

**AN EMPIRICAL STUDY OF FOREIGN EXCHANGE EXPOSURE
IN MALAYSIA LISTED COMPANIES**

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**AN EMPIRICAL STUDY OF FOREIGN EXCHANGE EXPOSURE
IN MALAYSIA LISTED COMPANIES**

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by

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DECLARATION

I declare that the substance of this project paper has never been submitted for any degree or post graduate programs and qualifications.

I certify that all the supports and assistance received in preparing this project paper and all the sources abstracted have been acknowledge in this stated project paper.

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ABSTRACT

This study construct an analysis about foreign exchange exposure Malaysian companies were listed on Kuala Lumpur Stock Exchange during period January 2000 to December 2010. This study extends the prior researches by investigating the effects of major determinants toward the foreign exchange exposure. This study reveals that company efficiency, size, asset tangibility and growth opportunity do affect the foreign exchange exposure in Malaysia companies in general. However, the result comes up differently when those companies classified into their industry sectors. For Industrial Product sector, this study documents the evidence that financial leverage, efficiency, profitability and size of the companies are significantly influence the foreign exchange exposure.

ABSTRAK

Kajian ini membina analisis tentang syarikat-syarikat pendedahan pertukaran asing Malaysia yang telah disenaraikan di Bursa Saham Kuala Lumpur dalam tempoh Januari 2000 hingga Disember 2010. Kajian ini meliputi penyelidikan terlebih dahulu dengan menyiasat kesan penentu utama terhadap pendedahan pertukaran asing. Kajian ini menunjukkan bahawa kecekapan syarikat, saiz, *asset tangibility* dan peluang pertumbuhan menjejaskan pendedahan pertukaran asing dalam syarikat-syarikat Malaysia secara amnya. Walau bagaimanapun, hasilnya datang berbeza apabila syarikat-syarikat yang diklasifikasikan kepada sektor industri mereka. Bagi sektor Produk Industri, kajian ini membuktikan bahawa *financial leverage*, kecekapan, keuntungan dan saiz syarikat-syarikat ini secara ketara mempengaruhi pendedahan pertukaran asing.

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CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

As the world economy globalizes, fluctuation in foreign exchange rates can influence both domestic as well as, and especially, global companies. Variance in foreign exchange leads to the possibility of change in a company's cash flow (Jacque, 1996). In general, companies are exposed to three types of foreign exchange risk: (1) transaction exposure refers to the affects of foreign exchange rate fluctuations on import and export contracts transacted in foreign currencies, (2) translation exposure occurs when foreign exchange rate changes impact the future value of invested resources in foreign subsidiaries, and (3) economic exposure is expressed as the percentage of variation in the economic value of a company resulting from a 1% change in the exchange rate (Jacque, 1996). In changing of the relative prices of domestic and foreign goods, fluctuations in foreign exchange rates directly influence the current and future expected cash flows of exporting and importing companies (Geczy, Minton, & Schrand, 1997).

In previous studies that investigated the nature of exposure to exchange rates found mixed result regarding foreign exchange rate exposure. Nonetheless, recent empirical evidence has demonstrated that many industries and corporations face significant exchange rate exposure. However, most of the estimated foreign exchange risks were exposures of multinational corporations. In general, it seems counter-intuitive for most managers, and even some economists that domestic

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REFERENCES

- Aggarwal, R., & Harper, J. T. (2010). Foreign exchange exposure of domestic corporations. *Journal of International Money and Finance* 29 , 1619-1636.
- Allayannis, G. (1996). Exchange Rate Exposure Revisited. *Working Paper, The University of Virginia* .
- Bartov, E., & Bodnar, G. (1994). Firm valuation, earnings expectations, and the exchange rate exposure effect. *Journal of Finance* 49 , 1755-1785.
- Bartram, S. M. (2008). What lies beneath: Foreign exchange rate exposure, hedging and cash flows. *Journal of Banking & Finance* 32 , 1508–1521.
- Bartram, S. M., Dufey, G., & Frenkel, M. R. (2005). A primer on the exposure of non-financial corporations to foreign exchange rate risk. *Journal of Multinational Financial Management* 15 , 394-413.
- Bodnar, G. M., & Gentry, W. M. (1993). Exchange rate exposure and industry characteristics: evidence from Canada, Japan, and the USA. *Journal of International Money and Finance* , Vol. 12 (1), 29–45.
- Bodnar, G. M., & Martson, R. C. (2000). A simple model of foreign exchange exposure. *Working Paper* .
- Bodnar, G. M., & Wong, M. F. (1999). Estimating Exchange Rate Exposures: Some "Weighty" Issues. *Working Paper, University of Pennsylvania* .

- Chan, K. F., Gan, C., & McGraw, P. A. (2003). Hedging Strategies for New Zealand's Exporters in Transaction Exposure to Currency Risk. *Multinational Finance Journal* , vol. 7 (1/2), pp. 25–54.
- Choi, J., & Prasad, A. (1995). Exchange risk sensitivity and its determinants: a firm and industry analysis of US multinationals. *Financial Management* 24 , 77-88.
- Chow, E. H., & Chen, H. L. (1998). The determinants of foreign exchange rate exposure: Evidence on Japanese firms. *Pacific-Basin Finance Journal* 6 , 153-174.
- Chue, T. K., & Cook, D. (2008). Emerging market exchange rate exposure. *Journal of Banking & Finance* 32 , 1349–1362.
- Chue, T. K., & Cook, D. (2008). Emerging market exchange rate exposure. *Journal of Banking & Finance* , Vol. 32, 1349–1362.
- Copeland, T., & Copeland, M. (1999). Managing Corporate FX risk: A Value Maximizing Approach. *Financial Management* , Vol. 28 (3), 68-75.
- Doidge, C., Griffin, J., & Williamson, R. (2000). An International Comparison of Exchange Rate Exposure. *Working Paper, Ohio State University* .
- Doidge, C., Griffin, J., & Williamson, R. (2002). Does exchange rate exposure matter? *Working Paper, Ohio State University* .

- Doidge, C., Griffin, J., & Williamson, R. (2006). Measuring the economic importance of exchange rate exposure. *Journal of Empirical Finance* 13 , 550-576.
- Doukas, J., Hall, P., & Lang, L. (2001). Exchange rate exposure at the firm and industry level. *Financial Markets, Institutions and Instruments* 12 , 291-346.
- Factbook, C. W. (2010, March 5). *Malaysia Economy - Overview*. Retrieved June 11, 2010, from Index Mundi:
http://www.indexmundi.com/malaysia/economy_overview.html
- Froot, K. A., Scharfstein, D. S., & Stein, J. C. (1993). Risk Management: Coordinating Corporate Investment and Financing Policies. *Journal of Finance* , vol 48, 1629-1658.
- Gao, T. (2000). Exchange rate movements and the profitability of U.S. multinationals. *Journal of International Money and Finance* , vol. 19, 117-134.
- Géczy, C., Minton, B. A., & Schrand, C. (1997). Why firms use currency derivatives. *Journal of Finance* , vol. 52, 323-354.
- He, J., & Ng, L. (1998). The foreign exchange exposure of Japanese multinational corporations. *Journal of Finance* 53 , 733-753.
- Ibrahim, M. H. (2008). The Exchange-Rate Exposure of Sectoral Stock Returns: Evidence From Malaysia. *International Journal of Economic Perspectives* , 2 (2), 62-76.

- Jacque, L. L. (1996). *Management and Control of Foreign Exchange Risk*. Boston: Kluwer Academic.
- James, W. E., Park, D., Jha, S., Jongwanich, J., Hagiwara, A. T., & Sumulong, L. (2008, December). The US Financial Crisis, Global Financial Turmoil, and Developing Asia: Is the Era of High Growth at an End? *Asian Development Bank Working Paper Series 139* .
- Jayasinghe, P., & Tsui, A. K. (20 (2008)). Exchange rate exposure of sectoral returns and volatilities: Evidence from Japanese industrial sectors . *Japan and the World Economy 20* , 639–660.
- Jong, A. D., Ligterink, J., & Macrae, V. (2002). A firms specific analysis of the exchange rate exposure of Dutch firms. *Working Paper* .
- Jorion, P. (1990). The Exchange-Rate Exposure of U.S. Multinationals. *The Journal of Business* , Vol. 63 (3), 331-345.
- Jorion, P. (1991). The Pricing of Exchange Rate Risk in the Stock Market. *The Journal of Financial and Quantitative Analysis* , Vol. 26 (3) , 363-376.
- Kiyamaz, H. (2003). Estimation of foreign exchange exposure: an emerging market application. *Journal of Multinational Financial Management 13* , 71-84.
- Klein, L. R. (1983). *The Economics of Supply and Demand*. Baltimore: Johns Hopkins University Press.
- Levi, M. (1994). Exchange rate and the valuation of firms. In *Exchange Rates and Corporate Performance* (pp. 37-48). New York: Irwin.

- Malaysia. (Economic Report 2003/2004). *Chapter 2: Economic Performance and Prospects*. Putra Jaya: Ministry of Finance Malaysia.
- Malaysia. (Economic Report 2002/2003). *Chapter 3: Public Sector Finance*. Putra Jaya: Ministry of Finance Malaysia.
- Malaysia. (Economic Report 2003/2004). *Chapter 3: Public Sector Finance*. Putra Jaya: Ministry of Finance Malaysia.
- Marston, R. C. (2001). The effects of industry structure on economic exposure. *Journal of International Money and Finance* 20 , 149–164.
- Martin, A. D., & Mauer, L. J. (2005). A note on common methods used to estimate foreign exchange exposure. *Int. Fin. Markets, Inst. and Money* 15 , 125-140.
- Martin, A. D., & Mauer, L. J. (2003). Transaction versus economic exposure: which has greater cash flow consequences? *International Review of Economics and Finance* 12 , 437–449.
- Miller, K. D., & Reuer, J. J. (1998). Firm Strategy and Economic Exposure to Foreign Exchange Rate Movements. *Journal of International Business Studies* , vol. 29 (3), 493-513.
- Muller, A., & Verschoor, W. F. (2007). Asian foreign exchange risk exposure. *Journal Japanese International Economies* 21 , 16-37.

- Muller, A., & Vershoor, W. F. (2006). Foreign exchange risk exposure: Survey and suggestions. *Journal of Multinational Financial Management* 16 , 385-410.
- Nance, D. R., Clifford W. Smith, J., & Smithson, C. W. (1993). On the Determinants of Corporate Hedging. *The Journal of Finance* , Volume 48 (1), 267-284.
- Nguyen, H., & Faff, R. (2003). Can the use of foreign currency derivatives explain variations in foreign exchange exposure? Evidence from Australian companies. *Journal of Multinational Financial Management* 13 , 193-215.
- Nguyen, H., Faff, R., & Marshall, A. (2007). Exchange rate exposure, foreign currency derivatives and the introduction of the Euro: French evidence. *International Review of Economic and Finance* 16 , 563-577.
- Parsley, D. C., & Popper, H. A. (2006). Exchange rate pegs and foreign exchange exposure in East and South East Asia. *Journal of International Money and Finance* 25 , 992-1009.
- Pritamani, M. D., Shome, D. K., & Singal, V. (2004). Foreign exchange exposure of exporting and importing firms. *Journal of Banking and Finance* 28 , 1697-1710.
- Rees, W., & Unni, S. (1999). Exchange Rate Exposure Among European Firms: Evidence from France, Germany and the UK. *Working Paper, University of Glasgow* .

Rossi, J. L. (2004). Foreign exchange exposure, corporate, financial policies and the exchange rate regime: evidence from Brazil. *Annual Latin American Social and Public Policy Conference*. Yale University, Department of Economic.

Shapiro, A. C. (1999). *Multinational Financial Management*. New York: Willey.

Williamson, R. (2001). Exchange rate exposure and competition: evidence from the automotive industry. *Journal of Financial Economics* 59 , 441-475.