Foreign Direct Investment in China: Determinants and Impacts

Submitted by

Ning Zhang

to

The University of Exeter

As a thesis for the degree of

Doctor of Philosophy in Management Studies

September 2011

This thesis is available for Library use on the understanding that it is copyright material and that no quotation from the thesis may be published without proper acknowledgement.

I certify that all material in this thesis which is not my own work has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other University.
Abstract

China has experienced high foreign direct investment (FDI) inflows for the past 30 years since it opened its door to foreign investors especially after the early 1990s. As a result, with more and more foreign invested enterprises in China, China has experienced dramatic changes in its economy and society. This study conducts an empirical analysis on the determinants of FDI regional and sectoral distribution in China and evaluates the impact of FDI on Chinese domestic investment. The dataset used for this study spans from 1990-2008 and involves both regional-level and sector-level data in China. The key findings of this thesis can be summarised into four points. First, on regional level, foreign investors base their investment decisions by tax rates, geography, labour costs and market size. Moreover, tax incentive effects are proved to be greater in the eastern areas than in the western areas. Second, at sectoral level, foreign investors are affected by market size, employment, wage rate, exchange rate and state ownership degree, but not by the level of openness degree. Third, FDI has a significant crowding out effects on domestic investment on national level and in particular the eastern area, but has a crowding in effect in the middle area and no effect for the western area. Fourth, there is no significant evidence that FDI crowds out domestic investment on individual sector level. This study provides some valuable insights into foreign investors’ decision making and the economic costs/benefits of FDI, which have important implications for scholars, practitioners and policy makers alike.
Acknowledgement

I am deeply indebted to a number of people who have, directly or indirectly, contributed to the realisation of this thesis. Foremost among them are my supervisors, Professor Gareth Shaw and Dr. Jane Shen, whose invaluable guidance, suggestions, comments and references have enabled me to finish the longest and the most challenging piece of work up till now, and most probably my entire life. Without their kind help at my difficult times during the course of 4-year study, I would not finish my PhD studies. I am also grateful for the help, support and inspirations given by my former supervisor, Professor Brian Wright.

I also express my gratitude to the academic and supporting staff, and friends in the Business School at the university, who, in one way or the other, lent their assistance and encouragement throughout the writing of the thesis. In particular, I would like to thank Professor Gordon Murray, whose encouragement, guidance and support made this thesis possible.

My warmest thanks to my parents, for their endless support, love and care throughout my life. It is you selfless love that has constantly encouraged me to the end of one of the most challenging tasks in my life. Besides, I wish to thank my fiancée, Dr. Weixi Liu, whose love and continued support enable me to overcome the frustrations which occurred in the process of writing this thesis. With his company endorsement, I had a wonderful time during my studies in UK.

Last but not least, to many more there isn’t space to acknowledge, my deepest gratitude.
# Table of Contents

Abstract ........................................................................................................................... 1

Acknowledgement ............................................................................................................... 2

CHAPTER 1 Introduction ............................................................................................. 9
  1.1. Background and Motivation .............................................................................. 9
  1.2. Aims and objectives ......................................................................................... 11
  1.3. Thesis Structure ............................................................................................... 11

CHAPTER 2 An Overview of the Development of Foreign Direct Investment in China .............................................................................................................................. 14
  2.1. Introduction ...................................................................................................... 14
  2.2. FDI Policies in China ....................................................................................... 15
      2.2.1. The purpose of attracting FDI ............................................................... 15
      2.2.2. Different forms of FDI in China ............................................................... 17
      2.2.3. Evolution of FDI policies in China ........................................................... 19
  2.3. Key Characteristics and Dynamic of FDI Inflows in China ................. 23
  2.4. The impacts of FDI on China’s economy .................................................... 29

CHAPTER 3 Literature Review ................................................................................. 34
  3.1. Introduction ...................................................................................................... 34
  3.2. Review of Previous Empirical Studies on FDI Determinants ................. 35
      3.2.1. Tax ............................................................................................................ 36
      3.2.2. Exchange rate ........................................................................................... 52
      3.2.3. Labour costs ............................................................................................... 56
      3.2.4. Market ......................................................................................................... 57
      3.2.5. Infrastructure ............................................................................................... 58
      3.2.6. Trade .......................................................................................................... 59
  3.3. Conclusion ....................................................................................................... 60

CHAPTER 4 Research Methodology ......................................................................... 62
  4.1. Introduction ...................................................................................................... 62
4.2. Research Objectives ......................................................................................... 63
4.3. Data sources ..................................................................................................... 65
4.4. Sample Design ................................................................................................. 70
4.5. Analytical Approach ........................................................................................ 75
  4.5.1. Research approach selections ................................................................... 75
  4.5.2. Panel data analysis .................................................................................... 78
  4.5.3. Dynamic panel data models ...................................................................... 81
4.6. Conclusion ....................................................................................................... 82

CHAPTER 5 The Determinants of Geographical Location of FDI: An Empirical Analysis in China .......................................................................................................... 84
  5.1. Introduction ...................................................................................................... 84
  5.2. Tax Incentives for FDI ..................................................................................... 86
    5.2.1. Income tax laws for different forms of FDI ............................................. 86
    5.2.2. Special tax incentive zones in China ........................................................ 88
  5.3. Review of Related Previous Studies .............................................................. 90
    5.3.1. Tax and FDI inflows ................................................................................. 91
    5.3.2. Determinants of FDI in China ................................................................. 92
  5.4. The Theory of FDI Allocation Decisions ...................................................... 93
  5.5. Research Hypothesis and Model Specification ............................................... 96
    5.5.1. Hypotheses development ....................................................................... 96
    5.5.2. Estimation methods ................................................................................ 98
  5.6. Data and Sample Descriptives ..................................................................... 100
    5.6.1. Data and sample selection .................................................................... 101
    5.6.2. Descriptive statistics ............................................................................ 102
  5.7. Empirical Results ......................................................................................... 104
  5.8. Conclusions .................................................................................................. 111

CHAPTER 6 Determinants of FDI in China: A Sector Level Analysis ............ 114
  6.1. Introduction ................................................................................................... 114
List of Tables

Table 2.1 Advantages and disadvantages of different forms of FDI .............................. 19
Table 2.2 Special incentive zones in China ................................................................. 21
Table 2.3 Actual FDI by source country/territory ....................................................... 25
Table 2.4 Sector distribution of cumulative FDI ......................................................... 26
Table 2.5 Total investment in fixed assets (RMB 100M), 1981-2008 ......................... 31
Table 2.6 Total imports and exports by FIEs (USD 100M), 1986-2007 ....................... 32
Table 3.1 Summary of main empirical findings for exchange rate effects ............... 55
Table 4.1 Research objectives and the data required ............................................... 65
Table 4.2 Data sources for the China Economics Information and Statistics Database. 69
Table 4.3 Sample city selection ............................................................................... 72
Table 4.4 Distribution of sample cities ..................................................................... 73
Table 4.5 Summary of alternative approaches ......................................................... 77
Table 5.1 Different forms of FDI in China ................................................................. 87
Table 5.2 Tax incentive for FIEs ............................................................................. 88
Table 5.3 Investment incentive zones and their concessionary tax rates ................ 90
Table 5.4 The possible non-tax determinants of FDI distribution ............................ 95
Table 5.5 The proportion of economic activity represented by sample cities .......... 102
Table 5.6 Descriptive statistics ............................................................................. 103
Table 5.7 Pair-wise correlation coefficients between variables .............................. 104
Table 5.8 Pooled regressions: Determinants of FDI ............................................... 107
Table 5.9 Panel data regressions: Determinants of FDI .......................................... 109
Table 5.10 Dynamic panel data regressions: Determinants of FDI .......................... 112
Table 6.1 Sector distribution of FDI in China .......................................................... 120
Table 6.2 Descriptive statistics: pooled sample ...................................................... 131
Table 6.3 Descriptive statistics for regression variables by sector .......................... 133
Table 6.4 Static panel data regression: FDI sector choice ...................................... 136
Table 6.7 Dynamic panel data regression: Elasticity analysis .............................. 142
Table 6.8 Summary of hypotheses and empirical results ..................................... 143
Table 7.1 Previous researches dealing with FDI crowding effects and their results... 149
Table 7.2 Descriptive statistics ............................................................................ 158
Table 7.3 Dynamic panel data regression: regional level data analysis ............... 161
Table 7.4 Regional level analysis: Long-term effects of FDI on domestic investment 163
Table 7.5 Dynamic panel data regression: sectoral level data analysis ..................... 165
Table 7.6 Sectoral level analysis: Long-term effects of FDI on domestic investment. 166
List of Figures

Figure 2.1 FDI inflows from 1979 to 2010 ................................................................. 24
Figure 2.2 Distribution of FDI by Sector (%) ......................................................... 26
Figure 2.3 Regional distribution of FDI in China .................................................. 28
Figure 2.4 Forms of FDI in China ........................................................................... 29
Figure 2.5 Growth of FDI and GDP ....................................................................... 30
Figure 4.1 Sector distribution of FDI in 1991 and 2007 ......................................... 74
Figure 7.1 Overview of utilisation of foreign capitals in China............................ 151
Figure 7.2 Sector distribution of FDI and total investment in China ..................... 153