

# CONTENTS

---

| <i>List of tables</i> |   | <i>page</i> | <i>v</i>  |
|-----------------------|---|-------------|-----------|
| <b>CHAPTER 1</b>      | <b>Introduction</b>   |             | <b>1</b>  |
| 1.1                   | Background of Taiwan's Midstream Petrochemical Industry       |             | 1         |
| 1.2                   | Purpose and Framework of the Dissertation                     |             | 2         |
| <b>CHAPTER 2</b>      | <b>Profitability, Concentration, Import and Export Shares</b> |             | <b>7</b>  |
| 2.1                   | Introduction  |             | 7         |
| 2.2                   | The Model   |             | 9         |
| 2.2.1                 | Theoretical Model   |             | 9         |
| 2.2.2                 | Comparative Static Analysis                                   |             | 13        |
| 2.3                   | Empirical Specification and Results                           |             | 20        |
| 2.3.1                 | Empirical Model   |             | 20        |
| 2.3.2                 | Data Description and Estimation Procedure                     |             | 21        |
| 2.3.3                 | Empirical Results   |             | 22        |
| 2.4                   | Conclusions   |             | 24        |
|                       | Appendix 2A   |             | 28        |
|                       | Appendix 2B   |             | 32        |
|                       | Appendix 2C   |             | 36        |
| <b>CHAPTER 3</b>      | <b>Profitability, Concentration and Openness</b>              |             | <b>37</b> |
| 3.1                   | Introduction  |             | 22        |
| 3.2                   | The Model   |             | 37        |
| 3.2.1                 | Theoretical Model   |             | 38        |
| 3.2.2                 | Comparative Static Analysis                                   |             | 39        |
| 3.3                   | Empirical Model   |             | 45        |
| 3.4                   | Data Description and Empirical Results                        |             | 47        |
| 3.4.1                 | Data Description and Estimation Procedure                     |             | 47        |
| 3.4.2                 | Empirical Results   |             | 48        |
| 3.5                   | Conclusions   |             | 50        |
|                       | Appendix 3A   |             | 53        |
|                       | Appendix 3B   |             | 55        |
| <b>CHAPTER 4</b>      | <b>Exchange Rate Pass-Through and Market Power</b>            |             | <b>57</b> |
| 4.1                   | Introduction  |             | 57        |
| 4.2                   | Theoretical Model   |             | 60        |
| 4.3                   | Empirical Model and Results                                   |             | 64        |
| 4.3.1                 | Specification   |             | 64        |

|                  |                           |           |
|------------------|---------------------------|-----------|
| 4.3.2            | Data Description          | 65        |
| 4.3.3            | Empirical Results         | 65        |
| 4.4              | Conclusions               | 67        |
| <b>CHAPTER 5</b> | <b>Concluding Remarks</b> | <b>74</b> |
|                  | <i>References</i>         | 77        |

## TABLES

---

|           |   |    |
|-----------|---|----|
| Table 1.1 | Product Values of the Petrochemical Related Industries, Chemical Materials and Manufacturing Sector in Taiwan, 1986-2004                          | 4  |
| Table 1.2 | Domestic Firms' <i>PCM</i> , Domestic Concentration, Import Share and Export Share for 21 Midstream Petrochemical Industries in Taiwan, 1986-2002 | 5  |
| Table 1.3 | Domestic Firms' <i>PCM</i> , Domestic Concentration and Openness for 21 Midstream Petrochemical Industries in Taiwan, 1986-2002                   | 6  |
| Table 2.1 | Computation of Relevant Variables and Data Sources  | 26 |
| Table 2.2 | Regression Results  | 27 |
| Table 3.1 | Regression Results  | 52 |
| Table 4.1 | Values of Import and Export for 21 Midstream Petrochemical Industries, 1986-2004  | 69 |
| Table 4.2 | Exchange Rate and Values of Import and Export , 1986-2004   | 70 |
| Table 4.3 | Values of Import for 21 Midstream Petrochemical Industries from the US and Japan in Taiwan, 1986-2002   | 71 |
| Table 4.4 | OLS Estimates of the Pass-Through Equation  | 72 |
| Table 4.5 | OLS Estimates Including Nonlinear Terms of Taylor Series Expansion  | 73 |