

**AN INVESTIGATION ON FOREIGN EXCHANGE
EXPOSURE IN MALAYSIA LISTED COMPANIES**

PIRIYA A/P SELVARAJU

MASTER OF SCIENCE (FINANCE)

UNIVERSITI UTARA MALAYSIA

NOVEMBER 2014

**AN INVESTIGATION ON FOREIGN EXCHANGE
EXPOSURE IN MALAYSIA LISTED COMPANIES**

BY

PIRIYA A/P SELVARAJU

THESIS SUBMITTED TO

**OTHMAN YEOP ABDULLAH GRADUATE SCHOOL
OF BUSINESS**

UNIVERSITI UTARA MALAYSIA

2014

**IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE MASTER OF FINANCE (SCIENCE)**

DISCLAIMER

The author declares that this dissertation is original and his own except those literatures, quotations, explanations and summarizations which are duly identified and recognized

Date: 22 November 2014

Signature:

Name: Piriya A/P Selvaraju

Matrix No: 810244

Permission to Use

In presenting this thesis in fulfilment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for the copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor(s) or, in their absence, by the Dean of Research and Innovation it is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to University Utara Malaysia for any scholarly use which may be made of any material from my project paper.

Requests for permission to copy or to make other use of materials in this project paper, in whole or in part should be addressed to:

Dean of Research and Innovation
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman
Malaysia

Abstract

In the light of globalization and internationalization of world markets, foreign exchange risk has become one of the most difficult and persistent problems with which financial executives must cope. This risk cannot be avoided, but can be managed by hedging in currency forwards and options. The need and approach for managing it depends on the size of exposure and fluctuations in exchange rate. Malaysia has its own status in the international markets. This study construct an analysis about foreign exchange exposure Malaysia companies were listed on Kuala Lumpur Stock Exchange during period January 2000 to December 2010. This study extent 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 Industry Product sector, this study documents the evidence that financial leverage, efficiency, profitability and size of the companies are significantly influence the foreign exchange exposure.

Keywords: Exchange rate exposure, Foreign currency, Bursa Malaysia

Abstrak

Memandangkan globalisasi dan pengantarabangsaan pasaran dunia, risiko pertukaran mata wang asing telah menjadi salah satu masalah yang paling sukar dan berterusan. Risiko ini tidak dapat dielakkan tetapi boleh diuruskan melalui perlindungan nilai mata wang asing pada masa hadapan. Keperluan dan pendekatan untuk menguruskan matawang asing bergantung kepada saiz pendedahan dan naik turun dalam kadar pertukaran mata wang asing. Kajian ini membina analisis tentang pendedahan syarikat-syarikat pertukaran mata wang asing di Malaysia yang telah disenaraikan di Bursa Saham Kuala Lumpur dalam tempoh Januari 2000 hingga Disember 2010. Kajian ini meliputi penyelidikan terlebih dahulu dengan mengkaji kesan penentu utama terhadap pendedahan pertukaran mata wang asing. Kajian ini menunjukkan bahawa kecekapan saiz syarikat, asset tidak nyata dan peluang pertumbuhan menjejaskan pendedahan pertukaran mata wang asing dalam syarikat-syarikat di Malaysia secara amnya. Walau bagaimanapun, hasilnya adalah berbeza apabila syarikat-syarikat yang diklasifikasikan kepada sektor industri masing-masing. Bagi sektor produk industri, kajian ini membuktikan bahawa tahap kewangan, kecekapan, keuntungan dan saiz syarikat-syarikat ini secara ketara mempengaruhi pendedahan pertukaran matawang asing.

Katakunci: Pendedahan kadar pertukaran, Matawang asing, Bursa Saham Malaysia

ACKNOWLEDGEMENT

First, I would like to express my appreciation to my God, the Most Powerful and Merciful that has granted me the ability and willing to start and complete this study. I do pray to his greatness to inspire and enable me to continue the work for the benefits of humanity and my personal usefulness. My highest goes to my parents, for their financial, emotional, and moral support throughout the completion of this work. They mean a lot to my success. My most profound thankfulness goes to my supervisor Dr. Norshafizah Binti Hanafi for her professionally proven and creativity encouraging guidance on this work. Your research and teaching skills will forever be admired. I am indebted to my dearest and encouraging friends that have in one a way or the other help me on this study, thanks to you all. Last but not the least; I sincerely appreciate Malaysia government and UUM for providing a conducive environment and support for the completion of this work.

TABLE OF CONTENTS

| | |
|--|-----------|
| PERMISSION TO USE | i |
| ABSTRACT | ii |
| ABSTRAK | iii |
| ACKNOWLEDGEMENT | iv |
| LIST OF TABLES | viii |
| LIST OF FIGURES | ix |
| CHAPTER ONE : INTRODUCTION | 1 |
| 1.1 Introduction | 1 |
| 1.2 Background of Study..... | 1 |
| 1.3 Background of Malaysian listed company | 3 |
| 1.4 Statement of Problem | 4 |
| 1.5 Research Questions | 6 |
| 1.6 Research Objectives | 6 |
| 1.7 Significance of the Study..... | 7 |
| 1.8 Limitation of Study..... | 8 |
| 1.9 Operational Term..... | 9 |
| 1.9.1 Exchange Exposure | 9 |
| 1.9.2 Debt..... | 9 |
| 1.9.3 Asset Tangibility..... | 10 |
| 1.9.4 Size | 10 |
| 1.9.5 Assets..... | 11 |
| 1.10 Organization of the Dissertation..... | 12 |
| CHAPTER TWO : LITERATURE REVIEW | 13 |
| 2.0 Introduction | 13 |
| 2.1 Foreign exchange exposure types..... | 14 |
| 2.1.1 Transaction Exposure | 14 |
| 2.1.2 Economic Exposure | 15 |
| 2.1.3 Translation Exposure | 16 |

| | | |
|--|---|-----------|
| 2.2 | Interest Rates and Exchange Rates in Malaysia | 16 |
| 2.3 | Theoretical Development | 20 |
| 2.5 | Summary | 23 |
| CHAPTER THREE : METHODOLOGY..... | | 24 |
| 3.0 | Introduction | 24 |
| 3.1 | Theoretical Framework..... | 24 |
| 3.2 | Research Design..... | 26 |
| 3.3 | Sample Selection and Data Sources | 27 |
| 3.4 | Measurement of Variable / Instrument..... | 30 |
| 3.4.1 | Justification of Variable..... | 30 |
| 3.5 | Instrument..... | 31 |
| 3.6 | Technique of Data Analyses..... | 33 |
| 3.7 | Chapter Summary | 34 |
| CHAPTER FOUR : RESULT AND DISCUSSION | | 35 |
| 4.0 | Introduction | 35 |
| 4.1 | Measurement of Companies' Exchange Rate Exposure..... | 35 |
| 4.2 | Identifying the Major Determinants of Foreign Exchange Exposure | 37 |
| 4.3 | Extend of Firm's Foreign Exchange Exposure Transactions | 40 |
| 4.3.1 | Percentage of Foreign Exchange Exposure to Asset Turnover | 40 |
| 4.3.2 | Percentage of Foreign Exchange Exposure to Profit Margin | 41 |
| 4.3.3 | Percentage of Foreign Exchange Exposure to Debt | 42 |
| 4.3.4 | Percentage of Foreign Exchange Exposure to Size | 43 |
| 4.3.5 | Percentage of Foreign Exchange Exposure to Asset Tangibility .. | 44 |
| 4.3.6 | Percentage of Foreign Exchange Exposure to Market to Book..... | 45 |
| 4.4 | Hypothesis Analysis | 46 |
| 4.5 | Chapter summary..... | 50 |
| CHAPTER FIVE : CONCLUSION AND RECOMMENDATION..... | | 51 |
| 5.0 | Introduction | 51 |
| 5.1 | Findings | 51 |
| 5.2 | Implication of the Study | 53 |

| | | |
|-------------------------|---------------------------------------|-----------|
| 5.3 | Recommendation for Future Study | 54 |
| 5.4 | Conclusion | 55 |
| REFERENCES | | 57 |
| APPENDIX A | | 62 |
| APPENDIX B | | 69 |
| APPENDIX C | | 74 |

List of Tables

| | |
|--|----|
| Table 3.1: Sampling..... | 28 |
| Table 4.1: Number of Malaysian Companies Exposed to Foreign Exchange Rate Risk by year | 36 |
| Table 4.2: Descriptive Statistics for All Companies..... | 38 |
| Table 4.3: Percentage of Foreign Exchange Exposure to Asset Turnover..... | 40 |
| Table 4.4: Percentage of Foreign Exchange Exposure to Profit Margin..... | 42 |
| Table 4.5: Percentage of Foreign Exchange Exposure to Debt..... | 42 |
| Table 4.6: Percentage of Foreign Exchange Exposure to Size..... | 43 |
| Table 4.7: Percentage of Foreign Exchange Exposure to Asset Tangibility..... | 44 |
| Table 4.8: Percentage of Foreign Exchange Exposure to Market to Book..... | 45 |
| Table 4.9: ANOVA Result for differences between company debt and foreign... exchange exposure | 46 |
| Table 4.10: ANOVA Result for differences between company size and foreign.... exchange exposure | 47 |
| Table 4.11: Pearson's correlation for Foreign Exchange Exposure..... | 50 |

List of Figures

| | |
|---------------------------------------|----|
| Figure 1: Theoretical Framework | 25 |
|---------------------------------------|----|

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter begins with a general description of the background and the development of the field of study, followed by the actual problem. This study explained the purpose and the delimitations of the dissertation. Further, this study will present the study research questions and hypotheses. This study also measure the foreign exchange exposure based on dependent and independent variables.

1.2 Background of Study

As economic integrating and globalization have been increasing year by year, exchange rate movements have become very important source of risk of financial companies. In this context, it is very important to mention that virtually all existing empirical studies estimate currency exchange rate exposure on the basic of share prices. Exchange rate exposure can be defined generally as the extent to which changes in exchange rate affect stock returns and thereby company values (Bacha, Mohamad, Zain, and Rashid, 2013).

At the micro-level of analysis, if all other conditions are the same, then the higher the proportion of a company's international operations, the greater the effect of exchange rate movements on the company's value. Similarly, the greater the magnitude of exchange rate changes, the more obvious it is when companies are operating under this influence.

The contents of
the thesis is for
internal user
only

REFERENCES

- Aabo, T. & Simkins B.J., (2005). "Interaction between real options and financial hedging: fact or fiction in managerial decision-making", *Review of Financial Economics* 14, pp.353 – 369.
- Adler M, Dumas B. (1984). 'Exposure to currency risk: Definition and measurement', *Financial Management*, pp.41-50.
- 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* .
- Allayannis, G. & E. Ofek, (2001). "Exchange rate exposure, hedging, and the use of foreign currency derivatives", *Journal of International Money and Finance* 20, 273-296.
- Bacha, O.I., Mohamad, A., Zain, S. R. S. M. and Rasid, M.E.S.M. (2013). *Foreign exchange exposure and impact of policy switch – the case of Malaysia listed firms*. *Applied Economics*, 45, 2974-2985.
- Bailey W, Chung Y P.(1995). 'Exchange rate fluctuations, political risk, and stock returns: Some evidence from an emerging market', *Journal of Financial and Quantitative Analysis*, 30(4), pp.541-561.
- Bank Negara Malaysia (1991). The central Bank and the Financial system in Malaysia – A Decade of Change 1989 – 1999, 40th edition, 1959 – 1999.
- 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., Brown, G. W., & Fehle (2009). Resolving the exposure puzzle: The many facets of exchange rate exposure. *Journal of Financial Economics*, 95, 148-173.
- Bartov E, Bodnar G M. (1994). 'Firm valuation, earnings expectations, and the exchange-rate exposure effect', *Journal of Finance*, 49(5), pp. 1755-1785.
- Bartov E, Bodnar G M, Kaul A. (1996). 'Exchange rate variability and the riskiness of US multinational firms: Evidence from the breakdown of the Bretton Woods System', *Journal of Financial Economics*. 42(1), pp. 105-132.

- Baum C F, Caglayan M, Barkoulas J T. (2001). 'Exchange rate uncertainty and firm profitability', *Journal of Macroeconomics*, 23(4), pp. 565-576.
- 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*, 12(1), pp. 29-45.
- Bodnar G M, & Wong M. (2003). "Estimating exchange rate exposures: Issues in model structure", *Financial Management*, 32(1), pp. 35-67.
- Bradley, K. & Moles, P. (2002). "Managing Strategic Exchange Rate Exposures: Evidence from UK firms". *Managerial Finance* 28, pp. 28 - 41
- Brown, G.(2001). "Managing foreign exchange risk with derivatives", *Journal of Financial Economics* 60, 401-448.
- Bursa Malaysia. (Economic Report). Putra Jaya: Ministry of Finance Malaysia.
- Carmines, E.G. & Zeller, R.A. (1979). "Reliability and Validity Assessment", *Sage Publications, Thousand Oaks, CA*, pp. 59-70.
- Choi J.J. and Prasad A.M. (1995). Exchange Risk Sensitivity and its Determinants: A Firm and Industry Analysis of US Multinationals", *Financial Management*, Vol.24(3), pp. 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.
- Chow, E, W. Lee, & M. Solt, (1997). "The exchange rate risk exposure of asset returns", *Journal of Business*, 70: 105-123.
- Chue, T.K. and Cook, D. (2008). Emerging market exchange rate exposure. *Journal of Banking and Finance*, 32, 1349-1362.
- Copeland, T. & Copeland, M. (1999). Managing Corporate FX risk: A Value Maximizing Approach. *Financial Management* , Vol. 28 (3), 68-75.
- Creswell, J.W.(2003). *Research Design: Quantitative, Qualitative, and Mixed Methods Approaches*. SAGE. Thousand Oaks. USA.
- Daniels, J. (2004), "International business: environments and operations", Pearson Education International, Upper Saddle River, NJ, USA
- Dominguez, K. M. E. & Tesar, L. L. (2006). "Exchange rate exposure". *Journal of International Economics*, 68, 188-218.

- Doidge C, Luo Hang and Jiang Chun (2007). "Measuring the economic importance of exchange rate exposure", *Journal of Empirical Finance*,
- Doidge C, Griffin J, Williamson R. (2006). 'Measuring the economic importance of exchange rate exposure', *Journal of Empirical Finance*, 13(4-5), pp. 550-576.
- Dufey, G. (1972). "*Corporate finance and exchange rate variations*", *Financial Management*, Summer vol. 1, Issue 2, Pages 51-57.
- Eichengreen, B. & Andrew Rose, A. (2011). "The Implications for China of Abandoning its Dollar Peg", *UC-Berkeley mimeo*.
- Eiteman, David K. Stonehill, Arthur I. and Moffett, Michael H. (2001) *Multinational Business Finance* 9th edition, published by Addison-Wesley Longman, Inc.
- Fama, E.F. & Jensen, M.C. (1983), "Separation of Ownership and Control", *The Journal of Law and Economics*, June, Vol.25:301-325
- 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.
- Glaum, M . (1990). "*Strategic management of exchange rate risk*", *Long Range Planning*, vol. 23, Issue 4, Pages 65-72.
- Hakkarainen, A. Joseph, N. Kasanen, E. and Puttonen, V. (1996). "*Foreign exchange exposure management among Finnish firms*", Working Papers, Helsinki School of Economics and Business Administration, Finland.
- 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.
- Johansen, S. (1991), "Estimation and Hypothesis Testing of Cointegration Vectors in Gaussian Vector Autoregressive Models," *Econometrica* 58, 165-188. Jorion, P. (1990). *The Exchange-Rate Exposure of U.S. Multinationals. The Journal of Business* , Vol. 63 (3), 331-345.
- 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.
- Joseph, N.L. (2000). "The choice of hedging techniques and the characteristics of UK industrial firms". *Journal of Multinational Financial Management* 10, pp. 161-184.
- Klein, L. R. (1983). *The Economics of Supply and Demand*. Baltimore: *Johns Hopkins University Press*.
- Kuhn, J., (2007). "Corporate Risk Management and Hedging Practice by Medium-sized Companies in Denmark", *Master thesis, Aarhus School of Business*.
- Laitiainen, T. (1996). "Foreign Exchange Exposure in Finland", *Thesis t6680, Helsinki School of Economics, Finland*
- Linsmeier, T. and Pearson, N. "Risk measurement". (1997). In: G., Klopfenstein, ed. *"FX: Managing global currency risk"*, Glenlake Publishing Company, Ltd., Chicago, IL, USA, Chapter 13, Pages 213
- Linsmeier, T. & Pearson, N. (1997). "Risk Measurement *Managing global currency risk*", Glenlake Publishing Company, Ltd., Chicago, IL, USA, Chapter 13, Pages 213
- Levi, M. (1994). Exchange rate and the valuation of firms. In *Exchange Rates and Corporate Performances*.
- Malaysia. (Economic Report 2003/2004). *Chapter 2: Economic Performance and Prospects*. Putra Jaya: Ministry of Finance Malaysia. (FBM KLCI)
- Malaysia. (Economic Report 2002/2003). *Chapter 3: Public Sector Finance*. Putra Jaya: Ministry of Finance Malaysia. (FBM KLCI)
- Malaysia. (Economic Report 2003/2004). *Chapter 3: Public Sector Finance*. Putra Jaya: Ministry of Finance Malaysia. (FBM KLCI)
- Marston (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.
- Mishra, K.A. (2004). “Stock market and foreign exchange market in India: Are they related?”. *South Asia Economic Journal*, 5, 2, New Delhi: Sage Publications
- Muller, A. and Verschoor, W. F. C. (2007). Asian foreign exchange risk exposure. *Journal of the Japanese and International Economies*, 21, 16-37.
- Neumann, W.L. (2003). “Social Research Methods: Qualitative and Quantitative Approaches”. *5th Edition, Allyn and Bacon, Boston, USA*.
- 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.
- Pramborg, B . (2002). “Empirical essays on foreign exchange risk management”, *School of Business Stockholm University, Sweden*.
- Riley, F. K. (2000). Investment Analysis and Portfolio Management Orlando, USA: *The Dryden Press*.
- Solnik, B. (2000). “International arbitrage pricing theory” *Journal of Finance*, 38, 449-457.
- Shapiro, A.(1974).“Exchange rate changes, inflation, and the value of the multinational corporation”, *Journal of Finance* 30, 485-502.
- United Nations, Economic Commission for Latin American and the Caribbean (2010). Policy coherence and stabilization: rebalancing stabilization and developmental policies in Latin America and the Caribbean. Paper presented at the World Economic and Social Survey 2010 workshop, entitled “Towards a new development paradigm? coherence in development policy and international cooperation”, held in Geneva on 8 and 9 February. Available from http://www.un.org/esa/policy/wess/wess2010workshop/wess2010_eclac.pdf.
- Williamson, R. (2001). Exchange rate exposure and competition: evidence from the automotive industry. *Journal of Financial Economics* 59, 441-475.
- Yucel And Kurt (2003). Foreign exchange rate sensitivity and stock price: *Estimating economic exposure of Turkish companies*,