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**EMPIRICAL EXAMINATION OF THE PERFORMANCE OF
MALAYSIAN COMMERCIAL BANKS DURING THE 1997 CURRENCY
CRISIS**

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**EMPIRICAL EXAMINATION OF THE PERFORMANCE OF
MALAYSIAN COMMERCIAL BANKS DURING THE 1997 CURRENCY
CRISIS**

The undersigned certifies that the above candidate has fulfilled the conditions of the project paper prepared in partial fulfillment of the requirement for the Master of Business Administration (MBA).

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ABSTRACT

This study examines the impact of the recent currency crisis on the performance of commercial banks in the Malaysian financial system. From a macro perspective, the currency crisis affected all banks and was systemic in nature. But from a micro perspective, the extent of impact was not equal for all banks. Some banks suffered more than the others. This study found two types of factors that had influenced their performance. First, the changes in macroeconomic parameters such as the movement of exchange and interest rates, GDP growth, changes in assets price etc., which were beyond the control of the banks. Second, the banks' decisions on the portfolio of their loans, asset/liability management and level of leveraging, which were under the control of the banks' management. While the macroeconomic factors caused the systemic effect, the factors under control of banks caused the differentiation in performance amongst the banks.

This study conducts statistical tests to examine the effects of loan profile, excessive loan growth and leverage level on the performance of banks. The tests indicate a number of findings. First, the loan profile had a direct relationship to the performance of banks. Banks that had higher percentages of their loan portfolios to riskier sectors were affected more during the period of crisis than other banks. Second, there was insufficient evidence to conclude that the banks with higher rate of loan growth than their ability to get core deposits had performed better in the period before the crisis than other banks. However, the statistical test concludes that they had suffered more during period of crisis than other banks. Third, banks that had higher leverage level had higher return on equity (ROE) in period before the crisis but there was no clear relationship between higher leverage and ROE during the crisis period.

To avert a future-banking crisis, this paper recommends some steps. First, our financial system should be broadened and deepened by promoting bond, securitization and derivative markets to reduce over-reliance on the banking system. Second, the increase in asset prices should be checked by avoiding excessive credit growth and short-term capital inflow. Third, reduce the possibility of currency-attack by avoiding a misalignment of exchange rate. And fourth, reduce the moral hazard in the banking system with a proper incentive structure, whereby all players in the banking system should have "something to lose" if a bank fails.

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Chapter 1 : Objective and Motivation

The recent banking crisis was the second serious crisis in Malaysian commercial bank history. The first was in 1985. Obviously, the Malaysian banking crises have some relationship to economic cycles and the country's economy. The crises were preceded by years of economic growth, asset inflation particularly in the broad property sector, and sudden change in macroeconomic conditions. The first crisis was due to the drop in the prices of commodities, which were the country's main export at that time, while the second was due to a sudden depreciation of the Ringgit and the policy response in defense of the exchange rate.

By nature, some sectors of the economy are more vulnerable to changes in macroeconomic conditions. The broad property sector is vulnerable to economic cycles and increases in interest rates. During an economic boom, the sector experiences huge increases in demand, which pushes up prices. But when the economy slumps, the volume of demand drops sharply causing a sudden drop in property prices. Furthermore, any increase in interest rates will increase the input costs to the sector, which effect the profitability of the investment. The securities sector has a negative correlation with interest rate movements. When the interest rate increases, required rate of return for investing in stocks will also increase, which makes investing in stocks less attractive. Investors will have an incentive to switch their investments from the equity market to the bank based saving. On the other hand, if the interest rate decreases, investing in the stock market becomes attractive because of its higher return than the rate of saving in the banking system.

In view of this scenario, one of this study's objectives is to examine whether loan portfolio profile had an impact on the bank performance during the crisis years. The hypothesis is that the banks with a high proportion of their loan portfolio in vulnerable sectors are expected to be more severely affected than others that had a lower proportion. Besides that this paper also intends to examine the effect of leverage on the performance of banks. Finance theory says that leveraged banks get a higher return during periods of economic boom but will severely affected when the economy slumps.

This paper is divided into nine chapters. Chapter 2 below, provides a review of relevant literature. Chapter 3, gives an overview of the importance of commercial banking sector in the Malaysian financial system architecture while Chapter 4 provides data and the methodology for the research. Chapter 5 examines indepth the performance of domestic banks and the factors leading to differences in performance among them. Chapter 6 compares attribute factors in performance of the five worst affected banks against the five least affected banks. Chapter 7 compares the performance of all domestic banks against the five locally incorporated foreign banks. Chapter 8 discusses policy recommendations to avert a future banking crisis and the final chapter, Chapter 9, concludes the study.

Chapter 2 : Review of Literature

Many factors have been identified as contributors to banking crises. Goldstein and Turner (1996) list eight factors that cause banking crises in emerging economies. They are (i) macroeconomic volatility; external and internal, (ii) lending booms, asset price collapses and surges in capital inflows, (iii) increased bank liabilities with large maturity or currency mismatches, (iv) inadequate preparation for financial liberalization, (v) heavy government involvement and loose control of connected lending, (vi) weaknesses in accounting, disclosure and legal frameworks, (vii) distorted incentives, and (viii) exchange rate regimes. Explanations of each factor are given below;

(i) Macroeconomic volatility, external and internal.

Banks operate with high leverage and hold relatively small amounts of cash. Deposits are redeemable at par, and depositors are assured that they can get immediate access to liquidity. These characteristics make the banking business vulnerable to large relative price changes and to losses of confidence. If volatility sharply alters the relationship between the value of banks' assets and liabilities beyond the protection provided by bank capital, loan loss reserve and reserve requirement against bank deposits, the banks can become particularly vulnerable.

According to the authors, one of the external sources of large fluctuations is the change in the terms of trade. When banks' customers suddenly find that the terms of trade have turned sharply against them, their ability to service existing loans is likely to be impaired. Caprio and Klingebiel (1996) report that 75% of the

developing countries in their sample, which experienced a banking crisis, suffered a terms-of-trade decline of at least 10% prior to the crisis. Other things being equal, countries with relatively low export diversification are more susceptible to a banking crisis.

Volatility in international interest rates, and induced effects on private capital flows also contribute to a banking crisis. Not only do fluctuations in international interest rates affect the cost of borrowing for the emerging market but they also alter the relative attractiveness of investing in the market. For Asian developing countries, which are members of APEC, net inflows in capital account roughly doubled (as a share of host-country GDP) from the 1984-88 period to the 1989-1993 period. Incompletely sterilized capital inflows boost banks' deposits and tempt banks to increase lending even at the expense of lower credit quality. This plants the seeds of trouble when the boom collapses. And when capital flows out unexpectedly as a result of a loss of confidence, there is possibility that banks will face serious liquidity problems to meet the sudden withdrawal of bank deposits.

The third type of external volatility comes from changes in real exchange rates. Real exchange rate volatility can cause difficulties for banks either directly i.e. when there is currency or maturity mismatch between bank liabilities and assets or indirectly i.e. when exchange rate volatility creates large losses for bank borrowers. Kaminsky and Reinhart (1995) observe that sharp real exchange rate appreciation typically precedes a banking crisis. One reason for this may be the adverse effect on the profitability of the tradables sector. Another may be that high real domestic interest rates, often associated with real exchange rate appreciation

or with disinflation, encourage residents to denominate their borrowing in foreign currencies, thus exposing themselves to large foreign exchange rate risks.

Domestically, both growth and inflation rates are often highly volatile. One of the strongest conclusions of the empirical literature on early-warning signals of financial crisis is that sharp contractions in economic activity increase the probability of banking crises. Caprio and Klugebiel (1996) report that volatility of growth and inflation rates exhibited a rising trend over the 1960-94 period for countries experiencing systemic banking crises over the period, while no such trend was evident for countries experiencing less severe or no banking difficulties.

(ii) Lending booms, assets price collapses and surges in capital inflows.

Excessive credit creation and unsound financing during the expansion phase of the business cycle can trigger a banking crisis when the bubble bursts. Three features of recent experience provide support for this argument. First, both bank lending booms and declines in equity prices have often preceded banking crises. Second, those emerging economies that received the largest net private capital inflows are also those that experienced the most rapid expansion in their commercial banking sectors. And finally, part of the capital inflows in the 1990s might be regarded as a bubble built on over-optimism about the effects of policy reform in host countries. Kaminsky and Reinhart (1995) find the sharp declines in equity prices are among the best leading indicators of banking crises.

(iii) Increasing bank liabilities with large maturity or currency mismatches.

When domestic interest rates are high, the temptation for the banking system and bank customers to denominate debt in foreign currency can be particularly strong. For instance, banks may have recourse to short-term foreign-currency-denominated borrowing in the interbank market to fund longer-term bank loans. Such strategies can come badly unstuck when devaluation occurs. A large unhedged debtor position in foreign exchange not only makes banks and their customers more vulnerable but also makes it harder to deal with a banking crisis once it occurs.

The risks of maturity mismatches are typically higher for banks in the emerging markets because they have less access to longer term sources of funding and receive less assistance from securities markets in increasing liquidity and in spreading risks than do banks in the industrial world. In Germany, for example, 45% of the liabilities of depository institutions are long and medium-term bonds, in Japan, roughly one-third of the financial system's liabilities are classified as insurance reserves, trust funds or bonds. The lack of deep government bond markets acts as a handicap to banks with a pressing need for liquidity. Risk-sharing opportunities for banks may also be more limited. For example, if property companies finance themselves exclusively with bank loans and if there is practically no securitization of mortgages, then banks will likely grant loans with loan-to-value ratios that are too high, thus exposing themselves to sharp declines in real estate prices.

(iv) *Inadequate preparation for financial liberation.*

Liberalization inevitably presents banks with new risks. When interest rates are liberalized, banks may lose the protection they previously enjoyed from the regulated term structure of interest rates, which kept short-term rates below long-term rates. Lifting restrictions on bank lending often releases pent-up demand for credit in the riskier sectors e.g. real estate and securities activities. Lowering reserve requirements permits banks to accommodate increased loan demand. At the same time, the entry of new competitors may well increase the pressures on banks to engage in riskier activities. Kaminsky and Reihart (1995) note that for 18 of the 25 banking crises in their sample, the financial sector had been liberalized some time during the previous five years.

(v) *Heavy government involvement and loose controls on connected lending*

Government involvement and connected loans play an important role in the generation of banking crises because they allow the political objectives of governments or the personal interest of bank insiders (owners or directors) to intrude on almost all aspects of bank operations, damaging bank profitability and efficiency. While these intrusions are also present in some industrial countries, the frequency and severity of the problem is generally regarded as being greater in developing countries.

State-owned banks still retain a significant and sometimes even dominant share of bank assets in many emerging economies. Loan decisions of state-owned banks are much more likely to be subject to explicit or implicit government direction than those of privately owned banks. All too often, the creditworthiness of the

borrowers does not receive sufficient weight in the credit decision, with the result that the loans can become a vehicle for extending government assistance to ailing industries. Moreover, because these banks are shielded from competition, have their losses covered by the government and sometimes are protected from closure on constitutional grounds, they tend to have lower incentives to innovate, to promptly identify problem loans at an early stage, and to control costs. Overstaffing and overextended branch networks are more prevalent. Their loan loss performance is usually inferior to that of their private counterparts.

Government involvement in the banking sector extends well beyond the operation of state-owned banks. Even when banks are privately owned, governments may still influence the allocation of credit to particular sectors, extend favorable loan discounting privileges to certain borrowers, prevent banks from engaging in certain profitable banking activities, require banks to hold government bonds at below market interest rates, impose high reserve requirements or taxes on banks, and direct banks to borrow in foreign currencies and assume the currency risk.

“Connected lending” refers to loans extended to banks’ owners or managers and to their related businesses. The risks are primarily ones of lack of objectivity or sometime even fraud in credit assessment and undue concentration of credit risk. The failure of a few large related borrowers, or collapse of a particular sector of the economy, can wipe out a bank’s capital. Lindgren et al. (1996) and Sheng (1996) cite connected lending as a key bank governance problem and one that has contributed to banking problems in Argentina, Bangladesh, Brazil, Chile, Indonesia, Malaysia, Spain and Thailand.

Neither private investors nor bank supervisors will be able to monitor and to discipline errant banks without accurate, current, comprehensive and transparent information on their creditworthiness as well as on the creditworthiness of their customers. In many countries, the accounting conventions for classifying bank assets as impaired or non-performing are not tight enough to prevent banks from making bad loans look good by lending more money to troubled borrowers. Where loan classification depends only on the payment status rather than on the evaluation of the borrower's creditworthiness and the market value of collateral, it is easier for bankers and their loan customers to collude in concealing losses by various restructuring, accrual and interest capitalization devices. If non-performing loans are systematically understated, loan loss provision will be inadequate and the reported measures of bank net income and bank capital will be systematically overstated.

The legal framework, along with the statutory authority of bank supervisors, also matters. If the legal system makes it difficult and time consuming either for banks to seize or to transfer the collateral behind delinquent loans, or for debtors to pledge collateral for bank loans, or to adjudicate cases of corporate or individual bankruptcy, then both banks' credit losses and the cost of borrowing for firms will be abnormally high. Similarly, if bank supervisors lack statutory authority to issue "cease and desist" orders to banks, or to prevent corporate affiliations that hinder effective supervision, or to specify accounting practices, or to close insolvent banks, then their potential contribution to curtailing excessive risk-taking and to limiting bank rescue costs will be constrained.

Distorted incentives in the banking system encourage bank crises. A system of crisis prevention can be expected to operate well only if the main actors have the proper incentives to discourage excessive risk-taking and to take corrective action at an early stage. Bank owners, managers and creditors, as well as bank supervisors all need to have “something to lose” if they fail to act in a manner consistent with their mandate. Bank owners will be more likely to appoint good managers and to elect good directors, so that their agents do not put the bank’s solvency in danger, when they have their own funds at risk.

Bank managers and directors are responsible for ensuring that the banks maintain good credit and internal risk management systems. Poor management has often been singled out as the leading cause of bank failures. In practice, there are multiple causes of bank failures, some beyond the control of the managers. Caprio and Klingebiel (1996) found that senior management was changed in the majority of bank restructuring cases in their sample.

Bank depositors have a strong incentive to monitor bank’s creditworthiness if there is possibility of losing their money in the case of bank failures. But this monitoring job is difficult in the emerging market as it is limited by the quality of the accounting systems and by the extent of public disclosure. Analysts argue that the depositors are probably too small, too dispersed and financially unsophisticated to exert monitoring functions.

(viii) Exchange rate regime

The exchange rate regime can affect vulnerability to speculative attack, the way in which the real value of impaired bank assets is adjusted downwards. It is noted that a sharp appreciation of the real exchange rate has been shown to be a useful leading indicator of banking crises.

Obiyathulla (1998a) argues that the Malaysian banking crisis was catalyzed by the Asian currency crisis but was aggravated by the policy response to the currency crisis. East Asia's currency crisis began with speculative attacks on the Thai Baht in May 1997. The crisis spread to neighbouring countries due to the 'contagion effect'. As a result, the Malaysian Ringgit was forced to float in July 1997 when BNM, which had a small foreign reserve at that time found it impossible to defend the pegged exchange rate through a normal intervention exercise. The Ringgit hit an all time low of 4.98 against the dollar in early January, depreciation in excess of 50%.

In order to control depreciation of Ringgit, BNM increased interest rates. This action transmitted the currency problem into a banking one. The extent of potential damage to domestic banking as a result of this will depend on how vulnerable the banking sector is. If the domestic banking sector is not too leveraged, has well diversified portfolios, is not exposed to highly leveraged borrowers, does not have acute asset-liability mismatches, then it would likely withstand the interest rate shock better. Otherwise, a systemic banking crisis would result.

According to the author, there were several factors that caused the vulnerability of the Malaysian banking sector. They were the excessive credit growth, overleveraging and asset inflation. Commercial banks assets grew at an average of 20.7% per annum from 1990 to 1997, or cumulative growth of 272%. During the same period the total loans and advances grew 20.1% on average per year for cumulative growth of 259%. This close resemblance implies that almost all the asset side expansion of commercial banks came from growth in loans and advances.

The excessive credit growth has induced asset inflation. While the overall inflation level as measured by CPI remained relatively low i.e. averaging around 4% per annum, isolated pockets of inflation were visible particularly in the real estate/property sector and the stock market. The broad property sector is highly cyclical whereas stocks are prone to volatility. In addition, both sectors are highly interest rate sensitive with negative correlation. Any increase in interest rates would cause serious problems to the banking sector.

Wong & Raja Lope (1999) explain the key determinant of strong and uninterrupted loan growth in relation to the profit-maximizing behavior of the Malaysian banking system between 1988-1997. Between 1993 and 1997, banking sector loans grew at an annual compounded rate of 25% while the Malaysian economy grew at an average of 8% per annum. Credit growth picked up consistently from less than 10.0% in early 1993 to a high of 28% in late 1995, hovering at that level for the next 2 years with the broad property sector accounting for almost 40% of new

loans. In absolute amounts, bank credit soared from RM0.77 billion in 1988 to RM401.9 billion in 1997, averaging RM40.3 billion a year.

The authors argue that the banks' management focused on loan growth because they were aware of the general relationship between credit growth and profitability. To determine the relationship empirically, the authors regress profitability using Profit Before Tax (PBT) as a dependent variable against loan growth, both at time (t) and (t-1). The results show that the loan growth was the most significant variable in explaining profitability. About 96.0% of the variation in the PBT is explained by the loan growth and the fit is very good even when only the current year is used ($r^2 = 88.0\%$). The high r^2 implies that the simple regression line fits the data very well and the two factors are positively correlated.

The results suggest that every percentage increase in loans growth in the current period will contribute to a positive increase of 0.025 to 0.027% in PBT while the loan growth of the previous period is likely to contribute 0.002 to 0.004% increase in PBT. In short, this result demonstrates that in order to maintain a stable stream of profits, banks have to continuously build their loan assets. Between 1988-1997, the banks' operating environment was highly conducive to such a buildup with strong loan demand, strong liquidity growth and a non-interventionist and supportive regulatory system (fiscal as well as monetary).

The authors suggest the loan-deposit ratio (LDR) as a tool to check excessive rate of loan growth. A lower LDR reduces the excesses of leverage risk, of over-investment and of over-heating pressure. A regulatory LDR limit can be seen as a prompt corrective indicator, requiring banks to recognize early the risks associated

with rising profitability, future non-performing loans and a weaker balance sheet and income statement.

Lee (1998) explains the impact of October 1997 revision of BNM/GP3 guidelines on Non Performing Loans (NPL) of financial institutions. BNM/GP3 are guidelines on the treatment of interest and non-performing accounts issued by BNM to the financial institutions. It was introduced in 1985 to establish a common standard on suspension of interest on NPL's and provisions for bad and doubtful loans. Over the years the BNM/GP3 have been modified and refined. The latest at the time of the article was the October 1997 revision, which took effect from the financial year beginning 1st of January 1998. Two main changes have been introduced in the revision. First, the default period for classification of a loan as an NPL has been lowered from 6 months to 3 months. Under the new guidelines, assets are considered to be NPL when the principle or interest is due for 3 months or more. And, no interest income on NPL shall be accrued as income unless it is paid in cash by the borrower. Only upon the full payment of the arrears due on NPL accounts will the financial institutions be allowed to reclassify the NPLs into accrued accounts. Secondly, the financial institutions are required to reverse all interests accrued but not received. This is termed as "claw-back of accrued interest to day one".

Quoting the BNM reports, the author shows the impact of these changes on the NPL status of the financial institutions. The NPL rate for banking system rose from 3.6% as on the 30th June 1997 using the 6-month classification, to 5.7% on 31st December 1997, partly due to the adoption by 47 banking institutions of the new 3-