THE EFFECT OF THE 1997 FINANCIAL CRISIS ON THE STABILITY AND PREDICTABILITY ON BETA OF THE MALAYSIAN STOCK EXCHANGE, 1992-2005

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ABSTRACT
This paper is a study on the stability and predictive quality of beta before and after the financial crisis of August 1997. Single securities and portfolios randomly formed from samples of the Main and Second Board were investigated. The mean and risk class bands of both boards had shifted lower indicating greater emphasis was placed on firm specific risk after the crisis. Substantial stability was found for pre and post crisis betas for the period immediately after the crisis but divergence was evident when comparing over a longer period. Product moment and Spearman rank correlation coefficient indicated generally weak correlations for pre and post crisis betas meaning that pre crisis values were poor predictors of post crisis betas. Possible extensions of this paper could include varying the length of the estimation period, forming industry-based portfolios and investing the extent of the presence of the dual bull-bear betas.

INTRODUCTION
In finance and investment literature, asset risk is conceptually categorised as systematic or macro-economic risk and non-systematic or firm specific risks based on the seminal works of William Sharpe (1964) and Lintner (1965). As firm specific risks are peculiar to the issuer and deemed diversifiable via portfolio formation, they are not priced while investors are compensated for bearing the systematic risk.

The CAPM according to Sharpe (1964) and Lintner (1965) defines a linear relationship between investors required return for bearing the firm's systematic risk and the volatility of the assets in relation to the market. The relative volatility of the asset is defined as the covariance of an asset in relation to a benchmark index, $(cov(Ri,Rm)/var^2 m,)$ and is known as the beta of the asset. If the beta of an asset is greater than one, then it is classified as an aggressive asset and its return volatility is expected to be greater than the market.

If beta value is less than unity then the asset is deemed to be relatively stable compared to the market and is termed defensive assets. Assets with zero betas are termed neutral assets and their return moves in tandem with the market. As investors are deemed to be risk averse, and higher return volatility results in greater uncertainty, investors demand greater compensation for holding the aggressive assets (Elton and Gruble,(1995); Haugen,(2001); Francis and Ibbotson (2002).

Beta is primarily estimated as an input variable in the CAPM model, for evaluation of the correct pricing of a risky asset, as hedging index derivatives and in evaluating performance of portfolios.

The most common methodology in estimating beta is via OLS regression of the market model, with adjustment for thin trading, return interval, return estimation and mean reversion addressed according to the problem statement of the research objectives. As beta is normally estimated based on historical data (ex ante) but used for future (ex post) periods the stability of the estimated beta assumes a pivotal role.

Sharpe and Cooper (1972) first investigated in 1972 the stability of systematic risk using US data for NYSE stocks from 1931 to 1967. The shares were divided into 10 deciles, with deciles 1 having the lowest value of beta and deciles 10

the highest value. Their shift from their original risk class was then tracked over each 5-year period. It was concluded that 40 to 70% of betas were stable (including jumps to adjacent period) over a subsequent 5-year period.

The issue of beta stability in emerging markets has been investigated by several authors in recent literatures. Deepak (2001) using monthly returns of 36 stocks over four years in Bombay Stock Exchange showed that 20 of the sample securities betas are unstable over the sample period from 1996-2000. Odabasi (2000) investigated 100 stocks on the Istanbul Stock Exchange from 1992 to 1997 and reached the conclusion that it is better to talk of the stationarity of beta rankings rather than stationarity of beta values.

Gong, Firth, Gullivane and Wang (2003) examined 14 U.S. shipping and 13 air transport shares from 1990 to1995 and provided evidence that individual stock betas are unstable and different estimations procedure leads to a range of beta values for the same stock.

The stability of the local stock exchange (Bursa Saham Malaysia then known as the Kuala Lumpur Stock Exchange shares) was examined by Annuar et al.(1998) over a 15 year period with 83 securities, using intervals of five and seven years from mid 70's to 1989.

Kok (1992) also conducted similar tests on the stability and predictability of the local individual securities and portfolio betas, from 1983 to 1990, based on 72 component stocks of the KLSE composite index, using intervals of four years. In both cases, beta was found to be relatively stable over the period of study.

The objectives of this paper are to study the impact of the 1997 financial crisis on the stability of a sample of Main and Second Board securities and randomly formed portfolios from the samples over 5-year period, and to test the impact of the crisis on the predictive capability of the individual betas and portfolios' betas

We expect the stability and the correlations of the samples not to hold between the periods before and after the financial crisis as betas are affected by macro events.

MATERIALS AND METHODS

The stability of the local betas over a 13-year period, from July 1992 to July 2005 for 33 samples from the Main Board and 30 samples from the Second Board for 11 years from January 1994 to July 2005 were studied (Appendices 1 and 2).

We adapted different commencing dates for the two boards as we could not find sufficient Second Board samples to commence from a common commencing date of July 1992 as originally intended. In fact, only nine of the Second Board samples have price data commencing from January 1994, most of the sample data commence from July 1996. We are aware of the biased readings, but have to accept this as a limitation of this investigation.

We used August 1997 as the separation point for the first period to study the impact of the Asian financial crises on the stability of the local beta. For the Main Board samples, we chose July 1992 to July 1997, the five years before the financial crisis as our first period, August 1997 to July 2001, as our second period and August 2001 to July 2005 as our third period of investigation.

For the Second Board samples, the three periods are January 1994 to July 1997, August 1997 to July 2001 and August 2001 to July 2005. We used monthly data from July 1992 to July 2005 for 33 Bursa Saham Malaysia Main Board and 30 Second Board shares from January 1994 to July 2005 obtained from Perfect Analysis.

Initially, we had randomly selected 38 Second Board shares and 38 Main Board shares. However, several of the shares were discarded as they were later delisted. The KLSE composite index was taken as the market benchmark.

The log returns of the index and samples were taken as the returns for this paper.

A summary of the distribution of beta samples of the two boards is provided in Table 1 below. We then tested the stability of betas via pair t tests and shifts in risk class from the beta transition matrix. We used Pearson's and rank order correlation coefficient to determine the nature and strength of association and ranking stability and hence the quality of predictability of the betas of the three periods. The methodology for this paper largely follows that