

DOES INTERNATIONAL INVESTMENT BY AUSTRALIAN COMPANIES SHOW SUPERIOR PERFORMANCE?

by

Linda L. Wilson

Assistant to the Treasurer, Hill Samuel Australia Limited.

INTRODUCTION

While a body of research exists indicating the possible advantages of international portfolio diversification¹, the portfolio investment implications arising from international diversification of real assets have received less attention. The purpose of this paper is thus the examination of investor evaluation of Australian listed companies with overseas subsidiaries.

There are numerous possible reasons for the overseas extension of a company's operations. These include overcoming restrictions to international trade such as tariff barriers, increased organisational growth opportunities, the need to secure foreign markets, government incentives, access to lower cost resources, opportunities for operating or financial synergy and potential benefits of economies of scale. Provided that the fluctuations of differing national economies are less than perfectly positively correlated, the risk attributable to these fluctuations may be reduced by diversification. Therefore, if expansion of a firm's operations in a foreign country or market is not absolutely linked to existing operations it may provide a reduced level of operating risk. Available empirical evidence² suggests that stability of earnings through time is an increasing function of the ratio of foreign to total operations (as indicated by a variety of measures).

The extent of investor recognition of the potential advantages of direct foreign investment is questionable.

Financial theory would indicate that investors are unwilling to pay a premium for any action of a firm which they might just as easily engage in individually; therefore, they should not reward international diversification, per se, as they are quite capable of purchasing foreign equities on their own behalf. However, this should only apply in the case of perfect international capital market integration; the case of international diversification may be different as substantial barriers (transaction costs, government

restriction, poorly developed foreign equity markets) exist, which render the holding of international equities costly relative to domestic counterparts, such problems prevent individuals from enjoying the full benefits of international diversification via equity investment. Since corporations engaging in multinational activities hold a portfolio of foreign and domestic assets, they may conceivably provide a proxy means of international diversification. If this is the case, then it is quite feasible that such investors will be willing to reward a company which performs this activity more efficiently on their behalf.

In terms of the Capital Asset Pricing Model (CAPM), the equilibrium expected return on any risky asset is equal to the risk-free interest rate plus a risk premium appropriate for an asset's relative level of systematic risk. The existence of benefits attributable to international diversification by domestic firms may thus be tested using this model. Although the applicability of the CAPM in an international context is yet to be established, it nevertheless constitutes a useful measurement tool with which to compare the relative performance of domestic equities.

A number of recent studies using different data bases and research designs have similarly identified investor recognition of the benefits of international diversification of real assets³. The relevant implications of their results may be summarised as follows:

1. The returns of multinationals are higher on average than those of domestic companies.
2. Multinational firms have lower systematic risk and lower unsystematic risk than their domestic counterparts.

METHODOLOGY

In order to assess Australian investor recognition of the benefits of international diversification of real assets, the following experiment was conducted:

Twenty nine Australian listed companies were randomly selected from Jobson's Yearbook of Publicly Listed Companies; four of these were subsequently eliminated from the analysis due to lack of sufficient information available in the data base. The criterion for inclusion was the existence of overseas subsidiaries in at least four different countries. Raw rates of return were calculated on a monthly basis using the API package (based on CRIF data file); these were then converted to price relatives for use in the PMS package which provided measures of abnormal performance for the period November 1975 to June 1982.

RESULTS

Using Jensen's measure of abnormal performance:

$$J_j = (\bar{R}_{jt} - \bar{R}_{ft}) - B_j (\bar{R}_{mt} - \bar{R}_{ft})$$

where:

\bar{R}_{jt} = the return to portfolio j over period t .

\bar{R}_{ft} = an estimate of the risk free rate of return.

B_j = a measure of the sensitivity of the portfolio's returns to changes in market index returns.

\bar{R}_{mt} = the average return on the market index for period t .

Average excess returns of +.8091 per cent per month were obtained. This return is adjusted for the systematic risk of the portfolio indicated by a beta of .67 accounting for 73 per cent of the variance in returns over this period (RSQ = .726446). This measure of abnormal performance is significant at the 99 per cent confidence level ($t = 3.157937$).

Using Sharpe's measure:

$$S_j = (R_j - R_f) / \sigma(R_j)$$

where: $\sigma(R_j)$ = the standard deviation of portfolio j 's returns.

S_j , the reward-to-variability ratio, was 1.55 per cent compared to the corresponding market measure of -3.8 per cent. This measure adjusts returns for the total risk of the asset portfolio⁴.

Thus, it would appear that in terms of both systematic and total risk adjusted performance, the portfolio of "Australian multinationals" performed better than would be expected.

DISCUSSION

The results of this study support the previously mentioned results of similar research:

- a) The returns of the multinationals were higher on average than those of the domestic index with

which they were compared. Multinationality represents a continuous distribution rather than a dichotomy and, therefore, part of the data base used to calculate the domestic index with which the portfolio was compared also included multinational companies; this factor only serves to emphasise the results obtained.

- b) The group of firms chosen had a lower than average systematic risk (beta = .67). This may be attributable to the fact that international diversification of real assets provides a buffer (lower profit variance) against market fluctuations which are specific to the Australian as opposed to world economic climate. Caution should be exercised in the interpretation of these results however, as the portfolio in question may not have been a representative sample of the Australian equity market; it is possible that a correlation exists between level of foreign direct investment and such variables as debt ratio and industry coverage.
- c) The risk adjusted performance of the portfolio indicated positive abnormal returns in terms of both systematic and total risk.

This would indicate that this group of stocks would be an attractive inclusion in an investment manager's portfolio over the period examined (given that he desired low risk stocks).

These results have certain interesting implications for portfolio investment, at least for the period over which the study was conducted. If the market is to be regarded as efficient, these excess returns might be viewed as compensation for excess risk. International investment may be regarded as inherently riskier than corresponding domestic investment and equity holders may thus demand a higher return on funds utilised in international investment, as a result of such factors as foreign exchange and political risk. However, while this may be true of foreign investment in any one country, it is possible that this risk is of a diversifiable nature, and that the total risk of a corporation whose investments are spread across a number of countries may be lower than that of a purely domestic firm.

Assuming market efficiency in the pricing of the equity of domestic firms with internationally diversified assets, these results indicate that the CAPM is an inappropriate vehicle for the measurement of non-diversifiable risk in an international context. They support the conclusion already drawn by Solnik⁵, that a true measure of risk should be based upon a concept of international systematic risk rather than its domestic counterpart and that international capital markets

appear to be sufficiently integrated and efficient to induce an international pricing of common stocks.

It should be noted, however, that increasing world

economic integration may result in an increase in the correlation between international economic fluctuations and a corresponding decline in any benefits currently obtainable via international diversification.

NOTES AND REFERENCES

1. Watson, J.G.E. & Dickinson, J.P. Internationally diversified portfolios: An ex post and ex ante analysis of possible benefits. *Australian Journal of Management*, 6, 1, pp 125-134.
Cohn, R.E. & Pringle, J. Imperfections in international financial markets implications for risk premia and the cost of capital for firms. *Journal of Finance*, March 1973, pp 59-66; Levy, H. & Sarnat, M. International diversification of investment portfolios. *American Economic Review*, September, 1970, pp 668-675.
2. Aggarwal, R. Multinationality and stock market valuation: an empirical study of U.S. companies and markets. *Management International Review*, 19, 1979, pp 5-21; Rugan, A. Risk reduction by international diversification. *Journal of International Business Studies*, Fall/Winter, 1976, pp 75-80
3. Hughes, B.H., Logue, D.E. & Sweeney, R.J. Corporate International diversification and market assigned measures of risk and diversification. *Journal of Financial and Quantitative Analysis*, November 1975, pp 627-637; Mikhail, A. & Shawky, H. Investment performance of U.S. Based Multinational Corporation. *Journal of International Business Studies*, Spring/Summer, 1979 pp 53-66; Aggarwal, R. *op. cit.*
4. Further explanation of these measures may be found in Officer, R.R. Performance Measurement. In Ball, R., Brown, P., Finn, F. & Officer, R.R., *Share Markets and Portfolio Theory*, University of Queensland Press: St. Lucia, 1980, pp 302-304.
5. Solnik, B.H. Testing international asset pricing; some pessimistic views. *Journal of Finance*, May 1977, pp 503-517.

BOOK REVIEW

A THIRST FOR BURNING

The Story of Australia's Oil Industry

by

Rick Wilkinson

One can only but sympathise with the author, who is arguably Australia's foremost petroleum industry writer, in his unenviable task of deciding what to leave out of this excellent 392 page volume. He freely admits the omission of many details, particularly in the final section which gives a brief history of eight of Australia's oil and gas exploration companies — there are many other companies which could validly claim inclusion.

But, this is quibbling — what is included makes compulsive reading, covering as it does in six well written sections Exploration, Politics and Pricing, Refining and Retail, Environment, Alternatives and Companies.

All sections will make nostalgic reading for the "old-timers", but will also provide a penetrating insight for newcomers into the history of this vital sector of the Australian economy.

While making compelling reading currently (even the Jabiru oil discovery in September is covered), the book will be invaluable in future as an historical reference of Australian oil up to the mid 1980s.

"A Thirst for Burning" is complete in itself, but readers who have their appetite whetted for further knowledge will find the comprehensive bibliography most useful indeed.

Norman Miskelly

The book is published by David Ell Press, 226 Crown Street, Darlinghurst, 2010, and is available from the publisher or from bookshops. Price, hardcover, \$29.50, including postage.