

BANK RISK AND RETURN IN THE ASIA PACIFIC REGION: A CROSS COUNTRY ANALYSIS

Guy Ford
Macquarie Graduate School of Management
Macquarie University

Rae Weston
Macquarie Graduate School of Management
Macquarie University

1. INTRODUCTION

This paper examines the risk/return performance of bank stocks in the Asia Pacific region over the period 1999-97. We compare the performance of banks in Australia, Hong Kong, Japan, South Korea, Malaysia, Singapore and Thailand, and include Canada and the United States. For the purposes of the study, return is measured as geometric monthly returns over the period, and risk is measured in terms of the standard deviation and semi-deviation of monthly returns.

The period selected for this study represents one of particular interest with respect to regional bank performance. First, it includes the five-year period immediately following the implementation in 1992 of capital adequacy requirements for banks under the Basel Accord of 1988. The basis of the Accord of 1988 was that a consistent standard be applied for determining minimum capital requirements across internationally active banks. These capital requirements were structured to make regulatory capital sensitive to differences in risk profiles across banks, with banks holding riskier assets required to hold a higher level of capital. There has subsequently been considerable debate over the impact of risk-based capital standards on bank risk-taking. Our study provides an international perspective by comparing bank capital holdings to bank share price volatility across national boundaries.

The period selected for the study also covers one of severe banking problems in the Asia Pacific region, culminating with large losses in Asian banks during 1997-98. The

large loan losses on the books of Asian banks in 1998 has led some observers to conclude that bank capital standards were ineffective in controlling risk-taking by banks in the region. That is, despite banks in the region conforming to minimum capital requirements under the Basel Accord, banks appear to have been undercapitalised relative to the credit risks in their books. We separately examine data for the period 1992-97 to assess the potential of risk-based capital requirements on bank risk-taking in the region, as measured by volatility in bank returns. Interestingly, we find an improvement in the risk/return profile of banks in Australia, Canada and the United States, but deterioration in the risk/return profile of Asian banks. The latter result is perhaps not surprising given the eventual collapse of banks in the region in 1998. This lends support to the hypothesis that the Basel capital adequacy requirements did not necessarily discourage riskier lending by banks in some countries. In the Asian banking context, we find main source of problems to lie in loan loss provisioning policies, bank accounting standards and loan classifications standards.

The paper is structured as follows. Section 2 reviews the literature on the impact of bank capital standards on bank risk-taking. Section 3 outlines the data source and risk metrics used in the study. Section 4 presents the empirical findings of the study and provides supporting discussion. Section 5 focuses more specifically on the performance of Asian banks over the period and considers why capital standards may have been less effective in limiting risk-taking in banks in Asian countries. Section 6 concludes the paper.

2. LITERATURE SURVEY

In 1988 the Basel Committee on Banking Supervision introduced a capital measurement system for banks (commonly referred to as the Basel Accord). The system provided for the implementation of a credit risk measurement framework with a minimum capital standard of 8% of risk-weighted assets (on balance sheet and off balance sheet equivalents) by the end of 1992. Since 1988, the framework has been progressively introduced not only in member countries of the Basel Committee, but also in virtually all countries with active international banks (although they are not

required to do so by any formal international agreement). A survey conducted for 129 countries participating in the ninth International Conference on Banking Supervision in Stockholm showed that in 1996 more than 90 percent of the 129 countries applied risk-weighted capital adequacy requirements in keeping with the Basel Accord (Padoa-Schioppa, (1996)). The 1988 Basel Accord mandated banks hold higher percentages of equity capital as the perceived credit risk of assets increased. Specifically, the dollar value of assets are weighted relative to risk, with higher risk credits receiving larger risk weights.¹ This framework was intended to make regulatory capital more sensitive to differences in the risk profiles among banking organisations, and to lower the disincentives to hold lower risk assets inherent in a fixed ratio of capital to assets.

There has been considerable theoretical debate over incentives for banks to alter the risk profile of their assets under the Basel Accord. One school of thought asserts that capital requirements with differentiated risk weights provide an incentive for banks to shift from high-risk to low-risk assets if, for less-risky assets, the gain associated with the lower capital charge more than offsets the lower yield on these assets. Thakor (1996) and Passmore and Sharpe (1994) demonstrate that an increase in a risk-based capital requirement can cause a bank to shift from loans to securities. Furlong and Keeley (1989) argue that a value-maximising bank will not increase its asset risk under more stringent capital requirements. Furfine (2000) shows that a shift in bank asset portfolios in the United States occurred following the passing of the Accord. Banks simultaneously reduced their investment in riskier commercial lending in favour of less-risky government securities, such that the share of total bank credit in commercial and industrial loans fell from 23% in 1989 to under 16% in 1994, while at the same time the share of total bank credit invested in US government securities increased from 15% to 25% over the same period.²

A second school of thought hypothesises that the risk-based capital requirements associated with the 1988 Basel Accord will result in an increase in bank risk-taking if capital requirements do not adequately reflect the relative riskiness of assets and

¹ See Bank for International Settlements (1988), "International Convergence of Capital Measurement and Capital Standards", Basel Committee publications No.4, July.

² Furfine (2000), 1-2. Furfine points out that while the trend has partially been reversed since 1994, bank portfolios remain much less invested in commercial loans than they have over the past 25 years.

information on the quality of the specific assets is asymmetric between regulators and ratings agencies on the one hand, and bank loan managers on the other. The basis of this hypothesis is that any category of assets that bears the same proportional capital charge will induce banks to shift towards more risky assets in the category. This arises because banks can earn a higher return on riskier assets within the category because higher earnings on these assets are not offset by a compensating increase in capital. If information on the quality of assets within a given category is not transparent to external parties such as ratings agencies, banks may be able to increase the risk profile of the asset book relatively unchecked. Koehn and Santomero (1980) and Kim and Santomero (1988) show that asset substitution of this form is possible within a portfolio model. The Basel Committee of Banking Supervision has itself recognised that the failure to differentiate sufficiently between credit risks within some asset categories has resulted in the practise of banks shifting their asset portfolios towards lower quality credits: “in this case, the bank’s total risk-weighted assets and regulatory capital ratios would appear unchanged, even as its overall riskiness increased.”³ The Basel Committee has identified a number of forms of regulatory arbitrage, all of which allow divergences to arise between a portfolio’s true economic risks and the Accord’s measure of risk, and this in part has instigated recent refinements to the Basel capital adequacy framework.

Empirical evidence on the relationship between bank capital requirements and bank risk-taking is mixed. Sheldon (1996) finds that US bank asset volatility rose between 1987 and 1994 and this occurred in banks that increased their capital ratios and those that did not. However, in the case of Japanese banks, higher capital ratios tended to be matched by lower asset volatility. Gennotte and Pyle (1991) find that risk-taking in banks increases when capital requirements are increased. Calem and Rob (1999) quantify the effect of capital-based regulation on a cross section of US banks using banking sector data for 1984-1993. They find a U-shaped relationship between capital position and risk-taking: undercapitalised banks take maximum risk and as a bank’s capital rises they take less risk. However, as capital continues to rise, they find that a bank will take on more risk again. They find that severely undercapitalised banks take higher risks because costs of bankruptcy are shifted to the deposit insurance fund in

³ Bank for International Settlements (1999), p.23.

the United States. Well-capitalised banks take higher risks because of their higher profitability and low probability of bankruptcy. These mixed empirical findings may, in part, be a product of the difficulties encountered in measuring risk in bank assets with data that is publicly available.

The fundamental premise of this paper is that banks that hold more risky assets should, over time, demonstrate greater volatility in shareholder returns than those banks that hold less risky assets. Thus if bank capital requirements influence bank risk-taking, this should manifest in the risk/return performance of bank stocks. More specifically, we would generally expect to see lower volatility in bank shareholder returns if there has been a marked shift from higher-risk to lower-risk assets arising from risk-based capital requirements. In contrast, we anticipate greater volatility in bank shareholder returns if banks are significantly increasing the risk profile of the ir asset books without compensating increases in bank capital. We base this on the assumption that banks with riskier assets will face greater variability in earnings, influenced by provisioning for bad debts and larger loan losses through time. This, of course, abstracts from a host of other factors that may affect bank risk-taking and variability in bank shareholder returns. Nonetheless we believe that the long data sample selected (60 monthly periods between 1992 and 1997) should allow for any significant patterns across countries to emerge.

3. PERFORMANCE MEASURES

The data we use in the study comprises Datastream retail banking and market indices for the selected countries for the period 1988-1997. The annual return on bank stock is the geometric mean return and thus represents the effective annual yield on an investment in the stock. Risk is calculated using a number of risk measures. First, we use both the standard deviation of monthly returns and the semi-deviation of monthly returns with respect to the mean.⁴ The semi-deviation captures the true risk of the portfolio (country) by accommodating skewed return distributions. We also report the

⁴ The standard deviation makes no distinction between positive and negative deviations from a distribution's mean and thus measures uncertainty. The semi-deviation ignores positive deviations, and thus reflects the chance of loss to an investor.

beta for the portfolio (country), which is a measure of the variability of the portfolio's variability relative to the general market index, and include measures of skewness (symmetry of the distribution of returns on the portfolio) and kurtosis (indicates if dramatic market moves occur with more frequency than predicted by the normal distribution).

Risk adjusted performance measures used for the study, and their descriptions, are summarised in Table 1. We measure reward against three risk measures: standard deviation of returns, semi-deviation of returns and beta of the portfolio (country). We also include Jensen's Alpha, which measures the performance of the portfolio relative to expectations derived according to the capital asset pricing model, and a shortfall risk measure, which in this study represents the probability of monthly returns on the portfolio becoming negative.

Table 1
Risk-adjusted performance measures used in the study

Performance measure	Description
Reward/standard deviation	(Return – risk free rate)/standard deviation
Reward/semi-deviation	(Return – risk free rate)/semi-deviation
Reward/beta	(Return – risk free rate)/beta
Jensen's alpha	Deviation of portfolio returns from that proposed by the CAPM
Shortfall risk	Probability that monthly return will be negative (returns < 0%)

We turn now to the empirical findings of the study.

4. EMPIRICAL FINDINGS

Over the period 1988-97 there is considerable variability across countries in the risk/return performance of bank stocks, with geometric monthly returns ranging between 2.06% and –0.75%, and the standard deviation of monthly returns ranging between 11.22% and 4.82%. Bank stocks which performed best, on a risk-adjusted return basis, were in the United States, Canada, Australia and Hong Kong (in rank order). Japanese and Korean bank stocks were the worst performing stocks of the sample countries. Table 2 presents return and distribution statistics for the bank stocks

in the selected countries over 1988-97, and Table 3 presents risk-adjusted performance results for the stocks over the same period. Table 4 ranks bank stocks across countries using various risk measures.

Key observations for the period follow.

1. Countries that achieved the highest shareholder returns on retail bank stock over the period tended to carry less variability in returns on both a variance and semi-variance measures. This indicates that the highest yielding stock also provided the best risk-adjusted returns, a result that we find consistent regardless of the risk metric used. Shareholder returns in Korean and Japanese banks fell below the risk-free rates in these countries, resulting in negative measures for reward to standard deviation, semi-deviation and beta. In addition, Jensen's alpha measures for these regions were negative, indicating investor returns for the period below those implied by the capital asset pricing model.
2. Bank stock returns in Asian countries exhibit high positive kurtosis (leptokurtosis) over the period. This indicates that the distribution of stock returns in Asian banks have a higher peak than that characterised by a normal distribution, with bank stocks in these countries exhibiting larger price changes than in Australia, Canada and the United States. Given the data sample covers the period immediately preceding the Asian crisis of 1997-98, this suggests that some investors in bank stocks in Asian countries were aware of the credit risks building in the books of these banks. Nonetheless, the full extent of the impending losses appears to have been underestimated by investors in bank stocks in the region.
3. The performance of bank stock in Australia is strong and somewhat surprising given the data covers a period under which Australian banks incurred large asset write-downs on non-performing loans following poor lending practices during the international asset price boom of the late 1980s. Interestingly, bank shareholder returns in the Australia show low skewness and kurtosis of 3, indicating normal tails in the distribution of returns. These "normal" results in light of the large bank losses incurred during the period provides circumstantial evidence of market perceptions of a central bank safety net: despite loan losses reported to be around

A\$30 billion, banks suffered no significant response from depositors and subsequently incurred no apparently liquidity problems during the period. While there was a negative shareholder response to asset write-downs, this tended to be short-term as banks cleared out their bad loans and adopted a more stringent approach to credit quality.

Table 2
Distribution statistics of bank stock by country: 1988-97

Country	Annual return	Monthly return	Standard deviation monthly return	Semi deviation monthly return	Beta	Skewness	Kurtosis
Australia	21.10%	1.61%	5.41%	2.93%	0.486	0.205	2.951
Canada	20.79%	1.59%	4.82%	2.86%	0.416	-2.273	3.028
Hong Kong	27.78%	2.06%	7.64%	4.90%	0.707	-0.699	7.833
Japan	-8.52%	-0.74%	7.20%	5.56%	1.186	-0/043	3.949
Korea	-8.68%	-0.75%	8.72%	5.90%	0.413	0.791	4.463
Malaysia	14.44%	1.13%	9.82%	6.00%	0.667	1.053	10.997
Singapore	9.41%	0.75%	5.68%	3.40%	0.434	1.113	11.344
Thailand	10.19%	0.82%	11.22%	6.51%	0.508	0.911	5.534
United States	22.89%	1.73%	5.34%	3.11%	0.386	-0.173	3.068

Table 3
Risk-adjusted performance of bank stock by country: 1988-97

Region	Annual return	Monthly return	Reward to standard deviation	Reward to semi deviation	Reward to beta	Jensen's alpha	Probability of return < 0%
Australia	21.10%	1.61%	0.25%	0.46%	2.80%	0.012	38.3%
Canada	20.79%	1.59%	0.28%	0.47%	3.22%	0.012	37.1%
Hong Kong	27.78%	2.06%	0.24%	0.37%	2.57%	0.016	39.4%
Japan	-8.52%	-0.74%	-0.14%	-0.18%	-0.83%	-0.013	54.1%
Korea	-8.68%	-0.75%	-0.11%	-0.17%	-2.42%	-0.011	53.5%
Malaysia	14.44%	1.13%	0.09%	0.15%	1.32%	0.007	45.4%
Singapore	9.41%	0.75%	0.09%	0.16%	1.16%	0.004	44.7%
Thailand	10.19%	0.82%	0.05%	0.09%	1.11%	0.004	47.1%
United States	22.89%	1.73%	0.28%	0.48%	3.85%	0.014	37.3%

Table 4
Rank of retail bank stock by country on risk-adjusted basis: 1988-97

Region	Monthly return	Standard deviation	Semi deviation	Reward to standard deviation	Reward to semi deviation	Reward to beta
Australia	3	7	8	3	3	3
Canada	4	9	9	2	2	2
Hong Kong	1	4	5	4	4	4
Japan	8	5	4	9	9	8
Korea	9	3	3	8	8	9
Malaysia	5	2	2	6	6	5
Singapore	7	6	6	5	5	6
Thailand	6	1	1	7	7	7
United States	2	8	7	1	1	1

In order to assess the impact of risk-based capital adequacy requirements on bank risk-taking across geographic boundaries we extract data for the period 1992-97. We have selected this period because it represents the period between the implementation of the Basel Capital Accord and the Asian financial crisis. The data is presented in Tables 5 and 6: Table 5 presents return and distribution statistics by country for 1992-97 and Table 6 presents selected risk-adjusted performance measures by country for the period. Table 7 ranks bank stocks over the period according to various risk-adjusted performance measures.

The results for 1992-97 show a clear distinction between the performance of Asian bank stocks and bank stocks in Australia, Canada and the United States. Banks in the latter countries all increased their risk-adjusted performance over the second period, with higher returns and lower variability in returns. In contrast banks in the Asian countries all show deterioration in risk-adjusted returns in the second period, with lower returns and greater variability in returns. These results are consistent across all risk measures used in the study. Further, for Asian bank stocks, the data for 1992-97 shows no correlation between actual risk-based capital ratios by country and risk-adjusted returns to shareholders in these countries. Table 8 compares minimum capital ratios to actual bank capital ratios as at 1995. If we compare the capital ratios of banks in different countries with shareholder returns and variability in shareholder returns

we find that both highly ranked and lowly ranked banks, in terms of risk/return performance, held similar amounts of risk-based capital. That is, the best performing banks hold capital at around 12-13 percent of risk-weighted assets, and this generally matches the levels held by the worse performing banks over the period.

Table 5
Distribution statistics of bank stock by country: 1992-97

Country	Annual return	Monthly return	Standard deviation monthly return	Semi deviation monthly return	Beta	Skewness	Kurtosis
Australia	23.06%	1.74%	4.81%	2.60%	0.549	-0.085	2.138
Canada	22.20%	1.69%	4.78%	2.62%	0.424	-0.012	2.486
Hong Kong	28.64%	2.12%	8.65%	5.74%	0.897	-0.826	7.599
Japan	-10.89%	-0.96%	7.76%	5.97%	1.425	0.101	3.844
Korea	-15.49%	-1.39%	8.07%	6.23%	1.107	0.317	4.229
Malaysia	11.91%	0.94%	11.16%	6.70%	0.723	1.282	10.772
Singapore	6.90%	0.56%	5.75%	3.12%	0.388	2.193	15.848
Thailand	5.39%	0.44%	11.97%	7.46%	0.416	0.556	3.737
United States	28.70%	2.12%	4.30%	2.25%	0.281	-0.294	2.694

Table 6
Risk-adjusted performance of bank stock by country: 1992-97

Region	Annual return	Monthly return	Reward to standard deviation	Reward to semi deviation	Reward to beta	Jensen's alpha	Probability of return < 0%
Australia	23.06%	1.74%	0.31%	0.58%	2.73%	0.012	35.9%
Canada	22.20%	1.69%	0.30%	0.55%	3.39%	0.012	36.2%
Hong Kong	28.64%	2.12%	0.22%	0.33%	2.09%	0.014	40.3%
Japan	-10.89%	-0.96%	-0.15%	-0.20%	-0.84%	-0.019	54.9%
Korea	-15.49%	-1.39%	-0.20%	-0.26%	-15.27%	-0.017	56.9%
Malaysia	11.91%	0.94%	0.06%	0.10%	0.96%	0.003	46.6%
Singapore	6.90%	0.56%	0.05%	0.10%	0.80%	0.001	46.1%
Thailand	5.39%	0.44%	0.02%	0.03%	0.46%	-0.001	48.5%
United States	28.70%	2.12%	0.44%	0.84%	6.68%	0.017	31.0%

Table 7
Rank of retail bank stock by country on risk-adjusted basis: 1992-97

Region	Monthly return	Standard deviation	Semi deviation	Reward to standard deviation	Reward to semi deviation	Reward to beta
Australia	3	7	8	2	2	3
Canada	4	8	7	3	3	2
Hong Kong	2	3	5	4	4	4
Japan	8	5	4	8	8	8
Korea	9	4	3	9	9	9
Malaysia	5	2	2	5	5	5
Singapore	6	6	6	6	6	6
Thailand	7	1	1	7	7	7
United States	1	9	9	1	1	1

Table 8
Required and actual bank capital ratios: 1995

Country	Capital adequacy ratio (national requirements)	Actual risk-based capital ratio
Singapore	12.0%	18.7%
Argentina	12.0%	18.5%
Hong Kong	8.0%	17.5%
Colombia	9.0%	13.5%
Brazil	8.0%	12.9%
United States	8.0%	12.8%
Taiwan	8.0%	12.2%
Australia	8.0%	12.1%
Indonesia	8.0%	11.9%
Malaysia	8.0%	11.3%
Mexico	8.0%	11.3%
Chile	8.0%	10.7%
Israel	8.0%	10.5%
South Africa	8.0%	10.1%
India	8.0%	9.5%
South Korea	8.0%	9.3%
Thailand	8.0%	9.3%
Japan	8.0%	9.1%

Source: Song (1998) and Reserve Bank Bulletin (1997)

The observation of low correlation between the level of risk-based capital held by banks and variability in bank shareholder returns is significant because it lends no support to either of the hypotheses regarding bank capital and risk-taking discussed in section 2 of this paper. The review of literature in that section found polarised views regarding the impact of risk-based capital and bank risk-taking: one being that capital requirements encourage risk-taking when the credit risk is not sufficiently differentiated for the purposes of measuring capital, and the other being that differentiated risk weights across banks provide an incentive for banks to shift from high risk to low risk assets. One implication of our findings is that investors in bank stocks already take into consideration the risk levels of banks and risk-based capital adequacy requirements have not significantly shifted this perception. A second line of thought is that bank capital ratios will be less effective, and potentially disregarded by investors, if (1) there is considerable uncertainty regarding the accounting definitions which underlie their measurement, and (2) minimum capital requirements are not supported by some element of consistency in debt provisioning and loss recognition policies. We explore these issues within the Asian bank context in the next section.

5. ASIAN BANKS

The performance of Asian banks over the period selected for the study is of particular interest. Banks in the region suffered significant losses and asset write-downs in the period immediately following that selected for the study. Given that many banks in the region were among the most highly capitalised (in terms of Basel capital requirements) in the period leading up to the crisis, it seems risk-based capital requirements may have encouraged excessive risk-taking in the region. However, while the performance of Asian banks did deteriorate during this period, there does not appear to have been a significant reaction from holders of bank stocks. This suggests that (1) investors in the region believed they were protected against potential losses by the high capital holdings of many banks in the region, and (2) the build-up of losses that we now know were occurring in the books of banks in the region were not transparent and appropriately accounted for.

Table 8 indicates that banks in Asian countries were holding actual capital ratios in excess of the minimum capital requirement of 8% of risk-adjusted assets. Delhaise (1998) asserts that prior to the Asian crisis, banks in the region were operating under weak capital ratios and significantly short of capital funds when compared to banks in other regions: "...at the present level of 8% [risk capital requirement], very few Asian banks would qualify if the ratios were strictly (our emphasis) applied to them the way they are in the most advanced of OECD markets".⁵ This suggests that the regulatory measures of capital differed substantially from the economic capital needed to support the long-term viability of banks in the region. It would appear that during the first half of the 1990s, banks in the region were exploiting differences in the measurement of regulatory and economic capital to increase capital as measured by regulatory accounting criteria without regard to the actual economic risks building with bank assets. This, in part, may explain why there is no clear relationship between actual movements in bank capital ratios and the subsequent financial crisis.

One area where this is most apparent is the provisioning for loan losses. Revisions to loan loss reserves represent charges against earnings for the period in which they are recognised. An increase in loan loss provisions, in line with deterioration in loan quality, will thus reduce the retained earnings of the bank entity. Weaker banks face a strong incentive to understate loan loss provisions because, under Basel risk-based capital requirements, retained earnings are counted as core (Tier 1) capital while loan loss reserves are counted only supplementary (Tier 2) capital up to 1.25 percent of the bank's risk-weighted assets. Goldstein (1997) finds that accounting standards in non-OECD countries are generally not sufficiently rigorous to prevent banks from concealing the true extent of their non-performing loans, and loan loss reserve methodologies vary across countries. Delhaise (1998) finds that the notion of non-accrual loan is seldom used in Asia, with all delinquent loans categorised as non-performing regardless of whether they no longer accrue interest or meet reimbursement schedules. If loan classification is linked only to the payment status, without evaluation of changes in creditworthiness or the value of collateral, considerable delays in bring bad loans to account result. Further, weak loans in Asian banks are commonly restructured, with extensions on maturity and interest rate

⁵ Delhaise (1998), p.57

adjustments. Restructured loans tend to be disguised, with delinquent borrowers receiving new loans, giving the impression that borrowers are adequately servicing their original loans.

Delhaise (1998) argues that Asian banks significantly underestimate their loan loss provisions because many do not generate sufficient profits.⁶ The higher growth rates of banks in Asian countries relative to banks in OECD countries leave Asian banks short of capital funds, and low profits resulting high provisions would be considered detrimental to the performance of banks on stock markets and thus limit the supply and/or increase the cost of equity to banks. Delhaise (1998) also reports that tax authorities in many Asian countries cap provisions at a fixed percentage of loans outstanding, regardless of banks' actual needs, in order to maintain a steady source of taxation income from banks.⁷

Table 9 provides a clear indication of the extent to which loan loss provisions vary across countries. Based on Song (1998), the table shows the provisioning-coverage ratio for a sample of countries during the period 1990-1994. Provisioning coverage represents the ratio of loan-loss reserves to non-performing loans. A low provisioning ratio (say less than 1) implies that banks may be adopting cosmetic adjustments to their loan loss provisions in order to boost their earnings and improve their capital ratios. The data presents a stark picture of the potential for under-provisioning for loan losses in many Asian countries over the period leading up to the crisis, with only South Korea, Singapore and Malaysia showing provisioning coverage ratios in excess of one.

⁶ Delhaise, *ibid*, p.60.

⁷ *Ibid*

Table 9
Provisioning coverage for non-performing loans

Country	(A) Loan loss reserves (% total loans, average 1990-94)	(B) Non-performing loans (% total loans, average 1990-94)	Coverage ratio (A/B)
Singapore	-	-	1.2
Argentina	10.2	10.5	1.0
Hong Kong	2.2	3.1	0.7
Colombia	1.9	2.5	0.8
Brazil	1.6	5.9	0.3
United States	2.7	1.6	1.7
Taiwan	1.1	2.6	0.4
Indonesia	2.6	11.2	0.2
Malaysia	9.6	8.2	1.2
Mexico	3.1	14.8	0.2
Chile	3.5	1.0	3.5
Venezuela	7.0	17.7	0.4
India		19.5	
South Korea	1.5	1.0	1.5
Thailand	1.7	7.6	0.2
Japan	1.0	3.3	0.3

Source: Song (1998) and KPMG (various)

A final point of note is many banks in the Asian region are fully or partially state-owned or state-controlled. This means that weaker banks in the region potentially survive only on the strength of guarantees or implied support of their main shareholders. Delhaise (1998) asserts that if adequate adjustments were made to the capital ratios of these banks to reflect non-performing loans in their books, a significant number would post Basel risk-based capital ratios substantially short of the 8 percent benchmark.

6. CONCLUSION

The risk-adjusted return to investors in bank stocks across countries varied considerably in the period between the implementation of international risk-based capital requirements for banks in 1992 and the beginning of Asian crisis in the latter half of the 1990s. Compared to performance over 1988-97, the risk/return performance of Asian bank stocks deteriorated in the six-year period leading to the Asian crisis of 1998, while risk-adjusted returns on banks stocks in Australia, Canada and the United States improved over the same period. Regardless of which metric used, shareholder returns in banks in the latter countries outperformed those in Asian countries over the period 1988-97.

The considerable differences in the risk/return performance of bank stocks across countries occurred despite the adoption of uniform risk-based capital standards, suggesting that there may be no direct link between actual movements in capital ratios and the level of risks in the books of banks. Indeed, banks in Asian countries, which in many cases held the highest excess capital ratios prior to the Asian crisis, were not sheltered from the losses and insolvencies that arose shortly thereafter. This lends support to the view that investors in bank stocks take into account their own perceptions of bank risk levels, and risk-based capital adequacy requirements have not altered their perceptions of risk. It also suggests that banks in Asian countries were able to create artificially high regulatory capital ratios in the period leading-up to the crisis that bore no relationship to the actual economic risks building in their loan books. Significant factors in this regard appear to be uncertainty about accounting definitions that underlie capital calculations and a lack of international consistency in provisioning for future losses and the recognition of non-performing loans. Put succinctly, a truly internationally harmonised capital adequacy standard is not possible without consistency in the definitions and accounting treatment of the components that make it up.

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