

DETERMINANTS OF FOREIGN DIRECT INVESTMENT: ERROR CORRECTION MODEL FOR THE PHILIPPINE MANUFACTURING SECTOR

A Thesis

Presented to the Faculty of the Allied Business Department De La Salle University-Dasmariñas Dasmariñas City, Cavite

In Partial Fulfilment
of the Requirements for the Degree of
Bachelor of Science in Business Administration
(Major in Economics)

KATHLEEN A. LORESTO

April 2013



ABSTRACT

Loresto, K, A., Determinants of Foreign Direct Investment: Error Correction Model for the Philippine Manufacturing Sector. Bachelor of Science in Business Administration Major in Economics, De La Salle University-Dasmariñas, Cavite. April 2013. Adviser: Dr. Alice T. Valerio.

This study investigated the determinants of Foreign Direct Investment (FDI) in the Philippine manufacturing sector. The study covered the period from 1985 to 2010 on an annual basis. It aimed (a) to describe the performance of FDI in the Philippine manufacturing sector and its selected variables; and (b) to estimate the short-run and long-run multipliers of the selected variables on FDI in the Philippine manufacturing sector.

The error correction model was used to investigate the short-run and long-run relationships of FDI with the selected independent variables (i.e., inflation, infrastructure, human capital, market size, manufacturing growth, and exchange rate) so as to understand and identify which macroeconomic factors significantly affect and influence it. For this reason, the study focused on domestic determinants that policymakers can possibly influence rather than the overall determinants of FDI some of which are beyond the influence of national government.

All variables were found to be stationary at 1st differenced using Augmented Dickey-Fuller test. Also, inflation rate and exchange rate were found to have negative effect on FDI in the manufacturing sector. Its speed of adjustments in the



manufacturing sector resulting from changes in inflation, infrastructure, education, exchange rate, real GDP per capita, and value of production index were 50 percent for two years, 76 percent for four years, 61 percent for three years, 48 percent for two years, 77 percent for five years, and 59 percent for three years, respectively, showing that the short-run adjustment to the long-run equilibrium FDI took relatively a long period of time.

The study revealed that real GDP per capita was significant in determining the FDI in the manufacturing sector and positively related. Conversely, exchange rate was found significant and negatively related to it. Needless to say, a country with a high value of GDP and a more stable exchange rate would entice more foreign investors. It can be a benchmark whether the economy was performing well.

Valuable results showed that there is an existing disequilibrium among domestic variables and FDI. The government should take into considerations the impact of selected domestic variables to further justify the investment climate of the country. It is recommended that the national government should materialize and monitor its planned improvements and developments in the domestic variables used. Also, to consider the mutual interdependence of observations, judicious planning requires reliable forecasts of decision variables where forecast are based on statistical analysis of the past data rather than using the conventional regression methods solely. These selected variables should be linked to economic decisions to justify whether profitable forecasts are possible.



TABLE OF CONTENTS

| | Page |
|------------------------------------|------|
| TITLE PAGE | i |
| APPROVAL SHEET | |
| BIOGRAPHICAL SKETCH | |
| ACKNOWLEDGMENT | |
| ABSTRACT | |
| TABLE OF CONTENTS | |
| LIST OF TABLES | |
| LIST OF FIGURES | |
| LIST OF APPENDIXES | |
| INTRODUCTION | |
| Background of the Study | 5 |
| Statement of the Problem | 8 |
| Objectives of the Study | 11 |
| Hypotheses of the Study | 11 |
| Significance of the Study | 14 |
| Scope and Limitations of the Study | 15 |
| Definition of Terms | 16 |
| REVIEW OF RELATED LITERATURE | 19 |



| The Concept of Foreign Direct Investment | 19 | | |
|---|----|--|--|
| FDI in the Philippines | 20 | | |
| Economic Growth in the Philippines | 23 | | |
| FDI and Economic Growth | 25 | | |
| Philippine Manufacturing Sector | 27 | | |
| Trade and Investment Policies | 28 | | |
| Determinants of Foreign Direct Investment | 30 | | |
| Research Methodologies on Foreign Direct Investment | 32 | | |
| FRAMEWORK OF THE STUDY | 34 | | |
| Theoretical Framework | 34 | | |
| Market Imperfections Theory | 34 | | |
| International Production Theory | 34 | | |
| Internalization Theory | 35 | | |
| Conceptual Framework | 35 | | |
| METHODOLOGY | | | |
| Research Design. | 40 | | |
| Sources of Data | 40 | | |
| Methods of Analysis | 41 | | |
| RESULTS AND DISCUSSION | | | |
| Trend of FDI in the Philippine Manufacturing Sector | | | |
| Selected Factors Affecting FDI. | 53 | | |



| Inflation rate | 53 | |
|---|-----|--|
| Infrastructure | 59 | |
| Public expenditures on education | 67 | |
| Foreign exchange rate | 73 | |
| Market size | 82 | |
| Value of production index | 89 | |
| Impact of the Selected Variables on FDI | | |
| SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS | | |
| Summary | 108 | |
| Conclusions | 110 | |
| Recommendations | 111 | |
| REFERENCES | | |
| APPENDIXES | | |



LIST OF TABLES

| Table | | Page |
|-------|---|------|
| 1 | FDI in the Philippine Manufacturing Sector, 1985-2010 | 46 |
| 2 | Inflation Rate in the Philippines, 1985-2010 | 54 |
| 3 | Total Length of National Roads, Philippines, 1985-2010 | 60 |
| 4 | Public Expenditures on Education, 1985-2010 | 68 |
| 5 | Peso per U.S. Dollar Exchange Rate, 1985-2010 | 74 |
| 6 | Real GDP per Capita, Philippines, 1985-2010 | 83 |
| 7 | Value of Production Index in Manufacturing Sector, Philippines, 1985-2010 | 90 |
| 8 | Summary of Augmented Dickey-Fuller Result | 97 |
| 9 | Summary of Variance Inflation Factor Result | 98 |
| 10 | Summary of Error Correction Estimates | 100 |



LIST OF FIGURES

| Figure | | Page |
|--------|--|------|
| 1 | Determinants of FDI in the Philippine manufacturing sector | 37 |
| 2 | FDI in the Philippine manufacturing sector, 1985-2010 | 47 |
| 3 | Growth rate of FDI in the Philippine manufacturing sector, 1985-2010 | 48 |
| 4 | Inflation rate in the Philippines, 1985-2010 | 55 |
| 5 | Total length of national roads, Philippines, 1985-2010. | 61 |
| 6 | Growth rate of total length of national roads, Philippines, 1985-2010 | 62 |
| 7 | Public expenditures on education, 1985-2010 | 69 |
| 8 | Growth rate of public expenditures on education, 1985-2010 | 70 |
| 9 | Peso per U.S. dollar exchange rate, 1985-2010 | 75 |
| 10 | Real GDP per capita, Philippines, 1985-2010 | 84 |
| 11 | Growth rate of real GDP per capita, Philippines, 1985-2010 | 85 |
| 12 | Value of production index in manufacturing sector, Philippines, 1985-2010 | 91 |
| 13 | Growth rate of value of production index in the manufacturing sector, Philippines, 1985-2010 | 92 |



LIST OF APPENDIXES

| Appendix | | Page |
|----------|--|------|
| 1 | ADF Test on Foreign Direct Investment | 128 |
| 2 | ADF Test on Inflation Rate | 129 |
| 3 | ADF Test on Infrastructure | 130 |
| 4 | ADF Test on Public Expenditures on Education | 131 |
| 5 | ADF Test on Exchange Rate | 132 |
| 6 | ADF Test on Real GDP per Capita | 133 |
| 7 | ADF Test on Value of Production Index | 134 |
| 8 | Results of Multiple Regression | 135 |
| 9 | Results of Stepwise Regression | 136 |
| 10 | Results of Error Correction Estimate on Inflation Rate | 138 |
| 11 | Results of Error Correction Estimate on Infrastructure. | 139 |
| 12 | Results of Error Correction Estimate on Public Expenditures on Education | 140 |
| 13 | Results of Error Correction Estimate on Exchange Rate. | 141 |
| 14 | Results of Error Correction Estimate on Real GDP per Capita | 142 |
| 15 | Results of Error Correction Estimate on Real GDP per Capita. | 143 |