

THE EVIDENCE OF SIZE EFFECT DURING BULL AND BEAR MARKETS

By

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Most studies documenting an inverse relation between firm size and risk adjusted returns on stocks assume constant risk over time with the well known Constant Risk Model/ Capital Asset Pricing Model.

This thesis examines the relationship between abnormal returns and the portfolio sizes as to determine if there is an existence of size effect although the risks are allowed to vary in different market conditions as with a different model known as the Varying Risk Model on Malaysian stock market. For comparison purposes, the Constant Risk Model is also being tested on the same data.

The results indicated that there was an insignificant evidence of size effect on the sample selected that includes all companies listed in the Kuala Lumpur Stock Exchange Composite Index during the period from 1994 to 2003 with the used of Constant Risk Model . When the sample period was split into bull and bear months and the sample data were examined according to the months, there were significant differences of abnormal

returns and systematic risks between bear and bull markets using the Varying Risk Model. In addition, with the inclusion of all months in the sample period, the reversal of size effect is seen during bear months when the largest firms' portfolio outperformed the smallest firms' portfolio. However, when the crisis period is excluded from the sample period, the size effect made its appearance during both market conditions. It is concluded that earlier reported performance of small firm stocks have been overstated because of an implied assumption of constant risks in bull and bear market. Benefit in investing in small firm stocks is significant only during January bear months.

With these findings, fund managers and investors could play important roles by switching from the well known Constant Risk Model to Varying Risk Model in determining the right investment strategies that generate appreciable abnormal returns for their portfolios. The findings are also significant to the policy maker or regulators to set guidelines and regulations for stock market participants whether they are retail or institutional investors in investing in Malaysian stock market during different market conditions.

Abstrak thesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi sebahagian keperluan untuk ijazah Master Sains

BUKTI KESAN SAIZ KETIKA PASARAN MENAIK DAN MENURUN

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Kebanyakan kajian-kajian menyatakan hubungan negatif di antara saiz firma dan pulangan saham selepas pelarasan risiko dengan andaian risiko malar sepanjang masa dengan menggunakan model risiko tidak berubah (Constant Risk Model/Capital Asset Pricing Model).

Oleh itu, thesis ini mengkaji hubungan di antara pulangan luar biasa dan saiz portfolio untuk menentukan jika ada kewujudan kesan saiz walaupun selepas risiko dibiarkan berubah mengikut keadaan pasaran yang berbeza-beza dengan memperkenalkan model risiko berubah kepada pasaran saham Malaysia. Bagi tujuan perbandingan, Model Risiko Tidak Berubah telah diuji terhadap data-data yang sama.

Keputusan menunjukkan bahawa adanya bukti kewujudan kesan saiz yang tidak nyata apabila kajian dibuat ke atas syarikat-syarikat yang disenaraikan di dalam Indeks Komposit Bursa Saham Kuala Lumpur daripada tahun 1994 hingga 2003 dengan menggunakan Model Risiko Konstan. Apabila tempoh sampel diasingkan kepada bulan-

bulan pasaran menurun dan bulan-bulan pasaran menaik, terdapatnya perbezaan yang nyata di antara dua keadaan pasaran tersebut pada pulangan luar biasa portfolio dan risiko sistematik dengan menggunakan Model Risiko Berubah. Walaubagaimanapun, apabila kesemua bulan pasaran digabungkan, pengunduran kesan saiz telah dikesan di sepanjang bulan-bulan pasaran menurun dimana, potfolio yang mengandungi firma-firma lebih besar masih lagi mempunyai prestasi yang lebih baik berbanding firma-firma yang lebih kecil. Namun begitu, apabila data-data di dalam tempoh krisis yang berlaku pada tahun 1997 dan 1998 dikeluarkan daripada kajian, kesan saiz telah kelihatan di dalam kedua-dua keadaan pasaran. Potfolio firma-firma kecil telah menunjukkan prestasi yang teruk jika dibandingkan dengan portfolio firma-firma yang lebih besar sepanjang tempoh krisis tersebut. Ini disebabkan oleh apabila terdapatnya perubahan harga yang besar dan prestasi pulangan saham yang kurang memberangsangkan telah melebihi prestasi lebih baik di waktu-waktu pasaran yang lain. Di samping itu, apabila tempoh krisis diasingkan daripada sampel, kesan saiz muncul kembali di kedua-dua keadaan pasaran. Kesimpulan bahawa prestasi baik saham firma-firma kecil telah diperbesarkan berikutan andaian risiko tidak berubah ketika pasaran menaik dan juga menurun. Kelebihan melabur di dalam saham firma-firma bersaiz kecil amat ketara pada bulan-bulan January ketika pasaran menurun.

Dengan penemuan ini, pengurus-pengurus dana serta pelabur-pelabur saham mampu memainkan peranan yang penting dengan menukar strategi pelaburan masing-masing bagi menghasilkan pulangan potfolio saham yang luarbiasa dengan dengan menggunakan Model Risiko Berubah. Penemuan ini juga mempunyai kesan yang nyata kepada

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I certify that an Examination Committee met on **8th June 2006** to conduct the final examination of **Nathrah Bt Ya'cob @ Mohd Yacob** on her **Master of Science** thesis entitled "**The Evidence of Size Effect During Bull and Bear Markets**" in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

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DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declared that it has not been previously or concurrently submitted for any other degree at UPM or any other institutions.

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