

5-2013

# CORPORATE INCOME TAX AND INVESTMENT: EVIDENCE FROM PANEL DATA IN 22 OECD COUNTRIES

Byung gyu Jeong

Clemson University, byunggyu.jeong@gmail.com

Follow this and additional works at: [https://tigerprints.clemson.edu/all\\_theses](https://tigerprints.clemson.edu/all_theses)

 Part of the [Economics Commons](#)

---

## Recommended Citation

Jeong, Byung gyu, "CORPORATE INCOME TAX AND INVESTMENT: EVIDENCE FROM PANEL DATA IN 22 OECD COUNTRIES" (2013). *All Theses*. 1620.

[https://tigerprints.clemson.edu/all\\_theses/1620](https://tigerprints.clemson.edu/all_theses/1620)

This Thesis is brought to you for free and open access by the Theses at TigerPrints. It has been accepted for inclusion in All Theses by an authorized administrator of TigerPrints. For more information, please contact [kokeefe@clemson.edu](mailto:kokeefe@clemson.edu).

CORPORATE INCOME TAX AND INVESTMENT: EVIDENCE FROM PANEL  
DATA IN 22 OECD COUNTRIES

---

A Thesis  
Presented to  
the Graduate School of  
Clemson University

---

In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts  
Economics

---

by  
Byung gyu Jeong  
May 2013

---

Accepted by:  
Dr. William Dougan, Committee Chair  
Dr. Robert Fleck  
Dr. Kevin Tsui

## ABSTRACT

Using panel data for 22 OECD countries during 1985-2010 and 1970-2010, the author re-evaluates the existing evidence on the effects of corporate income taxes on four kinds of investments: foreign direct investment inflows, net domestic investment, total investment, and foreign direct investment outflows. The corporate income tax rate with a one-year lag has a statistically significant and negative effect on foreign direct investment inflows, but it has no clear relationship with the other three types of investments. This finding suggests that investment from the corporate sector will go to the domestic non-corporate sector in order to equalize the actual rate of return across the corporate and non-corporate sectors because (1) residential investment by households is not affected by the corporate income tax, and the housing market may be booming in the same period, and (2) foreign direct investment is mostly corporate investment, while domestic investment is more evenly split between the corporate and non-corporate sectors. This suggestion is consistent with economic theory, notably Harberger (1962).

## DEDICATION

I would like to dedicate this thesis to my spouse, Boyeon Yun, who has shown infinite love and support. I am extremely grateful for all her devotion.

## ACKNOWLEDGMENTS

I am deeply grateful to my advisor, Dr. William Dougan, who has shown infinite patience and professional guidance. Also, I am very thankful for having received infinite advice and help from my committee members, Dr. Robert Fleck and Dr. Kevin Tsui.

## TABLE OF CONTENTS

	Page
TITLE PAGE .....	i
ABSTRACT .....	ii
DEDICATION .....	iii
ACKNOWLEDGMENTS .....	iv
LIST OF TABLES .....	vi
LIST OF FIGURES .....	vii
CHAPTER	
I.    INTRODUCTION .....	1
II.   PRIOR LITERATURE AND THEORETICAL FOUNDATIONS .....	2
III.  DATA AND MODEL FORMULATION .....	5
Panel Data Model .....	7
IV.  RESULTS AND ANALYSIS .....	9
V.   CONCLUSION .....	12
APPENDICES .....	14
A:   Tables .....	15
B:   Figures .....	25
C:   Mathematical Approach .....	34
REFERENCES .....	35

## LIST OF TABLES

Table		Page
A-1	Summary of Variables .....	15
A-2	Data Sources .....	18
A-3	Descriptive Statistics During 1985-2010 .....	19
A-4	Foreign Direct Investment Inflows and Corporate Income Tax: Cross-Country Comparison during 1985-2010.....	20
A-5	Net Domestic Investment and Corporate Income Tax: Cross-Country Comparison during 1985-2010.....	21
A-6	Total Investment and Corporate Income Tax: Cross-Country Comparison during 1985-2010.....	22
A-7	Foreign Direct Investment Outflows and Corporate Income Tax: Cross-Country Comparison during 1985-2010.....	23
A-8	Corporate Income Tax and Investments: Cross-Country Comparison during 1970-2010 .....	24

## LIST OF FIGURES

Figure		Page
B-1	Total Investment in a Country .....	25
B-2	Time Trend of Both Total Investment are Corporate and Non-Corporate ..	26
B-3	Time Trend of Foreign Direct Investment are Corporate & Non-Corporate .....	27
B-4	Time Trend of South Korea's Foreign Direct Investment are Corporate ....	28
B-5	Time Trend of Corporate Income Tax by Country .....	29
B-6	Time Trend of log(Foreign Direct Investment Inflows) by Country .....	30
B-7	Time Trend of log(Net Domestic Investment) by Country .....	31
B-8	Time Trend of log(Total Investment) by Country .....	32
B-9	Time Trend of log(Foreign Direct Investment Outflows) by Country .....	33



## CHAPTER ONE

### INTRODUCTION

Economists have long recognized that corporate income taxes affect the investment decisions of corporations. Jorgenson (1963) designed the neoclassical theory of investment, in which the cost of capital plays a more vital role in these decisions than in the simple accelerator model. Economic policymakers have sometimes constructed tax policy on the strength of this economic point of view. In particular, since the 1980s, the main reason that many countries have reduced the corporate income tax burden has been to increase domestic investment and economic growth.

Empirical studies conducted since the 1980s do not generally provide support for the neoclassical model, however. In many studies analyzing the impact of variation in the after-tax rate of return of investment on investment behavior, it is difficult to find a statistically significant effect. Even in those studies that find a significant effect the magnitude of the impact is slight, especially in the short run.

I investigate the relationship between corporate income-tax rates and four categories of investment—foreign direct investment inflows, net domestic investment, total investment, and foreign direct investment outflows—for 22 OECD countries in order to capture differences in foreign investment, domestic investment, and total investment, respectively, as a reaction to corporate income tax. Chapter 2 briefly summarizes the prior literature and theoretical foundations. Chapter 3 describes the data and panel model formulations used in this study. Chapter 4 presents and analyzes the empirical findings, and Chapter 5 concludes.

## CHAPTER TWO

### PRIOR LITERATURE AND THEORETICAL FOUNDATIONS

The most common model of investment theory is the neoclassical model of investment developed by Jorgenson (1963). In this model, firms decide on their investments by comparing the benefits and costs of owning capital. Each firm's investment level is determined on the basis of the marginal product of capital, the depreciation rate, the interest rate, and the tax rate. Firms invest as long as marginal benefits exceed marginal costs.

The tax on the net income of a corporation increases the cost of that firm's investment, while an investment tax credit or a depreciation allowance decrease the cost of investment (Hall and Jorgenson, 1967). A related idea from another important investment theory (q-theory) is that the stock-market valuation of corporate capital indicates the present value of future dividend flow (Summers, 1981).

The empirical studies of Hall and Jorgenson (1967), Eisner (1969, 1970), Eisner and Nadiri (1968), and Chirinko and Eisner (1983) conclude that production and sales variables have a close connection with investment, while finding little effect of interest rates and corporate income tax rates.

Since the 1990s, prior theoretical analyses have been called into question because of important omitted channels between the corporate income tax and the investment behavior of corporations. For example, Caballero (1994) and Cummins, Hassett, and Hubbard (1994) re-evaluate the impact of after-tax returns on investment using new techniques and various data about investment in an effort to remedy the problems of

earlier empirical studies. Still, there is no study that clearly identifies the relationship between a change in the corporate income tax rate and the total level of investment in an economy. For purposes of policy design and debate, a reliable estimate of this relationship is essential. To shed new light on this topic, I investigate the effect of the corporate income tax on four distinct categories of investment—inflows and outflows of foreign direct investment, investment within each country from domestic sources, and total investment by domestic entities either at home or abroad. An analysis of panel data from 22 OECD countries during the sample periods 1985-2010 and 1970-2010 shows a clear difference in the responsiveness of these categories to corporate taxation, with a very high semi-elasticity of inflows of foreign direct investment inflows and a significant semi-elasticity of investment from domestic sources.

### *THEORETICAL FOUNDATIONS*

This study treats the corporate income tax rate as exogenously determined. In an economy that is a price taker in the world capital market, the after-tax rate of return varies inversely and one-to-one with the tax rate on capital (Harberger 1995, 2008) when capital is freely mobile factor between countries. Within a country, increases in the corporate income tax rate will induce capital to shift from the corporate sector to the non-corporate sector to the point until real rates of return are equalized between the two sectors. Therefore, I expect to find that increases in the corporate tax rate cause a decline in the (mostly corporate) level of foreign direct investment and an ambiguous effect on domestic investment, which is more heavily weighted toward the non-corporate sector. I

focus on FDI rather than all corporate investment because of its presumptively high degree of mobility and its consequent importance for tax policy.

Figure B-1 shows total investment in a country. The figure represents some basic patterns in the investment data for 22 OECD countries. Figure B-2 shows the trend over time of the average percentages of total corporate and total non-corporate investment for the 22 OECD countries. The figure is based on the ratio of real gross private non-residential gross fixed capital formation and gross fixed capital formation data from OECD statistics. The figure shows that total investments are very evenly split between the corporate and non-corporate sectors. Figure B-3 shows the trend over time of average percentages of foreign direct corporate and non-corporate investment for the 22 OECD countries. Figure B-4 shows the trend over time of South Korea's foreign direct corporate investment outflows. The figure shows that foreign direct investment is almost entirely corporate, as an anecdotal piece of evidence. Figures B-1 through B-4 suggest that foreign direct investment is mostly corporate investment, while domestic investment is more evenly split between the corporate and non-corporate sectors.

To recapitulate, I expect that (1) because foreign direct investment is mostly corporate investment, *inflows* will react significantly and negatively to the corporate income tax rate, and (2) because domestic investment is more evenly split between the corporate and non-corporate sectors, its response to changes in the corporate tax rate is ambiguous. (For a detailed explication see *Appendix C*).

## CHAPTER THREE

### DATA AND MODEL FORMULATION

I combined the OECD tax database and the World Bank tax database in order to get the statutory corporate income tax rate for each of 22 OECD countries<sup>1</sup> during 1970-2010. Where data are missing I use linear approximation to complete the panel. The corporate income tax rate is calculated as the combined central government tax rate and sub-central government tax rate, if any. One-, two-, and three-year lags in the response of investment to tax-rate changes are considered in order to reflect economic reality.

Data on the four categories of investment come from UNCTAD-FDI statistics and the IMF database. Foreign direct investment inflows and outflows<sup>2</sup> from UNCTAD-FDI statistics are measured in U.S. dollars at current prices and current exchange rates. Total investment (TI) from domestic sources consists of gross capital formation<sup>3</sup> (=gross

---

<sup>1</sup> The 22 OECD countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, South Korea, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Great Britain, and the United States.

<sup>2</sup> Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy (“direct investor”) and an entity resident in an economy other than that of the investor (“direct investment enterprise”). The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise. Direct investment involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated.

<sup>3</sup> Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress." According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.

domestic investment) and foreign direct investment outflows (FDIO). Net domestic investment (NDI) is used to capture the purely domestic component of investment. NDI is calculated by subtracting foreign direct investment inflows (FDII) from gross capital formation. These main four dependent variables (FDII, TI, NDI, FDIO) are measured in logarithms.

In a modification of Slemrod (1990), I use as control variables the log of GDP and the real exchange rate of the U.S. dollar against a GDP-weighted average of the investing countries' currencies to capture the effect of changes in relative production costs in the United States, which is a major source of FDI inflows for the countries in my sample. As further controls I include observations of labor productivity per unit labor input (2005=100), multi-factor productivity (%), a business confidence indicator (lagged one year), and unit labor cost (2005=100) as control variables.

The labor productivity measure (LP) comes from the OECD database and is defined as real output divided by total labor input. The total labor input measure is total hours worked by employment. The multi-factor productivity is computed as the difference between the rate of change of output and the rate of change of total inputs: Shares of compensation of labor input and of capital inputs in total costs for the total economy are measured at current prices and total inputs are calculated as volume indices of combined labor and capital inputs for the total economy. The indices have been constructed as weighted averages of the rate of change of total hours worked and the rate of change of capital services. Cost shares of inputs averaged over the two periods under consideration serve as weights, corrected for overall inflation in each country.

To allow for an influence of the expectation of future demand, I use the OECD business confidence indicator in which respondents are asked about their assessments of the current situation and expectations for the immediate future. This is a leading indicator of turning points in aggregate economic activity as measured by GDP or industrial production.

In order to capture the effect of changes in relative production costs, I use the real effective exchange rate from the World Bank database that is made by dividing the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) by a price deflator or index of costs. To capture expected technology change, I use gross domestic expenditure on R&D, as reported in the OECD database. Gross domestic product data come from the World Bank database. Finally, I use the unit labor cost (2005=100) from the OECD database in order to control labor cost. Table A-1 summarizes all variables used in this study.

### *PANEL DATA MODEL*

The panel data model is as follows:

$$\ln(\text{Investment}_{i,t}) = \alpha_i + \beta_1(\text{CIT}_{i,t-1}) + \beta_2(\text{CIT}_{i,t-2}) + \beta_3(\text{CIT}_{i,t-3}) + \gamma X_{i,t} + \varepsilon_{i,t}$$

$$i = 1, \dots, 22$$

$$t = 1985, \dots, 2010$$

$$t = 1970, \dots, 2010$$

$\ln(\text{Investment}_{i,t})$  is the dependent variable observed for individual country  $i$  at time  $t$ ,

$\text{CIT}_{i,t-1}$  is the main corporate-tax-rate variable observed for individual country  $i$  at time

$t-1$ ,  $X_{i,t}$  is the time-varying control variables matrix,  $\alpha_i$  is the country-specific effect, and  $\varepsilon_{i,t}$  is the error term.

I used the fixed effects model to analyze the panel data to deal with the problem of unobserved heterogeneity, rather than the random effect model through the Hausman-Wu test (p-value is even lower than 1%). The fixed-effects model identifies the relationship between independent and dependent variables within a country. Each country has its own individual characteristics that may or may not be fully reflected by the independent variables. Unobserved influences within each individual country might impact or bias the estimated coefficients of the regressors, which is the rationale behind the assumption of possible correlation between the country's error term and independent variables. The fixed-effects model can remove the effect of those time-invariant characteristics from the independent variables; thus I would be able to assess the regressors' net effects. Another assumption of the fixed-effects model is that time-invariant characteristics are unique to the country and should not be correlated with other individual characteristics. Each country is different, and therefore the country's error term and the constant should not be correlated with the others.



## CHAPTER FOUR

### RESULTS AND ANALYSIS

First, Table A-3 summarizes descriptive statistics. The time trend of the corporate income tax by country in the Figure B-5 shows a downward trend as a whole while the trends of the corporate income taxes of Norway, Spain, and Switzerland appear to be flat. Table A-4 shows that the corporate income tax rate with a one-year lag has a statistically significant negative effect on foreign direct investment inflows at all columns with a high significance level. The significant negative effect is consistent with the assumption that investment is responding to exogenous changes in tax rates. Column 10 in the table shows that if the corporate income tax rate with a one-year lag increases by one percentage point, then the foreign direct investment inflows decrease by 5.16%<sup>4</sup>, all other things being equal.

Also, the coefficients on the corporate income tax rates with a one-year, two-year, and three-year lag show that their magnitude and significance decrease as the time interval increases, suggesting that the magnitude and negative significance are strong when the interval between the corporate income tax rate and foreign direct investment inflows is one year. Moreover, the f-statistics show whether all independent variables in the regression are jointly significant or not are all significant even at a 1% significance level. As expected, labor productivity, multi-factor productivity, the business confidence

---

<sup>4</sup> Mooij and Ederveen (2005) aims to explain the variation in empirical estimates in the literature on the elasticity of foreign direct investment with respect to company tax levels. The table 2.4 in the paper shows summary results from panel data studies. The mean of semi-elasticity is -2.94 that is lower than that of -5.16 in this study.

indicator, and gross domestic expenditure on R&D show positive significance, while the real effective exchange rate shows negative significance.

Comparing Table A-4 with Table A-5, corporate income tax with a one-year lag has a partially statistically significant and positive effect on net domestic investment only with the multi-factor productivity control variable and is not significant without that variable. These results from Tables A-4 and A-5 combined with Figures B-1 through B-4 suggest that corporate income from the corporate sector goes to the domestic non-corporate sector in order to equalize the actual rate of return across corporate and non-corporate sectors under the corporate income tax burden since (1) residential investment by households is not affected by corporate income tax, and the housing market is booming in the same period on average, and (2) foreign direct investment is mostly corporate investment, while domestic investment is more evenly split between the corporate and non-corporate sectors.

Second, Tables A-5, A-6, and A-7 show that the effects of the corporate income tax rate with one-year, two-year, and three-year lags on net domestic investment, total investment, and foreign direct investment outflows are not significant in gross and do not have a clear directional relationship in gross relative to foreign direct investment inflows. Table A-8 shows the relationship between corporate income tax and four kinds of investments by running panel data for 1970-2010 with the same specification in Tables A-4 to A-7 except that control variables are unit labor costs and the logarithm of gross domestic product, because of data availability.

The significant and negative relationship between foreign direct investment inflows and the corporate income tax rate with one-year lag for the period 1970-2010 is identical to the result of the sample period 1985-2010. Also, effects of the corporate income tax rate with one-year, two-year, and three-year lags on net domestic investment, total investment, and foreign direct investment outflows do not have any clear directional relationship in gross relative to foreign direct investment inflows. This result is also consistent with that of the sample period 1985-2010. As expected, the coefficient of unit labor cost shows a negative association with foreign direct investment inflows, and it shows a positive relationship with foreign direct investment outflows. Moreover, the logarithm of gross domestic product representing the degree of attractiveness of investment shows a positive relationship across all kinds of investments. The results in Table A-8 are more robust in gross than those for the original sample period of 1985-2010 in terms of within R-squared, the F-statistic of joint significance, and the number of observations.

## CHAPTER FIVE

### CONCLUSION

This study used panel data for 22 OECD countries during 1985-2010 and 1970-2010 in order to estimate the effects of corporate income taxation on four types of investments—foreign direct investment inflows, net domestic investment, total investment, and foreign direct investment outflows. Investment was divided into foreign investment, domestic investment, and total investment conceptually in order to capture the difference in foreign investment, domestic investment, and total investment, respectively, as a reaction to corporate income tax. The results show that the corporate income tax with a one-year lag has a statistically significant and negative effect on foreign direct investment inflows but that it has no clear relationship with the other three types of investments.

This key finding suggests that investment from the corporate sector will go to the domestic non-corporate sector in order to equalize the actual rate of return across corporate and non-corporate sectors because (1) residential investment by households is not affected by the corporate income tax, and the housing market is booming in the same period, and (2) foreign direct investment is mostly corporate investment, while domestic investment is more evenly split between the corporate and non-corporate sectors. Under strong assumption (*Appendix C*), the rate of change of total capital in the corporate sector will be equal to the rate of change of capital in the foreign corporate sector. Moreover, the large semi-elasticity of foreign direct investment inflows with respect to corporate

income tax in this study suggests that policymakers need to pay attention to the foreign investments that are volatile now, in order to satisfy sufficient total capital.

## APPENDICES

Appendix A

Table A-1: Summary of Variables

Name	Code	Source	Description	Note
<u>Dependent variables</u>				
Foreign Direct Investment inflows (log of level)	FDII	UNCTAD FDI-Stat	International investment that reflects the objective of a resident entity in one economy to obtain a lasting interest in an enterprise resident in another economy.	US Dollars at current prices and current exchange rates
Net domestic investment (log of level)	NDI	IMF Database, UNCTAD FDI-Stat	Net domestic investment = Gross capital formation – Foreign direct investment inflows. Own calculation.	US Dollars at current prices and current exchange rates
Total Investment (log of level)	TI	IMF Database, UNCTAD FDI-Stat	Total investment = Gross capital formation (gross domestic investment) + Foreign direct investment outflows. Total investment = Net domestic investment + Foreign direct investment inflows + Foreign direct investment outflows. Own calculation.	US Dollars at current prices and current exchange rates
Foreign Direct Investment outflows (log of level)	FDIO	UNCTAD FDI-Stat	International investment that reflects the objective of a resident entity in one economy to obtain a lasting interest in an enterprise resident in another economy.	US Dollars at current prices and current exchange rates
<u>Main independent variable</u>				
Top statutory corporate income tax rate (%)	CIT	OECD Tax Database World Tax database	Taxes on the income of corporations. The basic combined central and sub-central (statutory) corporate income tax rate given by the adjusted central government rate plus the sub-central rate.	Combined corporate income tax rate = adjusted central government corporate income tax rate + sub-central government corporate income tax rate (if any)
<u>Control variables</u>				

Labor productivity per unit labor input (2005=100)	LP	OECD Database	Defined as real output divided by total labour input. The total labor input measure used is total hours worked by employment
Multi-factor productivity (%)	MFP	OECD Database	Multi-factor Productivity for the total economy, computed as the difference between the rate of change of output and the rate of change of total inputs; shares of compensation of labour input and of capital inputs in total costs for the total economy measured at current prices.
Business confidence indicator (T-1)	BCI	OECD Database	Business and consumer opinion (tendency) surveys provide qualitative information that has proved useful for monitoring the current economic situation. Typically they are based on a sample of enterprises or households and respondents are asked about their assessments of the current situation and expectations for the immediate future. For enterprise surveys this concerns topics such as production, orders, stocks etc. and in the case of consumer surveys their intentions concerning major purposes, economic situation now compared with the recent past and expectations for the immediate future. Many survey series provide advance warning of turning points in aggregate economic activity as measured by GDP or industrial production. Such series are known as leading indicators in cyclical analysis. These types of survey series are widely used as component series in composite leading indicators.
Real effective exchange rate (2005=100)	REER	World Bank Database	Nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs

amplitude adjusted, long-term average=100, seasonal adjusted



Gross domestic expenditure on R&D (log of level)	RD	OECD Database		Current PPP \$
Gross domestic product (log of level)	GDP	World Bank Database	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.	Current US \$
Unit Labor Cost (2005=100)	ULC	OECD Database	In broad terms, unit labour costs show how much output an economy receives relative to wages, or labour cost per unit of output. ULCs can be calculated as the ratio of labour compensation to real GDP. It is also the equivalent of the ratio between labour compensation per labour input (per hour or per employee) worked and labour productivity . ULCs should not be interpreted as a comprehensive measure of competitiveness, but as a reflection of cost competitiveness. Unit labour cost measures deal exclusively with the cost of labour, which though important, should also be considered in relation to changes in the cost of capital, especially in advanced economies.	

Sources are UNCTAD FDI Database, IMF Database, OECD Database, OECD Tax Database, World Tax Database, and World Bank Database.

## Table A-2: Data Sources

The following sources were used:

- 
- (1) United Nations Conference on Trade and Development Foreign Direct Investment Database:  
[http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx?sRF\\_ActivePath=P,5,27&sRF\\_Expanded=P,5,27](http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx?sRF_ActivePath=P,5,27&sRF_Expanded=P,5,27)

---

  - (2) International Monetary Fund Database:  
<http://www.imf.org/external/pubs/ft/weo/2013/01/weodata/download.aspx>

---

  - (3) Organization for Economic Co-operation and Development Database:  
<http://stats.oecd.org/>

---

  - (4) Organization for Economic Co-operation and Development Tax Database:  
<http://www.oecd.org/tax/tax-policy/oecdtaxdatabase.htm>

---

  - (5) World Tax Database:  
<http://www.bus.umich.edu/otpr/otpr/default.asp>

---

  - (6) World Bank Database:  
<http://databank.worldbank.org/data/databases.aspx>

---

  - (7) Overseas Direct Investment Statistics Yearbook 2006: The Export-Import Bank of Korea.  
<http://www.koreaexim.go.kr/kr/work/check/oversea/use.jsp>

---

  - (8) Organization for Economic Co-operation and Development Glossary:  
<http://stats.oecd.org/glossary/>

---

  - (9) International Monetary Fund Statistics Manuals and Guides  
<http://www.imf.org/external/data.htm#guide>

---

  - (10) United Nations Conference on Trade and Development Training Manual on Statistics for Foreign Direct Investment and the Operations of TNCs:  
[http://unctad.org/en/Docs/diaeia20091\\_en.pdf](http://unctad.org/en/Docs/diaeia20091_en.pdf)

---

  - (11) World Bank Data Catalog:  
<http://datacatalog.worldbank.org/>
-

Table A-3 : Descriptive Statistics during 1985-2010

Variable	Obs	Mean	SD	Min	Max
Log Foreign Direct Investment Inflows	545	22.51	1.69	17.54	26.47
Log Net Domestic Investment	564	25.13	1.39	18.26	28.53
Log Total Investment	568	25.40	1.32	22.41	28.75
Log Foreign Direct Investment Outflows	545	22.81	1.86	16.15	26.70
Corporate Tax Rate	572	33.68	9.55	8.5	61.75
Labor Productivity	549	87.94	13.36	36.05	125.11
Multi-Factor Productivity	457	1.19	1.66	-7.6	7.6
Business Confidence Indicator	513	99.98	1.78	91.50	112.70
Real Effective Exchange Rate	546	98.45	10.05	71.61	136.79
Log Gross Domestic Expenditure on R&D	557	8.86	1.59	5.45	12.91
Log Gross Domestic Product	572	26.78	1.33	23.75	30.30
Unit Labor Cost (2005=100)	874	69.93	31.41	1.48	136.65

Note : Unit labor cost (2005=100) covers sample period 1970-2010. Sources are UNCTAD FDI Database, IMF Database, OECD Database, OECD Tax Database, World Tax Database, and World Bank Database.

**Table A-4 : Foreign Direct Investment Inflows and Corporate Income Tax: Cross-Country Comparison during 1985-2010**

Independent variable	Dependent variable is log (Foreign Direct Investment inflows)										
	Fixed Effects										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Corporate Tax Rate (T-1)	-0.0417*** (-3.09)	-0.0377*** (-3.08)	-0.0604*** (-4.31)	-0.0328** (-2.50)	-0.0555*** (-3.70)	-0.0320** (-2.53)	-0.0544*** (-3.58)	-0.0315** (-2.51)	-0.0517*** (-3.49)	-0.0516*** (-3.47)	-0.0319*** (-2.58)
Corporate Tax Rate (T-2)	0.0224 (1.20)	0.0162 (0.97)	0.0286 (1.54)	0.0076 (0.41)	0.0169 (0.84)	0.0084 (0.48)	0.0179 (0.90)	0.0090 (0.52)	0.0176 (0.95)	0.0178 (0.97)	0.0091 (0.54)
Corporate Tax Rate (T-3)	-0.0122 (-0.84)	-0.0087 (-0.66)	-0.0046 (-0.32)	-0.0060 (-0.39)	0.0013 (0.08)	-0.0057 (-0.39)	-0.0005 (-0.03)	-0.0071 (-0.50)	0.0018 (0.13)	0.0003 (0.02)	-0.0067 (-0.48)
Labor productivity per unit labor input (2005=100)		0.0244*** (3.52)		0.0245*** (3.16)		0.0357*** (3.02)		0.0336*** (2.84)			0.0349*** (2.87)
Multi-factor productivity (%)			0.0556 (1.42)		0.0695* (1.74)		0.0697 (1.64)		0.0772* (1.78)	0.0769* (1.77)	
Business confidence indicator (T-1)				0.0916*** (4.58)	0.1034*** (5.40)	0.0749*** (3.64)	0.0990*** (4.83)	0.0668** (3.36)	0.0938*** (4.65)	0.0980*** (4.67)	0.0695*** (3.42)
Real effective exchange rate (2005=100)						-0.0140* (-1.76)	-0.0102 (-1.14)	-0.0164* (-1.91)	-0.0130 (-1.42)	-0.0011 (-0.09)	-0.0108 (-1.04)
LOG(Gross domestic expenditure on R&D)								0.2859 (1.10)	0.8737*** (2.79)	1.1440*** (3.40)	0.3662 (1.29)
LOG(GDP)										-0.7929* (-1.91)	-0.3573 (-0.89)
Year dummy	√	√	√	√	√	√	√	√	√	√	√
Within $R^2$	0.4619	0.4916	0.5015	0.4731	0.4852	0.4765	0.4831	0.4756	0.5019	0.5077	0.4769
F-statistic	7.17***	9.88***	6.71***	9.94***	10.39***	8.07***	8.26***	7.19***	8.74***	8.02***	6.22***
# of Observations	481	467	389	427	349	408	330	402	326	326	402

Notes for table A-4 to A-7: 22 OECD countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Great Britain, and the United States during 1985-2010. Control variables are labor productivity, multi-factor productivity, business confidence indicator with 1 year lag, real effective exchange rate, gross domestic expenditure on R&D, and gross domestic product. All regressions use fixed effects and year dummy. T-values in parenthesis are applied for robust estimate of the variance-covariance matrix of the estimator. \*\*\* P<0.01, \*\* P<0.05, \* P<0.1.

**Table A-5 : Net Domestic Investment and Corporate Income Tax: Cross-Country Comparison during 1985-2010**

Independent variable	Dependent variable is log (Net Domestic Investment)										
	Fixed Effects										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Corporate Tax Rate (T-1)	0.0037 (0.67)	0.0037 (0.66)	0.0124* (1.90)	0.0034 (0.58)	0.0120* (1.77)	0.0034 (0.65)	0.0111* (1.71)	0.0037 (0.70)	0.0124** (2.03)	0.0120** (2.41)	0.0063 (1.63)
Corporate Tax Rate (T-2)	-0.0031 (-0.41)	-0.0024 (-0.31)	-0.0082 (-0.83)	-0.0035 (-0.43)	-0.0089 (-0.87)	-0.0024 (-0.33)	-0.0079 (-0.86)	-0.0022 (-0.30)	-0.0067 (-0.74)	-0.0064 (-0.82)	-0.0024 (-0.44)
Corporate Tax Rate (T-3)	0.0031 (0.50)	0.0037 (0.60)	0.0020 (0.26)	-0.0032 (-0.48)	-0.0071 (-0.81)	-0.0025 (-0.44)	-0.0056 (-0.72)	-0.0024 (-0.43)	-0.0055 (-0.71)	-0.0007 (-0.09)	-0.0031 (-0.67)
Labor productivity per unit labor input (2005=100)		0.0014 (0.42)		0.0019 (0.48)		-0.0012 (-0.18)		-0.0036 (-0.56)			-0.0098 (-1.57)
Multi-factor productivity (%)			-0.0619*** (-4.42)		-0.0478*** (-3.64)		-0.0405*** (-3.47)		-0.0362*** (-2.94)	-0.0286*** (-2.99)	
Business confidence indicator (T-1)				-0.0011 (-0.10)	-0.0082 (-0.71)	0.0195 (1.39)	0.0121 (0.93)	0.0164 (1.14)	0.0108 (0.82)	0.0022 (0.20)	0.0054 (0.45)
Real effective exchange rate (2005=100)						0.0253*** (8.09)	0.0240*** (7.33)	0.0228*** (6.40)	0.0221*** (6.18)	-0.0043 (-1.24)	-0.0032 (-1.29)
LOG(Gross domestic expenditure on R&D)								0.3685*** (2.84)	0.4361** (2.22)	-0.2053 (-0.76)	-0.0457 (-0.32)
LOG(GDP)										1.7116*** (5.38)	1.6311*** (7.70)
Year dummy	√	√	√	√	√	√	√	√	√	√	√
Within $R^2$	0.2928	0.2818	0.2672	0.2825	0.2575	0.3845	0.3526	0.3844	0.3617	0.4771	0.5053
F-statistic	0.23	0.42	6.08***	0.28	4.12***	18.62***	14.45***	18.28***	19.38***	40.13***	54.62***
# of Observations	498	484	402	442	360	423	341	417	337	337	417

Notes for table A-4 to A-7: 22 OECD countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Great Britain, and the United States during 1985-2010. Control variables are labor productivity, multi factor productivity, business confidence indicator with 1 year lag, real effective exchange rate, gross domestic expenditure on R&D, and gross domestic product. All regressions use fixed effects and year dummy. T-values in parenthesis are applied for robust estimate of the variance-covariance matrix of the estimator. \*\*\* P<0.01, \*\* P<0.05, \* P<0.1.

**Table A-6 : Total Investment and Corporate Income Tax: Cross-Country Comparison during 1985-2010**

Independent variable	Dependent variable is log (Total Investment)										
	Fixed Effects										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Corporate Tax Rate (T-1)	-0.0001 (-0.03)	-0.00003 (-0.01)	0.0029 (0.58)	-0.0014 (-0.32)	0.0003 (0.06)	-0.0008 (-0.24)	-0.0003 (-0.08)	-0.0007 (-0.20)	0.0019 (0.49)	0.0020 (0.73)	0.0014 (0.70)
Corporate Tax Rate (T-2)	0.0034 (0.67)	0.0037 (0.71)	0.0016 (0.25)	0.0018 (0.35)	-0.0002 (-0.04)	0.0020 (0.45)	-0.0002 (-0.04)	0.0024 (0.57)	0.0018 (0.42)	0.0023 (0.73)	0.0025 (1.02)
Corporate Tax Rate (T-3)	0.0001 (0.03)	0.0012 (0.29)	-0.0010 (-0.21)	-0.0018 (-0.42)	-0.0049 (-0.98)	0.0003 (0.09)	-0.0028 (-0.65)	0.0005 (0.14)	-0.0026 (-0.78)	-0.0003 (-0.13)	-0.0005 (-0.22)
Labor productivity per unit labor input (2005=100)		0.0053** (2.13)		0.0057* (1.91)		0.0095** (2.56)		0.0067** (2.03)			0.0020 (0.91)
Multi-factor productivity (%)			-0.0250** (-2.53)		-0.0126 (-1.32)		-0.0038 (-0.42)		0.0041 (0.50)	0.0071 (0.94)	
Business confidence indicator (T-1)				0.0212*** (2.63)	0.0104 (1.32)	0.0355*** (4.58)	0.0286*** (4.14)	0.0318*** (4.41)	0.0263*** (4.26)	0.0217*** (4.18)	0.0245*** (4.36)
Real effective exchange rate (2005=100)						0.0197*** (13.66)	0.0196*** (12.32)	0.0169*** (11.44)	0.0165*** (11.50)	0.0011 (0.71)	-0.0014 (-0.92)
LOG(Gross domestic expenditure on R&D)								0.4426*** (4.46)	0.7456*** (9.28)	0.3687*** (5.07)	0.1578** (2.06)
LOG(GDP)										1.0043*** (10.39)	1.1424*** (13.43)
Year dummy	√	√	√	√	√	√	√	√	√	√	√
Within $R^2$	0.6724	0.6667	0.6514	0.6745	0.6506	0.7707	0.7542	0.7882	0.8080	0.8678	0.8681
F-statistic	0.45	2.13*	2.06*	2.37**	1.18	40.37***	28.37***	33.79***	46.65***	90.14***	83.66***
# of Observations	506	492	409	449	366	430	347	424	343	343	424

Notes for table A-4 to A-7: 22 OECD countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Great Britain, and the United States during 1985-2010. Control variables are labor productivity, multi factor productivity, business confidence indicator with 1 year lag, real effective exchange rate, gross domestic expenditure on R&D, and gross domestic product. All regressions use fixed effects and year dummy. T-values in parenthesis are applied for robust estimate of the variance-covariance matrix of the estimator. \*\*\* P<0.01, \*\* P<0.05, \* P<0.1.

**Table A-7 : Foreign Direct Investment Outflows and Corporate Income Tax: Cross-Country Comparison during 1985-2010**

Independent variable	Dependent variable is log (Foreign Direct Investment outflows)										
	Fixed Effects										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Corporate Tax Rate (T-1)	0.0043 (0.22)	0.0041 (0.23)	0.0047 (0.20)	-0.0037 (-0.24)	-0.0078 (-0.38)	-0.0015 (-0.10)	-0.0056 (-0.28)	-0.0011 (-0.07)	-0.0011 (-0.05)	-0.0011 (-0.06)	-0.0005 (-0.03)
Corporate Tax Rate (T-2)	0.0170 (0.63)	0.0176 (0.69)	0.0093 (0.28)	0.0083 (0.33)	-0.0042 (-0.13)	0.0076 (0.31)	-0.0056 (-0.17)	0.0104 (0.42)	-0.0020 (-0.06)	-0.0018 (-0.06)	0.0105 (0.43)
Corporate Tax Rate (T-3)	-0.0190 (-0.96)	-0.0117 (-0.61)	-0.0161 (-0.67)	-0.0031 (-0.17)	-0.0026 (-0.11)	-0.0022 (-0.11)	-0.0043 (-0.18)	-0.0023 (-0.13)	-0.0034 (-0.15)	-0.0026 (-0.11)	-0.0026 (-0.14)
Labor productivity per unit labor input (2005=100)		0.0293*** (4.39)		0.0292*** (3.94)		0.0367*** (3.01)		0.0285** (2.41)			0.0268** (2.27)
Multi-factor productivity (%)			0.0259 (0.94)		0.0531* (1.90)		0.0635** (2.25)		0.0759*** (2.59)	0.0767*** (2.60)	
Business confidence indicator (T-1)				0.1147*** (5.17)	0.1003*** (4.07)	0.1280*** (5.44)	0.1238*** (4.84)	0.1159*** (4.96)	0.1174*** (4.60)	0.1158*** (4.50)	0.1133*** (4.81)
Real effective exchange rate (2005=100)						0.0126** (2.35)	0.0087* (1.68)	0.0051 (1.01)	0.0032 (0.65)	-0.0014 (-0.20)	-0.0009 (-0.13)
LOG(Gross domestic expenditure on R&D)								1.2470*** (3.82)	1.4235*** (4.39)	1.3098*** (3.74)	1.1461*** (3.24)
LOG(GDP)										0.2978 (0.78)	0.3793 (1.07)
Year dummy	√	√	√	√	√	√	√	√	√	√	√
Within $R^2$	0.5184	0.5324	0.5017	0.5422	0.5041	0.5459	0.5049	0.5708	0.5457	0.5466	0.5723
F-statistic	0.39	5.97***	0.30	7.93***	4.01***	8.26***	4.94***	9.13***	7.20***	6.43***	8.73***
# of Observations	484	473	394	432	353	413	334	407	330	330	407

Notes for table A-4 to A-7: 22 OECD countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Great Britain, and the United States during 1985-2010. Control variables are labor productivity, multi factor productivity, business confidence indicator with 1 year lag, real effective exchange rate, gross domestic expenditure on R&D, and gross domestic product. All regressions use fixed effects and year dummy. T-values in parenthesis are applied for robust estimate of the variance-covariance matrix of the estimator. \*\*\* P<0.01, \*\* P<0.05, \* P<0.1.

Table A-8 : Corporate Income tax and Investments: Cross-Country Comparison during 1970-2010

Independent variable	Log of FDII			Log of NDI			LOG of TI			Log of FDIO		
	Fixed Effects											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Corporate Tax (T-1)	-0.0319*** (-3.49)	-0.0301*** (-3.23)	-0.0284*** (-3.05)	0.0020 (0.53)	0.0019 (0.54)	0.0059** (2.34)	0.0002 (0.06)	-0.0002 (-0.08)	0.0015 (0.97)	-0.0031 (-0.22)	-0.0044 (-0.34)	-0.0029 (-0.23)
Corporate Tax (T-2)	0.0067 (0.50)	0.0067 (0.50)	0.0066 (0.49)	-0.0023 (-0.39)	-0.0027 (-0.48)	-0.0024 (-0.66)	0.0006 (0.14)	0.0004 (0.09)	0.0015 (0.67)	0.0101 (0.52)	0.0085 (0.47)	0.0096 (0.57)
Corporate Tax (T-3)	0.0148 (1.42)	0.0221** (2.08)	0.0176 (1.66)	0.0088* * (2.03)	0.0032 (0.78)	-0.0049* (-1.83)	0.0049 (1.38)	0.0011 (0.33)	-0.0054*** (-2.79)	0.0122 (0.82)	0.0039 (0.27)	-0.0022 (-0.16)
Unit Labor Cost (2005=100)		-0.0155*** (-4.16)	-0.0204*** (-4.88)		0.0107*** (7.72)	0.0008 (1.15)		0.0081*** (7.64)	-0.0008 (-1.12)		0.0202*** (6.70)	0.0115*** (3.52)
LOG(GDP)			0.6519*** (3.58)			1.2332*** (20.06)			1.0718*** (33.22)			1.0179*** (6.49)
Year dummy	√	√	√	√	√	√	√	√	√	√	√	√
Within $R^2$	0.7408	0.7499	0.7558	0.6997	0.7167	0.8384	0.8717	0.8798	0.9530	0.7882	0.7971	0.8087
F-statistic	6.57***	8.72***	8.69***	6.34***	30.24***	142.97***	5.04***	20.41***	268.34***	5.48***	14.83***	22.87***
#	785	773	773	811	799	799	791	779	779	766	754	754

22 OECD countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Great Britain, and the United States during 1970-2010. Control variables are unit labor cost, log of gross domestic product. All regressions use fixed effects and year dummy. T-values in parenthesis are applied for robust estimate of the variance-covariance matrix of the estimator. \*\*\* P<0.01, \*\* P<0.05, \* P<0.1. Variance inflation factor of multicollinearity between unit labor cost and log of gross domestic product shows 1 that is lower than 10 that need to suspect problem of multicollinearity.



Appendix B

Figure B-1 : Total Investment in a Country

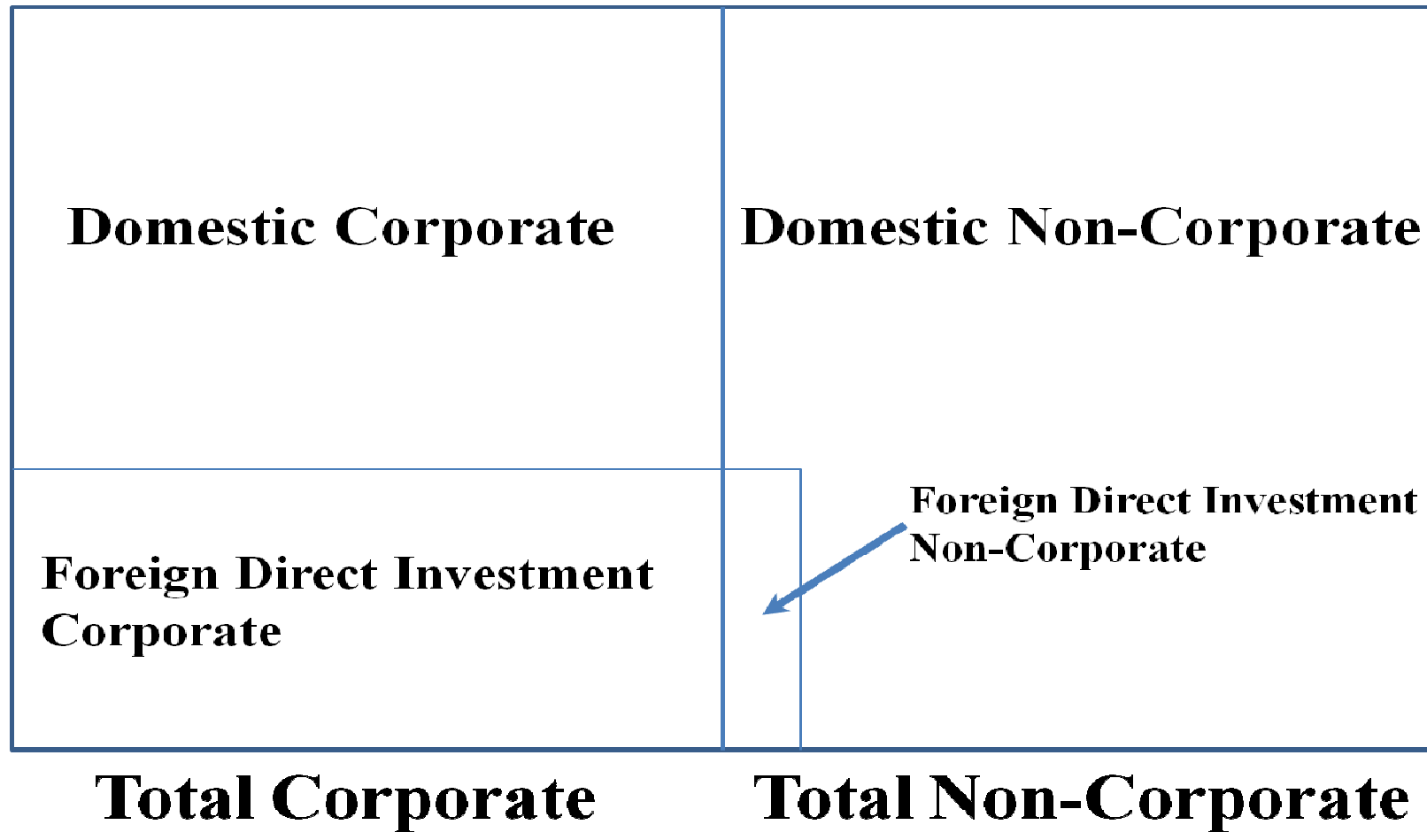
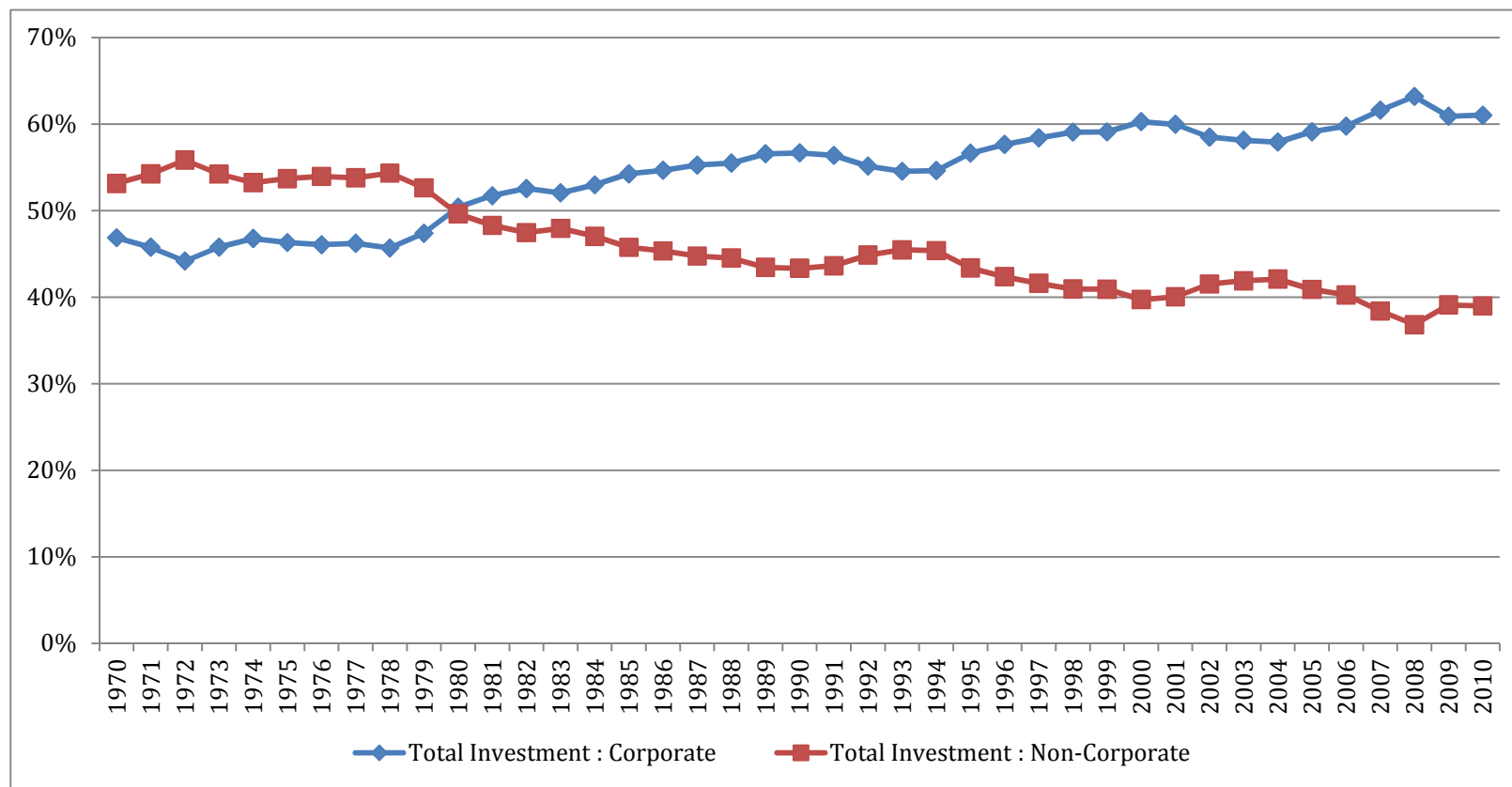
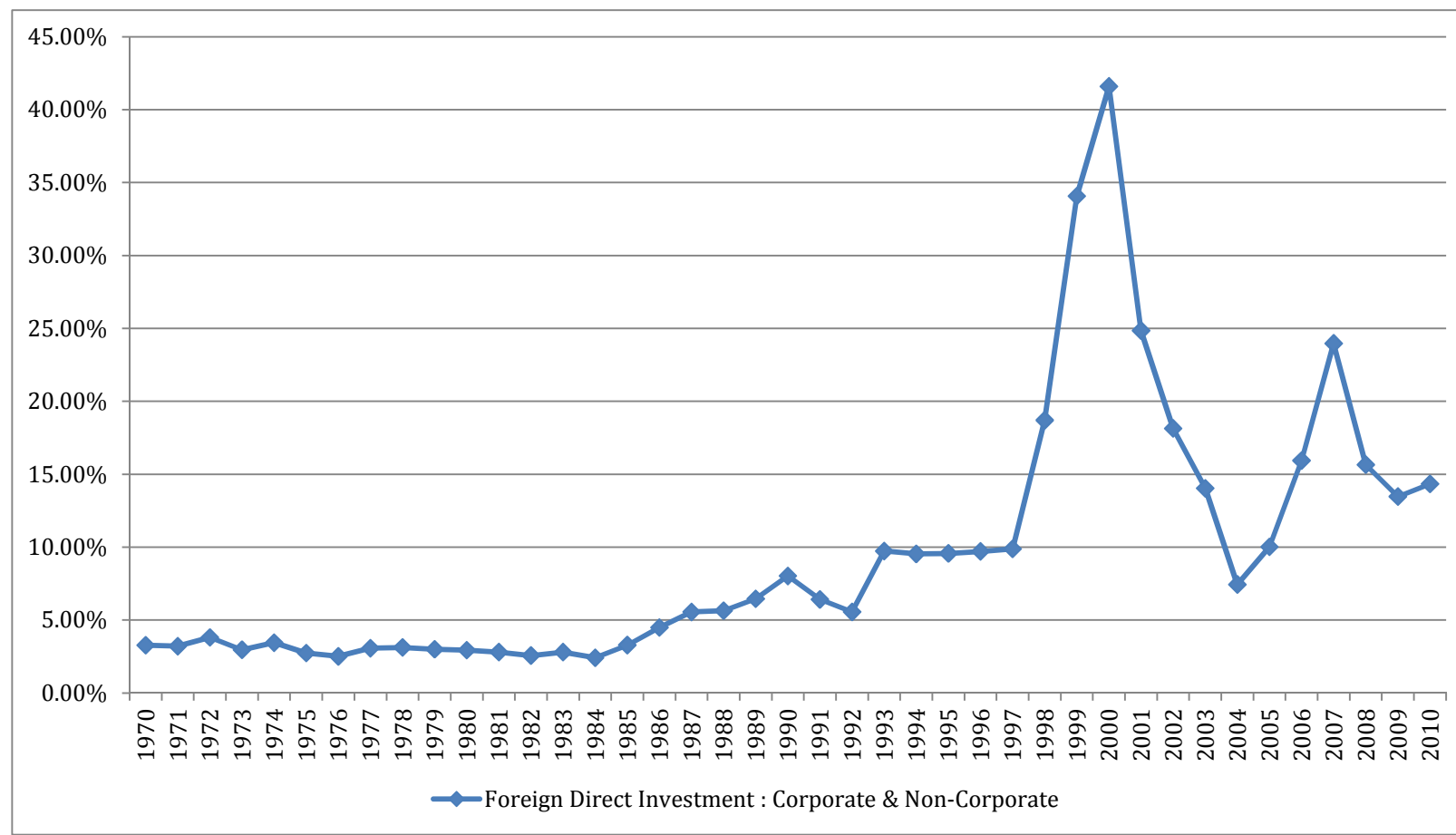


Figure B-2 : Time trend of both total investment are corporate and non-corporate (%)



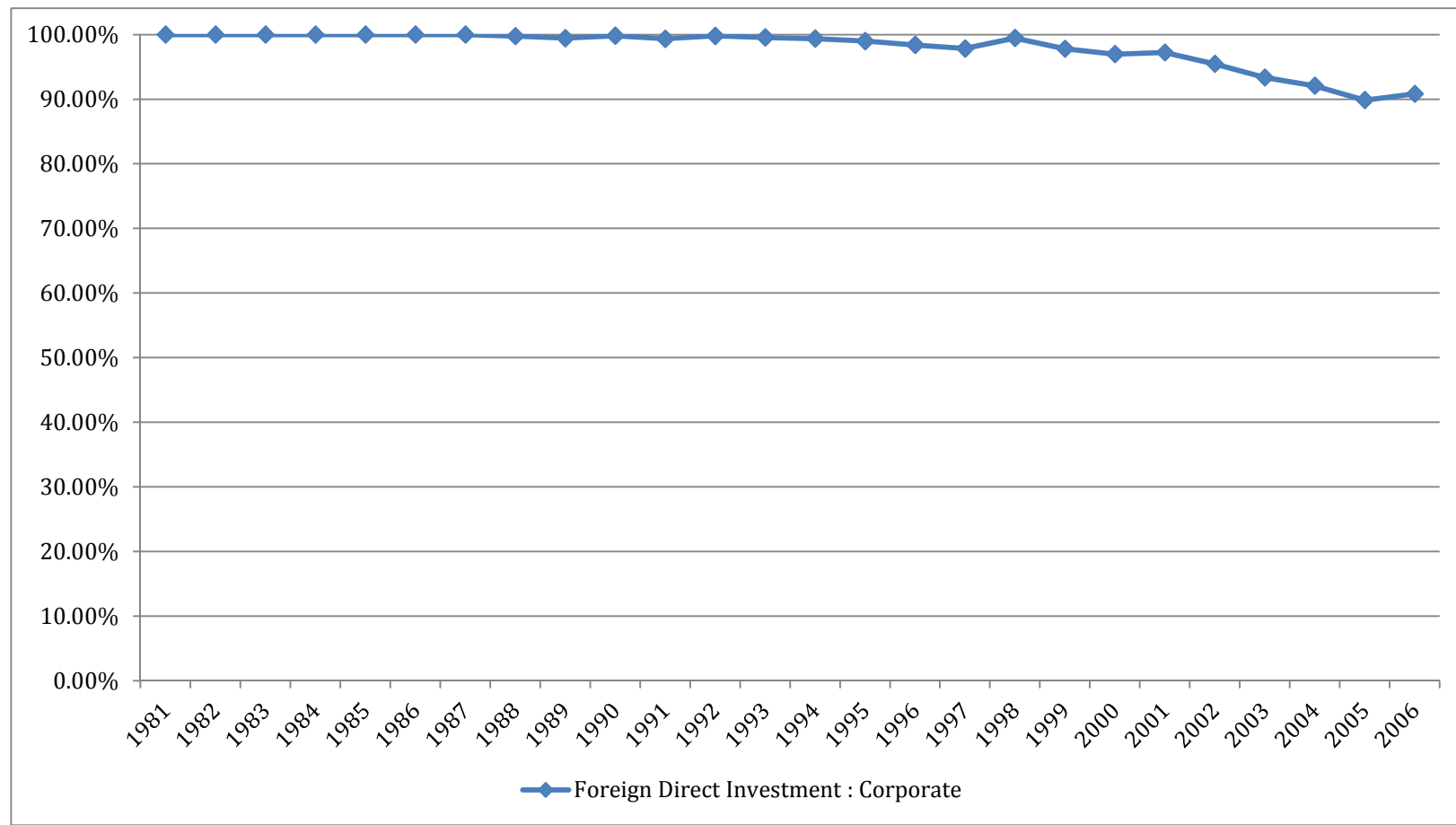
Note : Author's calculation, the time trend of average percentages of 22 OECD countries about both corporate sector and non-corporate sector that are made from the ratio of real gross private non-residential gross fixed capital formation and gross fixed capital formation data from OECD Stat.

Figure B-3 : Time trend of Foreign Direct Investment are corporate and non-corporate (%)



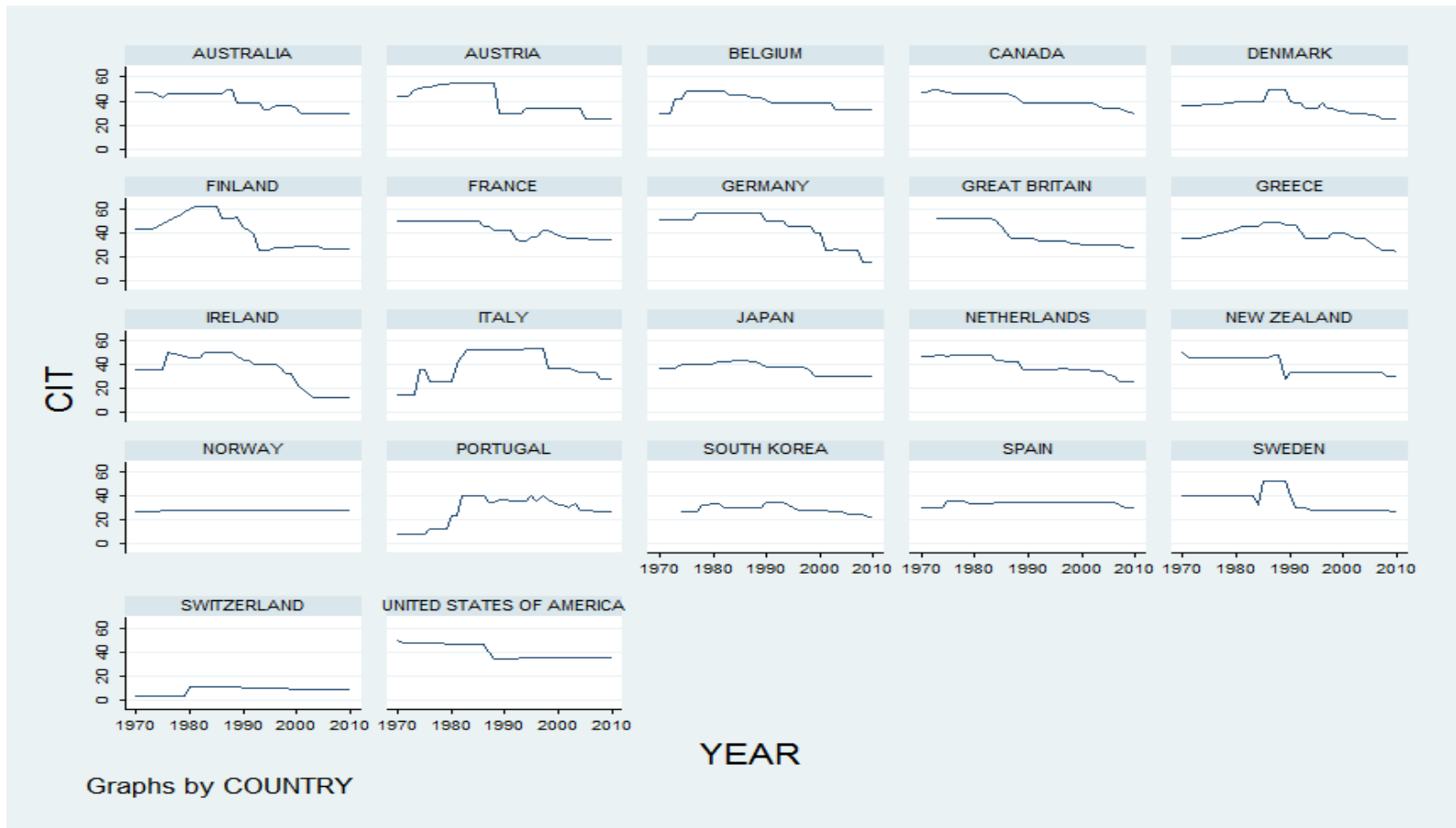
Note : Author's calculation, the time trend of average percentages of 22 OECD countries of Foreign Direct Investment are corporate and non-corporate, made from the ratio of foreign direct investment inflows and gross fixed capital formation data.

Figure B-4 : Time trend of South Korea's Foreign Direct Investment outflows are corporate (%)



Note : Author's calculation, the time trend of South Korea's Foreign Direct Investment outflows are corporate.  
Source : Overseas Direct Investment Statistics Yearbook 2006 from The Export-Import Bank of Korea.

Figure B-5 : Time trend of Corporate Income Tax by country



Note: Austria, Finland, Greece, and Ireland have missing observations of corporate income taxes. The missing period is 1974-1979 for Austria, 1974-1980 for Finland, 1974-1979 for Greece, and 1977-1979 for Ireland. Linear Approximation is applied for rebuilding the missing observations.

Figure B-6 : Time trend of log(Foreign Direct Investment Inflows) by country

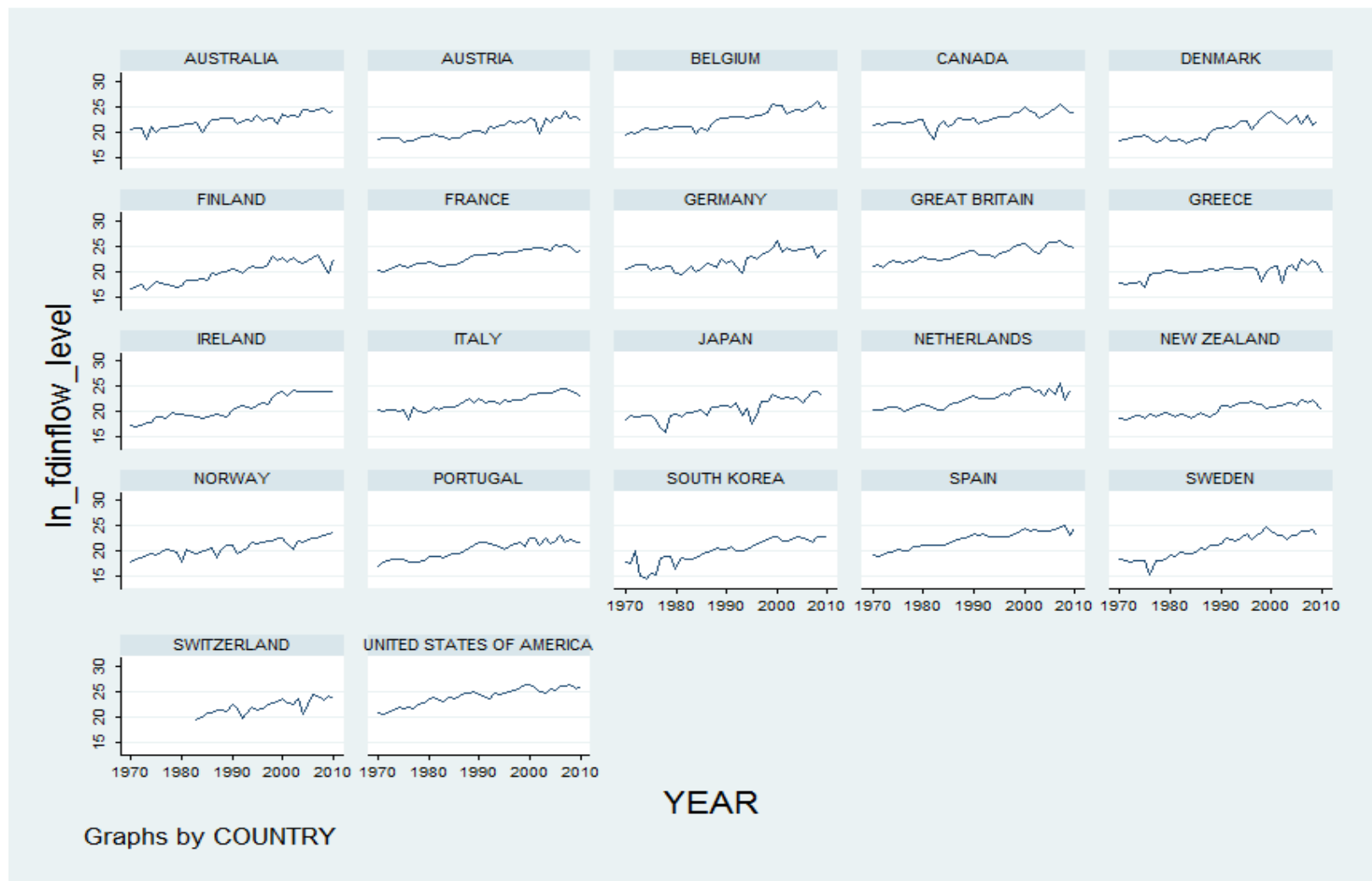


Figure B-7 : Time trend of log(Net Domestic Investment) by country

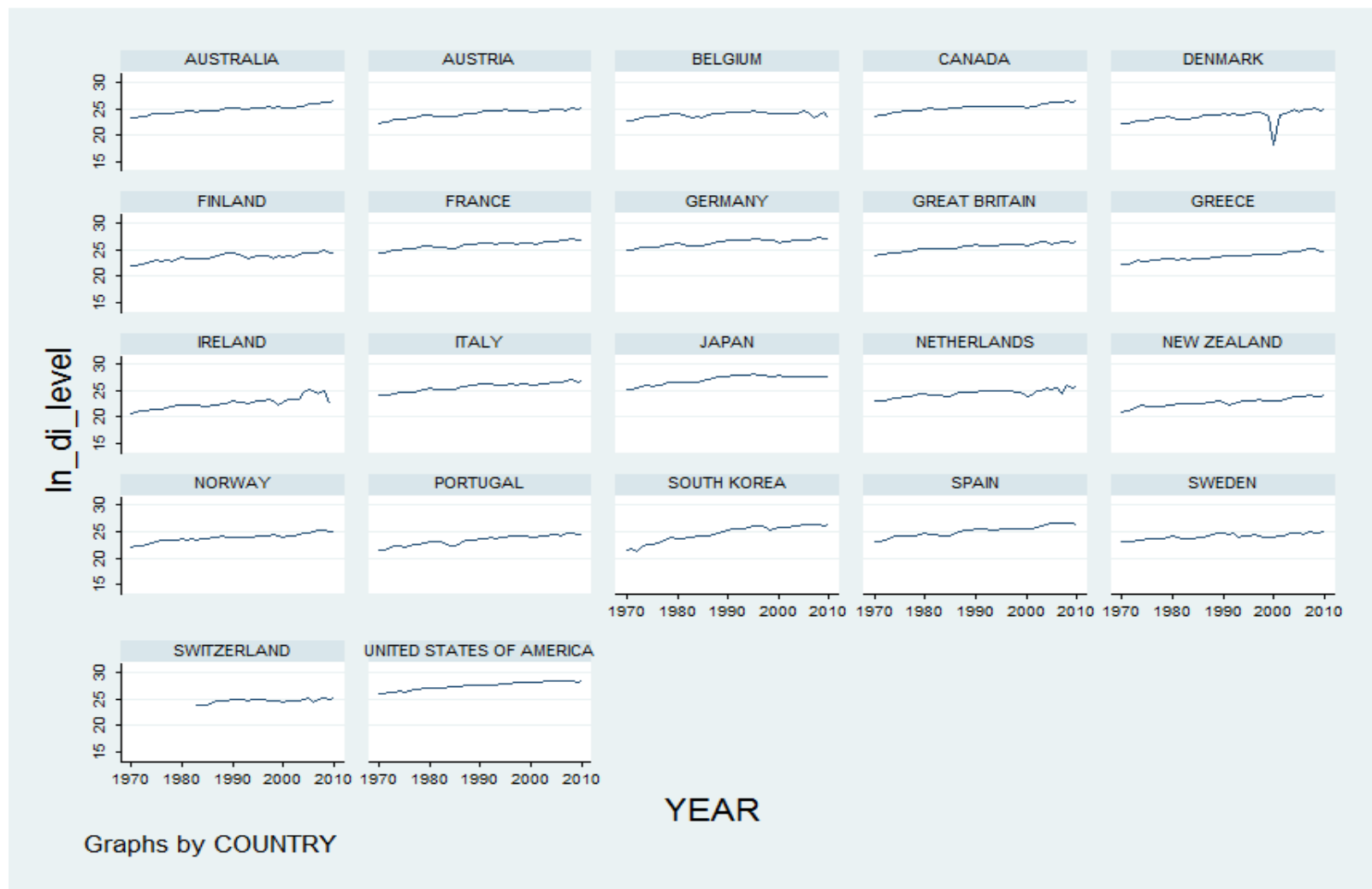


Figure B-8 : Time trend of log(Total Investment) by country

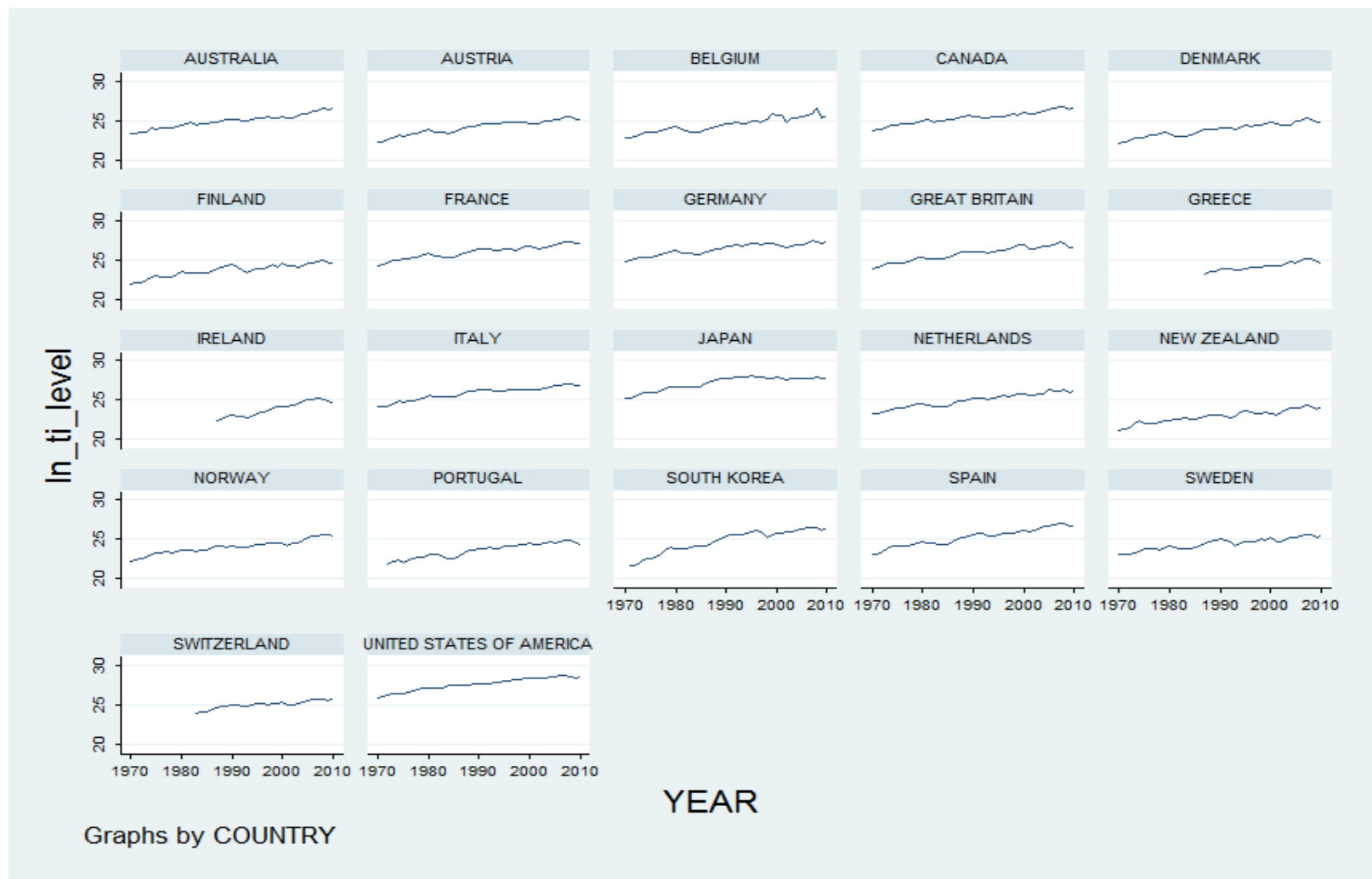




Figure B-9 : Time trend of log(Foreign Direct Investment Outflows) by country



Appendix C: Mathematical Approach

The total domestic capital consists of capital from the domestic corporate sector and domestic non-corporate sector. I assume the foreign capital comes only from the foreign corporate sector, since most firms are of the corporation type (see Figure B-4). So the total capital from the corporate sector is composed of capital from the domestic corporate sector and the foreign corporate sector. If the equations of (1), (2) are hold (strong assumption), the rate of change of total capital in the corporate sector will be equal to the rate of change of capital in the foreign corporate sector.

$$K_D = K_{DC} + K_{DNC}$$

$$K_F = K_{FC}$$

$$K_C = K_{DC} + K_{FC}$$

$$\frac{\Delta K_C}{K_C} = \varepsilon_{C,I} * dt_C$$

$$\frac{\Delta K_{FC}}{K_{FC}} = \varepsilon_{C,I} (dt_C^F - dt_C^D)$$

$$\Delta K_C = \Delta K_{DC} + \Delta K_{FC}$$

$$\frac{\Delta K_{FC}}{K_{FC}} = \frac{\Delta K_C - \Delta K_{DC}}{K_{FC}} = \left[ \frac{\Delta K_C}{K_C} \right] \left[ \frac{K_C}{K_{FC}} \right] - \left[ \frac{\Delta K_{DC}}{K_{DC}} \right] \left[ \frac{K_{DC}}{K_{FC}} \right]$$

$$IF \dots \frac{\Delta K_{FC}}{K_{FC}} = \left[ \frac{\Delta K_{DC}}{K_{DC}} \right] \dots (1)$$

$$IF \dots \varepsilon_{C,I}^F = \varepsilon_{C,I}^D \dots (2),$$

$$\frac{\Delta K_{FC}}{K_{FC}} = \{ [\varepsilon_{C,I}^F] \left[ \frac{K_C}{K_{FC}} \right] - [\varepsilon_{C,I}^D] \left[ \frac{K_{DC}}{K_{FC}} \right] \} dt$$

$$= \varepsilon_{C,I} \left[ \frac{K_C - K_{DC}}{K_{FC}} \right] dt = \varepsilon_{C,I} dt$$

## REFERENCES

- Caballero, R.J. 1994. "Small Sample Bias and Adjustment Costs," *Review of Economics and Statistics* 76, 52-58.
- Chirinko, R.S., and R. Eisner, 1983. "Tax policy and investment in major U.S. macroeconomic econometric models," *Journal of Public Economics* 20, 139-166.
- Cummins, J.G., K.A. Hassett and R.G. Hubbard. 1994. "A Reconsideration of Investment Behavior Using Tax Reforms as Natural Experiments," *Brookings Papers on Economic Activity* 2, 1-59.
- Eisner, R., 1969. "Tax Policy and Investment Behavior: Comment," *American Economic Review* 59, 379-388.
- Eisner, R., 1970. "Tax Policy and Investment Behavior: Further Comment," *American Economic Review* 60, 746-752.
- Eisner, R., and M.I. Nadiri, 1968. "Investment Behavior and Neoclassical Theory," *Review of Economics and Statistics* 50, 369-382.
- Gordon, R., 1986. "Taxation of investment and savings in a world economy." *American Economic Review* 76, 1086-1102.
- Hall, R.E., Jorgenson, D.W. 1967. "Tax Policy and Investment Behavior." *American Economic Review* 57, 391-414.
- Harberger C. Arnold. 1962. "The Incidence of the Corporation Income Tax," *The Journal of Political Economy*, 70(3), 215-240.
- Harberger C. Arnold. 1995. "The ABCs of Corporation Tax Incidence: Insights into the Open-Economy Case." In *Tax Policy and Economic Growth*, 51-73. Washington, D.C., American Council for Capital Formation.

Harberger C. Arnold. 2008. "Corporation Tax Incidence: Reflections on What Is Known, Unknown and Unknowable." In *Fundamental Tax Reform: Issues, Choices and Implications*, edited by John W. Diamond and George R. Zodrow, ch6, 283-308. Cambridge, MA: MIT Press.

Jorgenson, Dale. 1963. "Capital Theory and Investment Behavior," *American Economic Review* 53, 247-259.

Ruud A. de Mooij, Sjef Ederveen., 2005. "Explaining the Variation in Empirical Estimates of Tax Elasticities of Foreign Direct Investment". Discussion Paper, 108/3, *Tinbergen Institute*. 1-33.

Slemrod, J., 1990. "Tax Effects on Foreign Direct Investments in the United States: Evidence from a Cross-Country Comparison", in Razin and Slemrod (eds.), *Taxation in the Global Economy*, 79-117, Chicago University Press.

Summers, L., 1981."Taxation and corporate investment: a q-theory approach." *Brookings Papers on Economic Activity* 12, 67-140.