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THE WEALTH EFFECT ON HIGH AND LOW LEVERAGE COMPANIES DUE TO CURRENCY CRISIS : THE MALAYSIAN CASE

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ABSTRACT

The Asian countries were hit with financial crisis in 1997. This study examines the impact of the Asian Crisis to the Malaysian companies. A total of 34 public listed companies selected from the Kuala Lumpur Stock Exchange. These companies are divided into two portfolios; High Leverage Companies (HLC) and Low Leverage Companies (LLC). The event study methodology is used to examine the impact of the Asian Financial Crisis to the said companies.

The results show that, regardless of the level of leverage, all companies are affected negatively due to the Asian Crisis. A significant impact is clearly shown by all companies in particular on the event date, 11 August 1997. This study thus proposes that currency derivative markets such as Ringgit futures and options be established so that companies faced with exchange rate risk may hedge their risk while the exchange rate itself be determined by market forces.

Chapter 1

Introduction

Introduction

The South East Asian economies were severely hit due to the currency crises since July 1997. Currency crash is defined as a large change of nominal exchange rate that is also substantial increase in the rate of change of nominal depreciation. Within a three month period (July - October 1997), Thai Baht and Indonesian Rupiah plummeted by 40% against the US Dollar. Likewise, Malaysian Ringgit and Philippine Peso fell by 27% against US Dollar. The Ringgit was traded at almost RM5.00/USD in the first quarter of 1998. This will be certainly regarded as the lowest rate as ever in the Malaysian history.

The Kuala Lumpur Stock Exchange also responded in tandem, whereby the KLSE Composite Index dropping to almost 500 points from 1,300 points in the first quarter of 1997. Obviously panic stricken foreign and local investors dumped their portfolios to exit from the devastated stock market. While the local investors watched by their sidelines, the foreign investors practically channeled out their funds. As Malaysia adopts an open economic policy, an investor can bring in any amount of money at any time and at the same time he can also bring out any amount of money at any time. Thus, as a result of the crisis, instant capital flight

out of Asian economies had taken place very swiftly. While some affected economies began to ponder what has happened to them, others quickly turned to the IMF (International Monetary Fund) for assistance

In sharp contrast, the Malaysian Prime Minister blamed the currency trader, George Soros for the speculative attack on Malaysian Ringgit which triggered a killer blow to the Malaysian economy. The nation was taken by great shock. The Malaysian government tried to sustain the value of Ringgit but turn out to be futile. General public were informed that the crisis was only temporary and need not to worry. The Malaysian government's reluctance to acknowledge the crisis immediately and missing swift actions to counter them resulted in more capital flights. Sharp contradicting statements between the Prime Minister and his deputy cum Minister of Finance caused much more confusion among the investors.

Foreign investors, who were dissappointed with the situation dumped their portfolios to cut losses. Thus, many Blue chips were traded below par value with no takers. At this stage, the Domestic Trade and Consumer Minister, Dato' Megat Junid Megat Ayub brought forward a plan hoping to strengthen the KLSE Index. He proposed the purchase of own shares by the public listed companies which actually leads to capital reduction. This move was absolutely contradicting with the very principle of going public listing- generating funds from the public to finance the viable projects. The Malaysian government, as usual, rather too slow

in anticipating the crisis as well as to address them. The Prime Minister was busy making speeches all over the world attacking George Soros and seeking support for the regulated financial market.

This financial chaos certainly caused adverse impact to the societies, companies, political parties, and the governments in affected countries Corporations which had over-geared their expansion over the last couple of years are now suffering due to high interest rates, credit tightening by the banks and an economic contraction. Rising interest rates made it painful for the companies to service their debts. Fears of rising bad debts forced the banks to tightly monitor the existing credit facilities. The slumping economy plus high interest rates made the business finance almost impossible to many corporations. Operations were down sized, while manpower dwindled as the whole economy began to a halt.

Finally, several measures were introduced by the government to be implemented which include - the austerity drive in the Budget 1998 announced in October 1997. Mega projects such as Bakun Dam, Northern Regional International Airport (NRIA), Sumatra Bridge and Highlands Highway were postponed indefinitely. The National Economic Action Council (NEAC) was set up to address the current crisis and to stimulate the economy out of recession. Capital controls and fixed exchange rate regime were also introduced to prevent the crisis to aggravate further. Public listed companies were allowed to restructure to cope with the

mounting pressures from stake holders. Some seek temporary protection from courts, by the virtue of Section 176, Companies Act 1965. Companies went to a great extent to stay alive; even on non traditional means i.e. Renong announced that they may go even delisted from the Kuala Lumpur Stock Exchange.

Objective of Study

The objective of this paper is to specifically analyze the impact of currency crisis to the public listed companies in Malaysia, with respect to leverage. This study basically attempts to find out if the effect of the currency crisis is more on high leverage companies compared to low leverage companies. The study will focus on the stock prices on the crisis date in particular, on 11 August 1997 and analyze if any peculiar 'buildup' in price behavior prior to the crisis.

In Chapter 2 we provide the literature review. The definitions of currency crisis and the stock market crisis are defined there. Research works done by various authors locally and abroad with regards to the Asian financial crisis in particular, and the stock market crisis in general are also discussed. In Chapter 2 we also briefly discuss the theoretical issues of leverage and currency crisis. The relevant issues are the capital structure of a company whereby, how a company balances its financing requirements between debt and equity. Risk element of a company, particularly the systematic, measured by the company's beta.

Chapter 2

Literature Review

Currency Crises : Literature Review

Sachs, Tornell and Velasco (1996) show that countries with weak fundamentals are susceptible to contagion. They explained that the Mexican crisis was one of the self fulfilling speculative attacks which then led to contagion in countries such as Argentina, Brazil and the Philippines. They test several hypothesis to examine why contagion affected some countries and not others. They prove that, while Mexico, Argentina, Brazil and the Philippines were affected, others such as Malaysia, Thailand and Indonesia that had comparatively worse fundamentals were unaffected. Analyzing data for 20 emerging markets, they argue that for contagion and/or crisis to happen, they must have been some 'degree of previous misbehavior'. Typically, this 'misbehavior' constituted three policy areas such as (I) having maintained an overvalued exchange rate (ii) having had lending and/or domestic credit booms and (iii) having low reserves relative to short-term commitments of the central bank. Countries that had misbehaved in these three key areas were found to have suffered contagion while others who did not have these short comings suffer from minimal or short lived contagion. The authors argue that prudence in managing exchange rates and the banking systems appears to pay off in reduced vulnerability.

Despite the larger capital inflows, the authors find that the Asian emerging economies seemed to better position to absorb the inflows without substantial domestic inflation. This could be due to the better fiscal restraint of these countries.

On a similar note, Otker and Pazarbastoglu (1997) in analyzing episodes of opressures on selected currencies of the emerging economies suggest that speculative pressures are associated with a deterioration of economic fundamentals. Expansionary credit policies and widening government deficits appear to trigger speculative attacks and lead to increased probability of devaluations. However, they find that while consistent macroeconomics policies are necessary for maintaining pegs, but they may not necessarily be sufficient.

McKinnon and Pill (1998) use a Fisherian Model of the 'over-borrowing syndrome' and compare the over-borrowing episodes of the Asian Crisis countries with that of Mexico and Chile. They argue that while important similarities exist, the Asian crisis has been exacerbated by the unhedged foreign exchange positions of Asian banks. The authors argue that, the over-borrowing has serious macroeconomics costs; and improving the institutional infrastructure of financial supervision is the only effective way of mitigating such costs.

Eichengreen, Rose and Wyplosz (1996) find that, after controlling for the effects of economic and political variables, the probability of a speculative attack on a currency increases eight percent when a crisis occurs elsewhere in the world. Another interesting evidence comes from Goetzmann, Brown and Park (1998), that there is no empirical evidence to support the hypothesis that George Soros, or any other hedge fund manager was responsible for the Asian Currency Crisis. Krugman (1979) argued that the causal factors for currency crisis are usually profligate governments (large budget deficits), low growth rates, low savings, low investments and high inflation.

Frankel & Kose (1996), examined the annual data for 100 countries over 20 year period, from 1971 to 1992. They examined 16 economic indicators encompassing four broad categories which they classified as Macroeconomics indicators, External indicators, Debt composition and Foreign variables. They find that there were several common features of crash countries. These countries had high levels of debt, most of which was financed by commercial banks, on variable interest rates and of short term maturity. Foreign Direct Investment had significantly evaporated just before the crash and this short comings had been replaced by short term capital inflows. Crash currencies were often over valued by at least 10%, while their international reserves were low and declining. Further, the crash countries had rapid increase in domestic credit growth with growth per capita had been falling.

Goldfajn & Valdes (1997) examined whether over valuation and expectations are predictors of currency crises. By using a simple CPI adjusted measure of over valuation, they find that over valuations are good predictors of impending crisis. However, using survey data of expectations, they find that the exchange rate expectations cannot predict crises. Forecasters had been surprised by crashes. They conclude that the currency crises are largely unpredictable events.

Calvo & Mendoza (1996), argue that the Mexican Peso crisis in December 1994 is an example of a new kind of Balance of Payment crisis in an era of liberalized financial markets and global capital inflows. They argue that contrary to classic models, the Peso crisis did not have its roots in fiscal deficits or imbalances in capital inflows. Instead, the problem had its roots in two key areas : (I) imbalances in the stock of liquid financial assets versus gross reserves and (ii) herding behaviour that leads to self fulfilling attacks. An over expansion of central bank credit had led to large gap between outstanding amount of short term public debt and gross reserves. The short term debt which accounted for three folds more, had been financed by foreign capital inflows. Given the imbalances above, a sudden shock can quickly drain the reserves and cause the fixed exchange rate to fall helplessly.

Obiyathulla (1998) examined the factors led to the East Asian Currency Crisis and the differential impact across countries. Empirical data of seven Asian countries over the period of 1990 - 1996 is examined. The author divided the data into two categories : crisis countries and affected countries.

Comparison of several economic indicators is made between these two categories to determine what factors led to the severe consequences in the crisis countries as opposed to affected countries, all of which subject to contagion.

The crisis countries were found to have had aggressive growth policies that were fuelled by deflationary strategies; particularly rapid monetary growth and capital inflows. With higher relative inflation and repressed interest rates, exchange rate equilibrium as dictated by purchasing power and interest rate parities were out of the line of given pegged exchange rates. The currencies had become overvalued. The current account deficits were financed by capital inflows, increasingly in the form of short term foreign currency denominated loans. The combined effect of all the above factors had been to increase the crisis countries' vulnerability to a speculative attack and resulting a self-fulfilling crisis, the author concluded.

Stock Market Crash

Patel, Sandeep and Asam Sarkar (199?) define stock market crash as an event when the regional price index declines, relative to the historical maximum, more than 20 percent for the developed markets, and more than 35 percent for the emerging markets. The beginning of the crash is the month when the price index falls below this threshold level. The beginning of the crisis is the month when the index reached its historical maximum prior to the month when the crash is triggered. The date of the trough is the month when the price index reaches its minimum level during the crisis. The date of recovery is the first month when the index reaches the pre-crash maximum level after the crash is triggered.

History accounts three major stock market crisis in Asia in the third quarter of the century. These crisis occurred in 1979-80, 1990 and 1996. Patel and Sarkar (1998) found that, for the emerging markets stock crises, the prices tend to fall rapidly and steeply, but take longer to recover, in about three years on average. All the crises are associated with contagion effect. The current Asian crisis were related to currency overvaluation under pegged exchange rate regimes.

The recent episodes of large price declines in Asian stock markets have once again drawn attention to the consequences of international stock market crises. What are the magnitudes of stock price declines during crises ? Is there evidence of contagion during these crises i.e. do several markets experience a crisis

simultaneously ? How do stock market correlation change during a crisis and is this dependent ?

There is relatively little research on international stock market crisis. The US stock market crash of October 1987 inspired several studies. Black (1988), Fama (1989) and Roll (1989) seek to explain the crash in terms of shifts in fundamental factors such as downwards revisions in expectations about global economic activity, or higher equilibrium required returns. In contrast, Seychun (1990) concludes, based on the behaviour of corporate insiders, that the investors overreaction was an important part of the crash. His evidence showed that, while the crash was a surprise to insiders, they bought stocks in record numbers immediately after the crash, especially those stocks which had declined the most, and these stocks had large positive returns in the consecutive year after crash.

The US stock market crash inspired several studies on the international links between stock markets. In early literature, Solnik (1974) showed that international investments are beneficial for US investors since correlations between US and non-US markets are low. Bennett and Kelleher (1988) find that the transmission of stock price volatility between markets was greater than normal during the crash, and the periods of high daily volatility are associated with high correlations between markets.

There have been three crises in the Latin American and Asian stock markets since 1970. Neumark, Tinsley and Tosini (1991) show that correlations between stock market prices of different countries increase during times of extreme volatility and become small or close to zero during more normal periods and suggest that transactions costs may explain this pattern of asymmetric correlation's. Line and To (1994) find a significant increase in the hourly return correlation between the S & P 500 index and the Nikkei 225 from the Tokyo Stock Exchange during the 1987 crash period.

In related research, Aderhold, Cumming and Harwood (1998) conclude that direct international linkages cannot account for the worldwide decline in equity markets in October 1987. Cross-border selling of equity was a factor only in Tokyo and stock trading outside the home market mainly affected UK securities traded in the form of American Depository Receipts (ADR's). However, in the weeks after the crash, investors liquidated equities and reduced financial investments, but not to the extent expected.

Capital Structure and Financial Leverage

Capital structure generally refers to how a corporation funds its investments or its plant and machinery or the assets used to generate revenue. A firm can have full equity with no debt at all or alternatively it can have a composition of both equity and debt. The cost of debt is always cheaper than cost of equity. However, the cost of debt will increase substantially as the debts get bigger due to higher risk in the perspective of lenders. Again, any lenders would not want to put all their eggs in a single basket. From the firm's point of view, higher debt would mean higher interest cost and regular cash outflow. In Malaysia, the maximum debt/equity ratio generally allowed by Bank Negara Malaysia is 4:1

Firms shall endeavor to have the optimal capital structure which is also called as the target capital structure. This is achieved when a firm could maximize its value while, at the same time, minimizes the WACC (Weighted Average Cost of Capital). WACC shows us the firm's overall cost of capital is a weighted average of the costs of the components of the firm's capital structure.

Financial leverage refers to the extent to which a firm relies on debt. Higher debt financing would mean higher financial leverage it employs and vice-versa. The impact of leverage will be evident when the effect of the restructuring on EPS (Earnings Per Share) and ROE (Return on Equity) is examined. The effect of financial leverage depends on the company's EBIT (Earnings Before Interest and

Taxes). When the EBIT is relatively high, the leverage will be beneficial and it is the reversal when the opposite occurs. Therefore, the corporation, and of course, the shareholders would be more exposed to more risks when employing higher financial leverage. Due to these impact, financial leverage can be said as a double edged sword because it can work either for the good of shareholders or become the villain to the firm and shareholders. This will cause the stock price of the firm to fluctuate. Thus the beta of the firm will increase as leverage increases. Notwithstanding, the other advantage of financial leverage is the interest tax shield. Interest expense is tax deductible which result in better cash flow to the firm. With all the above explanations, generally a firm has to perform a balancing act with regards to the leverage issue that is most advantageous to the firm itself as well as the shareholders.

Modigliani and Miller (1958) showed that financing decisions do not matter in a perfect market. In other words, the method of financing is irrelevant. However, under a very restrictive set of assumptions, i.e. in a world with tax, a firm's value will be maximized by financing almost entirely with debt. Nevertheless, according to the signaling or asymmetric theory, a tradeoff between tax benefit and bankruptcy related costs are also significant factors which influence the debt equity choice. In a tradeoff between tax benefit and bankruptcy related costs, the firm is supposed to substitute debt for equity and vice versa until the value of the

firm is maximized. Myers (1984) refers to this as balancing of the value of interest tax shield against various costs of bankruptcy or financial embarrassment.

Many theories of corporate capital structure have also been developed with different empirical predictions concerning the market's reaction to announcements of security issuance (straight debt, convertible bond, seasoned common stock) - for example, Dann and Mikkelson (1984), Mikkelson and Partch (1986) and Eckbo (1986) have documented an insignificant negative stock price reaction to the announcement of debt offering. Masulis and Korwar (1986) and Asqutih and Mullins (1986) has also documented a significant decline in share price at the announcement of seasoned common stock offerings. Myers and Majluf (1984) and Miller and Rock (1985) provided evidence which is consistent with observed stock reaction which relates to asymmetric information or signalling theory. In the Myers and Majluf model, firms issue new equity when their stock is undervalued, a theory also known as a pecking order theory where firms prefer internal financing and debt to equity if it issues security.

On the local scene, Fauzias and Shamshubaridah (1997) attempts to examine the Malaysian experience with firm's stock price performance and earnings per share to the change of capital structure. The evidence from this study can be indirectly used to infer information signaling role that an increase change in the capital structure signals good future performance which is reflected in the share prices.

They argued, it can also be inferred whether there is existence of an optimal capital structure. The earnings per share, on the other hand, will give an indication as to the extent to which the higher debt equity ratio will give higher returns to shareholders or significant enough to influence the cost of corporate borrowing. In Malaysian case, it was found that the D/E ratio on the industrial overall cross section shows a slight positive relationship with EPS but a slight negative relationship with price per share; an indication that there existed an optimal capital structure for the overall firm where it was viewed as determined by a tradeoff between tax benefit and bankruptcy related cost. However, the existence of the firm's optimal capital structure was essentially an empirical issue where further work is needed to recognize the existence either at sectoral level or at the individual firm level.

Nevertheless, according to sectors, the results shows a significant positive relationship between EPS and D/E ratios for the finance and property sectors. This indicates that the higher D/E ratio gives positive impact (which can be associated with tax benefits) on the return for the shareholders. This also reflects the nature of the sectors' dependence on debt as a source of financing their operation, thus affecting their earnings and thus their share prices.
However, there are firms which are not subjected to the general principle. These are the utilities, infrastructure, telecommunications etc. related firms which are highly capital intensive. These corporations will certainly would have high

financial as well as operating leverages. They would have a lower beta compared to an electronics or a construction firm.

Systematic Risks, Beta and Financial Leverage

Beta can be defined as a standardized measure of systematic risk. Systematic risk is referred to undiversifiable risk which affects the whole market caused by the macroeconomics factors such as money supplies, interest rate volatility, balance of payment and growth of the nation etc. The market risk of a security measures its sensitivity to the market movements, that is, it arises from the relationship between a security's return and the market return. This type of risk is measured by beta and cannot be eliminated via portfolio diversification.

On the other hand, the unique risk of a security reflects changes in a security's return that are not related to the market return but instead can be attributed to factors which are specific to that security and affect its price changes in a unique manner. Such type of risk is called unsystematic risk, which can be minimized via stock diversification. Beta basically measures the deviations of returns of a firm against the overall market's returns.

The Capital Asset Pricing Model (CAPM) that is widely used in modern portfolio analysis was developed by Sharpe (1964) and Lintner (1965) but based on the earlier works of Markowitz (1952) and Tobin (1958). Under condition of market

equilibrium, the CAPM links the market risk and return by relating the return on a security to the market return in the following manner :

$$E(R_i) = R_f + \beta_i[E(R_m) - R_f]$$

where $E(R_i)$ = the expected return on security i

R_f = the risk-free rate

$E(R_m)$ = the expected market return

β_i = a measure of the market risk of security i, commonly known as the beta coefficient

The point of reference for the security's beta is unity. A security which has a beta much greater than one is termed a volatile security while a security which has a beta less than one is regarded as a defensive security. Information on a security's beta value is useful for forecasting its beta value in a future time period and for constructing a well-diversified portfolio of securities with greatly reduced unique risk.

Companies with high beta thus should not go for high leverage. If they do then it is possible that the company may get into cash flow problems in times of difficulty, like the current crisis.

Capital Flows And Borrowings

Generally, the Malaysian domestic market's size is not big enough to cater the needs locally. Malaysian corporations took an aggressive approach in developing the nation, especially in the area of infrastructure implementation. These mega projects with long gestation periods needed multi-billion Ringgit financing. The domestic market just could not cope with the big demand for long term loans. Further, the KLIBOR (Kuala Lumpur Inter Bank Offer Rate) is not attractive enough in terms of their interest rates and packaging. The Labuan offshore funds are prohibited to deal in Malaysian Ringgit. Therefore, Malaysian firms are attracted to foreign borrowings denominated in foreign currencies and the interest rates are generally very much cheaper than the domestic market, though the currency risk exposure is great.

The foreign borrowings were in the form of bonds such as Eurobond, Yankee Bonds, Samurai Bonds etc. Some firms also attached some options, either put or call options to make their bonds more attractive to their foreign lenders. Other sources are in the form of syndicated term loans, bridging loans etc. denominated in major foreign currencies such as US Dollar, Japanese Yen, British Pound etc.

Comparatively, foreign lenders offer the cheapest cost of funds to the borrowers against local lenders. Other factors attract Malaysian firms to foreign borrowings