of diversified conglomerates, expose many of these banks to greater credit risks than those in mature markets, which have a wider variety of revenue sources, more diversified markets for lending, and do not form part of conglomerates with interests in non-financial operations.

In addition, although it has been said that operational risks in emerging market banks should be less than those of more sophisticated global banks, the survey indicates that banks from both more developed and less developed emerging markets, but most especially the latter, see themselves facing a wider spectrum of operational risks than banks in mature markets. These risks include those arising from execution, delivery, process management, external and internal fraud, clients, products, practices, disruption and system failure.

Emerging market bank supervisors, and banks themselves, are aware of these risks, and this awareness is reflected in regulations and internal policies. Compared to their counterparts in mature markets, banks in emerging markets are subject to more frequent reporting of risk exposures for regulatory, investor reporting and management purposes, and more frequent review of risk management systems, techniques and procedures.

Emerging market banks also consciously adhere more closely than mature market banks to some aspects of principles and sound practices developed by the Basel Committee on Banking Supervision. Examples are found in the content of credit risk management strategy and criteria for establishing new credit relationships. Banks in more developed emerging markets generally maintain higher levels of risk management practices than those in less developed markets. Within the latter category, there are significant portions, though not in the majority, where the quality of risk management practices is very much below the norm.

Bank supervisory authorities in emerging markets tend to impose higher regulatory requirements for capital adequacy, more frequent reporting requirements and more specific regulations regarding the measurement of a broader array of risks than do their counterparts in mature markets. Supervisory practices in the region’s emerging markets also do not differ much from those in the developed markets with regard to the types of prudential requirements and measures used to deal with concentration of large exposures, connected and related party lending, and the resolution of problems in the banking sector.

All in all, however, mature market banks are able to maintain more robust credit, market and operational risk management practices in most areas. Mature market banks are able to use more sophisticated risk management systems, derivative instruments, credit risk models and analytical techniques as well as securitization to reduce risk concentration. They are subject to better oversight by boards of directors, more frequently use independent units to review risk management systems and procedures, are better insured for operational losses and practise better disclosure.

The impending introduction of the new Basel Capital Accord is seen by most banks in emerging markets as an improvement over the current accord, and an opportunity to upgrade their risk management practices. One of the more surprising findings of the survey is that more emerging market banks plan to adopt the more sophisticated approaches to measuring credit, market and operational risks than their respective supervisory authorities expect.

Currently, supervisory authorities in mature and more developed emerging markets intend to have all or most of these approaches on offer. In a number of less developed emerging markets, however, most authorities are anticipating to offer only the basic approaches. These plans may need to be reviewed in the light of banks' intentions.

Many emerging market banks, however, face serious challenges in their efforts to improve risk management practices to the level required by the new accord. The most critical resource constraints they have to deal with are those with respect to technology, data availability (which is very important in view of the significant amount of historical data needed for the calibration and validation of risk measurement models),[38] and to a limited extent in the case of less developed emerging markets, staffing.

A significant portion of emerging market banks that responded to the survey (a quarter of banks from more developed emerging markets and half of banks from less developed ones) do not see themselves being able to complete their preparations for the new accord by the end of 2006. However, they do not generally consider funding a major constraint. Banks from all economies expect to spend an average of between US$5 million and US$10 million to comply with the requirements of the new accord.

Preparedness of bank supervisory authorities is critical to the effective implementation of the new accord, especially if banks are moving to adopt more sophisticated risk measurement and management approaches. While authorities in mature and more developed markets are mostly able to deal with this challenge, those in less developed emerging markets face serious resource constraints with respect to staffing, technology and funding. A majority (57 percent) of authorities in these markets that responded to the survey do not expect to complete their preparations by 2006.

The successful implementation of the new accord and the development of robust risk management practices in banking systems require a sufficient level of communication and cooperation between banks and bank supervisory authorities. There is a need to step up such communication and cooperation in a number of economies, including mature markets, but most especially in the less developed emerging markets, where most banks view them as inadequate.

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[38] Kevin Davis, "Risk Management, Pricing and Capital Provisioning under the New Basel Accord: Issues for the APEC Region," *The 19th ABA General Meeting* (Seoul, Asian Bankers' Association, 2002), p. 60.

This cooperation could, among others, focus on the sharing of knowledge toward strengthening the regulatory process in the region, the design of measures to facilitate transition to a new regulatory regime, a deeper understanding of the interaction between market discipline and regulatory reform, and the development and testing of new portfolio modeling techniques.[39] Other areas are the development databases, education and knowledge transfer, where regulators, playing a coordinating role, could work with financial institutions.[40]

There is also a need to address shortcomings in the policy and business environments that affect risk management practices. Banks have acknowledged the substantial improvements achieved in recent years with the introduction of reforms following recent periods of crisis, and generally judge banking and capital market laws in their host economies rather favorably. Areas that need to be improved are the system for resolving problems in the banking sector, accounting principles and rules, auditing practices, payment and clearing systems, corporate governance, the government's business relationship with banks and macroeconomic policy.

The development of strong capital and derivatives markets is also important, given the importance of securitization and derivatives markets for the efficient trading or transferring of risk, and of bond and equity markets for benchmarking credit risk assessment by banks and the use of more sophisticated risk measurement techniques. Regulators need to be familiar with these markets' products and activities, and be able to effectively supervise banks' activities in these markets.[41]

Corporate governance in financial institutions is a factor that has a considerable impact on risk management performance and is therefore one that needs to be addressed. Boards of directors need to assume greater responsibilities for understanding the risks run by banks and for their pro-active handling.[42] While there has been significant progress in improving governance among banks in the region, including family- and government-owned banks, risk management remains a challenge for the management of banks that are part of diversified conglomerates.

In conclusion, the introduction of the new Basel Capital Accord provides an opportunity that economies must seize to accelerate the development of sound risk management practices in the region's banking systems. Many emerging market banks intend to respond to this by undertaking a significant upgrading of risk measurement and management systems beyond the basic options offered under the new accord. APEC member economies would do well to encourage and facilitate this process, while also helping to ensure that banks gain access to high quality risk management training and technology.

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[39] These have been suggested in a publication summarizing the results of a symposium on risk management, pricing and capital provisioning hosted by the PECC Finance Forum and the APEC Business Advisory Council, see Kevin Davis and Ken Waller, *Financial Stability in the Asia-Pacific: Improving Risk Management* [Issues@PECC Series] (Singapore, Pacific Economic Cooperation Council and APEC Business Advisory Council, 2002) pp. 7-8.

[40] M.R. Pridiyathorn Devakula, *Risk Management: Challenge for the Thai Financial Institutions and Regulator. Opening Remarks at the Market Risk Management Techniques for the BIS Capital Regime Seminar, United Nations Conference Center* (Bangkok, October 12, 2001).

[41] Kevin Davis, "Risk Management, Pricing and Capital Provisioning under the New Basel Accord: Issues for the APEC Region," *The 19th ABA General Meeting* (Seoul, Asian Bankers' Association, 2002), p. 60.

[42] D.M. Nachane, Aditya Narain, Saibal Ghosh and Satyananda Sahoo, "Regulating Market Risks in Banks: A Comparison of Alternative Regulatory Regimes," *Journal of Banking and Finance* Vol. XVII (2002) No., 2, p. 11.

However, as this requires a corresponding enhancement of bank supervisory capabilities, sufficient investment should be made in strengthening capacity-building efforts directed toward supervisory authorities. Such efforts need to be focused on technology, the development of data collection infrastructure and of data bases specific to the region's credit markets, as well as training, especially in helping bank supervisors further deepen their understanding of risk management as practiced in banks within the region and the process of its development. In addition, capacity-building efforts should also be directed toward key areas in the policy and business environment that are critical to further strengthening risk management practices.

Translating these proposals into action requires the achievement of the following objectives:

- Existing capacity-building programs aimed at preparing bank regulators for implementing the new accord and related goals have been or are being undertaken by various organizations and institutions. Steps should be taken to promote greater coordination and synergy of these efforts.
- APEC should focus its own capacity-building efforts to fill in gaps not sufficiently addressed in ongoing programs, especially in the area of risk management, and facilitate broad and active participation by member economies to maximize the pooling of the most suitable resources and expertise available in the region in these efforts.
- As evolving risk management practices in banks lie at the heart of the new Basel accord, there should be greater involvement of skilled professionals in the private sector in the design and implementation of training programs for bank regulators and commercial bankers, as well as in the development of regulatory approaches at the regional and international levels.

Together with the APEC Business Advisory Council (ABAC), PECC has helped establish and is advocating a meaningful role for a *Public-Private Sector Advisory Group for Financial Sector Capacity-Building* in assisting APEC, and especially the APEC Finance Ministers, achieve the above objectives.[43] Active participation by representatives of the APEC Finance Ministers' process, as well as key regional and international institutions, in this advisory group would ensure the effectiveness of capacity-building efforts toward more sound and robust risk management practices in banking systems across the region.

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[43] APEC Business Advisory Council (ABAC), *Sharing Development to Reinforce Global Security: Report to APEC Economic Leaders* (Los Cabos, October 2002), p. 37

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