



UNIVERSITI PUTRA MALAYSIA

***ROLE OF SOVEREIGN DEBT ON FOREIGN DIRECT INVESTMENT AND
ECONOMIC GROWTH IN SELECTED EUROPEAN COUNTRIES***

TAN AI LIAN

FEP 2017 29



**ROLE OF SOVEREIGN DEBT ON FOREIGN DIRECT INVESTMENT
AND ECONOMIC GROWTH IN SELECTED EUROPEAN COUNTRIES**

By

TAN AILIAN

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

February 2017

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Doctor of Philosophy

ROLE OF SOVEREIGN DEBT ON FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN SELECTED EUROPEAN COUNTRIES

By

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February 2017

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In the economics literature, investments are reckoned to be a prevalent and powerful instrument to facilitate the growth process. In Europe, FDI has been a crucial part of policy for enhancing productivity and strengthening the association between Europe and the rest of world economy. Nevertheless, the onset of the global financial crisis has triggered an enormous soared of sovereign debt in Europe and threatened the viability of the countries. Against this background, the sharp rise of sovereign debt in European countries has agitated the concern of this study regarding its debt condition on foreign capital and economic growth.

First, by applying PMG estimate in 10-selected European countries that covered from 1990-2013, the results reveal a negative sign of sovereign debt on FDI. Hence, this suggests that sovereign debt discourages the inflows of foreign investment in European countries. Second, the results show that FDI becomes insignificant while the interaction term between sovereign debt and FDI is highly significant. Hence, this indicates that the effects of FDI on growth is affected by the sovereign debt condition in European countries. Third, the results of PMG estimate suggest an inverted-U shape of sovereign debt and the threshold value is found to be 76%. Besides, the positive impact of FDI on growth will only kick in when the sovereign debt is below than the threshold value.

Based on the findings, several implications of the study can be drawn. Since FDI is important to sustain economic growth, incentives such as a stable macroeconomic condition and company tax policy, better institutional quality and investor protection, transparency, lower bureaucracy and corruption, and necessary reforms of the labor market are important to attract foreign investment to sustain economic growth. Besides, since sovereign debt condition adversely affects FDI flows and

FDI-growth nexus, then it is important for the country to provide a stable macroeconomic condition through proper debt management to attract FDI and enhance the ability of the host country to benefit from foreign investment.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

PENGARUH HUTANG KERAJAAN KE ATAS PELABURAN LANGSUNG ASING DAN PERTUMBUHAN EKONOMI DI NEGARA EROPAH TERPILIH

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Kepentingan perlaburan dalam menjana pertumbuhan diakui oleh kajian-kajian yang lepas. Di Eropah, perlaburan langsung asing adalah komponen penting dalam polisi peningkatan produktiviti dan pengukuhan hubungan antara ekonomi Eropah dan sedunia. Walau bagaimanapun, krisis kewangan global telah mencetuskan perlonjatan besar hutang kerajaan di Eropah dan mengancam daya maju mereka. Keadaan tersebut menjadi pendorong untuk kajian ini yang mengkaji peranan hutang negara ke atas modal asing dan pertumbuhan ekonomi.

Pertamanya, dengan menggunakan PMG metodologi, keputusan PMG untuk sepuluh negara Eropah terpilih menunjukkan hubungan negatif antara hutang negara dan perlaburan langsung asing. Implikasinya, hutang negara tidak menggalakkan kemasukan perlaburan asing ke negara Eropah. Kedua, keputusan anggaran PMG mendapati perlaburan langsung asing adalah tidak signifikan sementara pembolehubah interaksi antara hutang negara dengan perlaburan langsung asing adalah amat signifikan. Ini menunjukkan kesan perlaburan langsung asing ke atas pertumbuhan dipengaruhi oleh keadaan hutang negara di Eropah. Ketiga, dalam kajian ini, keputusan mencadangkan bentuk terbalik-U bagi pengaruh hutang kerajaan dengan nilai ambang pada 76%. Impak positif perlaburan langsung asing ke atas pertumbuhan hanya berkesan apabila hutang negara berada di bawah nilai ambang tersebut.

Berdasarkan keputusan kajian, beberapa implikasi dapat dirumuskan. Oleh sebab perlaburan langsung asing adalah penting untuk mengekalkan pertumbuhan ekonomi, insentif seperti kestabilan makroekonomi, dasar cukai syarikat, kualiti institusi yang lebih baik, perlindungan pelabur, ketelusan, pengurangan birokrasi

dan rasuah, dan reformasi pasaran buruh adalah penting dalam menarik pelaburan asing untuk mengekalkan pertumbuhan ekonomi. Oleh sebab keadaan hutang kerajaan menjejaskan aliran pelaburan langsung asing dan nexus pelaburan langsung asing-pertumbuhan, maka adalah penting bagi negara untuk menyediakan keadaan ekonomi makro yang stabil melalui pengurusan hutang yang baik untuk menarik pelaburan langsung asing dan meningkatkan keupayaan negara tuan rumah mendapat manfaat daripada pelaburan asing.



ACKNOWLEDGEMENTS

First and foremost, I would like to express my deepest gratitude and appreciation to my supervisor Associate Professor Dr. Normaz Wana Ismail for her time, patience, constructive and insightful suggestions, and encouragement and support throughout this study. Her enthusiasm and patience guidance have allowed me to successfully complete this thesis.

My heartfelt gratitude also goes to the members of my supervisory committee, Associate Professor Dr. Law Siong Hook and Associate Professor Dr. Wan Azman Saini Wan Ngah. Their valuable suggestions and comments in improving the thesis had made it more relevant and meaningful.

I am very grateful to my beloved parents, Tan King Chai and Tay Siew Ngoak, and my family members for their love, patience, encouragement, moral support, and tolerance during the period of this study.

Last but not least, special thanks to all my colleagues and friends, especially Associate Professor Dr. Wong Ching Yoong, Associate Professor Dr. Eng Yoke Kee, Professor Dr. Choong Chee Keong, Professor Dr. Mansor Hj. Ibrahim, Dr. Kenny Yew Thiam Hee, and Ms. Lau Siew Yee who had always provided me insightful suggestions in this study.

I certify that a Thesis Examination Committee has met on 28 February 2017 to conduct the final examination of Tan Ai Lian on her thesis entitled "Role of Sovereign Debt on Foreign Direct Investment and Economic Growth in Selected European Countries" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

The inflows of global foreign direct investment (FDI) have surged over the past two decades, thereby restoring the attention of scholars in the fields of economics and business (Omri, Nguyen, & Rault, 2014). In theory, FDI is a vital vehicle which channels new ideas, know-how, advanced technologies, and augments human and stock accumulations across countries (De Mello, 1997; Borensztein, De Gregorio, & Lee, 1998; Fosfuri, Motta, & Ronde, 2001). Therefore, economic growth is bolstered with the inflows of foreign investment.

The positive externalities driven by FDI have generated the interest of policymakers and researchers regarding factors that potentially serve as incentives to attract foreign investment. For instance, a series of studies (Kang & Lee, 2007; Mukim & Nunnenkamp, 2012; Bilgili, 2012; Tintin, 2013; Cleeve, Debrah, & Yiheyis, 2015) suggests that the higher the degree of financial development and trade liberalization, the better the quality of infrastructure and human capital, large market size, and low labor costs are among the key factors that encourage FDI. Apart from this, recent studies have argued that macroeconomic conditions such as inflation, gross domestic product (GDP), and exchange rate and interest rate volatility are also essential in influencing FDI inflows (Sanchez-Martin, Arce, & Escribano, 2014; Chenaf-Nicet & Rougier, 2016). Hence, a less stable macroeconomic environment discourages the inflows of foreign capital.

Although numerous researchers have broadly examined the determinants of FDI, the effects of FDI on growth remain a topical issue discussed extensively in the literature. The points of view favorable to the positive externalities associated with foreign investment have not gained the support of some empirical researchers. Such researchers have challenged the prevalent belief regarding FDI and the benefits attained from foreign capital are being questioned. Fueling this debate is the notion that foreign investment might not have a significant positive impact at both the macro and micro levels (Akinlo, 2004; Carkovic & Levine, 2005; Duttaray, Dutt, & Mukhopadhyay, 2008).

At the firm level, for instance, FDI might monopolize the market and crowd out domestic firms from the existing marketplace, reduce the competitive level of local industries, and result in the import of outmoded equipment and technology in recipient countries (Aitken & Harrison, 1999; Duttaray et al., 2008; Morrissey & Udomkerdmongkol, 2012). At the macro level, foreign investment might not necessarily augment the capital stock due to diminishing capital returns. Therefore,

FDI only contributes to short-term economic growth rather than long-term growth (Agosin & Machado, 2005).

The mixed results and inconclusive evidence have sparked a series of studies to shift the focus to country's conditions. Recently, researchers have advocated that the heterogeneity of FDI effects in recipient economies may have different aspects, which the literature has coined as "absorptive capacities." These capacities are related to country's condition such as policy and economic structure, which may influence countries' capacity to attract foreign investment as well as their ability to reap the benefits from FDI. Therefore, the effects of FDI on economic growth are contingent on the local conditions of host countries (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004; Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2010; Alguacil, Cuadros, & Orts, 2011).

According to Azman-Saini, Law, & Ahmad (2010) and Choong (2012), a well-developed financial system, for instance, improves resource allocation and channels foreign capital more efficiently for productive investment. Hence, the complementarity between FDI and financial market has augmented the process of spillovers and fostered economic growth. Likewise, Borensztein et al. (1998), Balasubramanyam, Salisu, & Sapsford (1999), Bengoa & Sanchez-Robles (2003), and Alfaro, Kalemli-Ozcan, & Volosovych (2008) noted that FDI boosts economic growth in recipient countries through technology transmission and the development of human capital, job creation, and productivity augmentation. However, social capacity such as macroeconomic and political stability, minimal level of human capital, adequate infrastructure, and trade openness are pre-conditions for these externalities to occur.

Since a country's condition is important in influencing the flows of foreign investment and the economic effects of FDI, then macroeconomics instability rooted by debt dilemma in European countries in recent years has aroused the concern of this study regarding the role of sovereign debt on foreign capital.

1.2 The Stylized Fact of Foreign Direct Investment and Sovereign Debt in EU-28

1.2.1 Sovereign Debt in EU-28

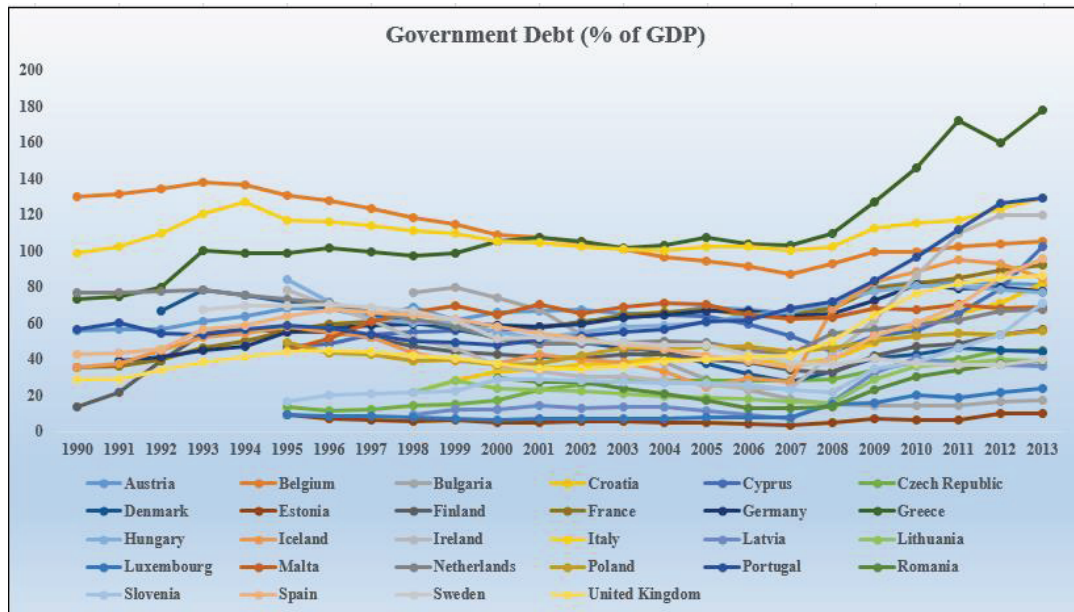
Sovereign debt, also known "public debt" or "government debt", is the financial obligations incurred by government agencies which have to be repaid to the creditors in the future. It is a key indicator of a nation economic health and the sustainability of government finance.

In 1999, the Euro currency (€) was introduced to reduce transaction costs, eliminate exchange rate uncertainty, encourage inward investment, level out the economies, and ensure the stability of European countries. The adoption of single a currency allows European countries, for instance, Portugal, Ireland, Italy, Greece, and Spain to borrow at lower costs, thereby contributing countries running government deficits since the late 1990s. Hence, the rise of financial globalization and easy access to credit markets with common currency enabled European countries to continue borrowing and increasing government spending since creditors were willing to lend.

However, the onset of the financial crisis in 2008 led to the European countries experiencing loan defaults. The crisis began to spread to European countries and became as severe as in the U.S. in mid-2008 (Mody & Sandri, 2011). Financial markets lost confidence in the creditworthiness of European countries, especially Greece and other peripheral countries (UNCTAD, 2013a). To address this problem, governments launched stimulus packages to alleviate and eliminate the ravaging impact of the crisis. However, the incentive packages resulted in countries increasing their borrowings and interest rates soaring in the credit markets, ultimately leading to insolvency of sovereign debt.

As shown in Figure 1.1, sovereign debt in EU-28 declined or stabilized from 1990s to the early 2000s, with the exception of Greece, Italy, and Belgium where debt levels were beyond 100%. However, after the crisis in 2007-2008, countries such as Greece, Italy, Germany, Iceland, Ireland, France, Austria, Portugal, Spain, and the U.K experienced drastic increase in sovereign debt levels. The parallel movement of sovereign debt in all these countries is a reflection of the deregulated adoption of single currency, credit markets, financial institutions, a common business cycle, and the ongoing crisis in Europe. Hence, the unprecedented rise in sovereign debts in fact worsened the economic recession. Despite this, other peripheral countries including Malta, Estonia, Sweden, Romania, Poland, Luxembourg, Lithuania, Latvia, Finland, Estonia, Denmark, Czech Republic, and Bulgaria registered relatively low levels of sovereign debt, ranging from 20-55%.

The prominent surge in sovereign debt levels in the peripheral European countries triggered imbalances in macroeconomics and threatened foreign investment (UNCTAD, 2013a). According to Nunnenkamp (1991), debt is one of the major contributing factors to the contraction in growth through foreign investment. The rationale is that a high debt burden creates uncertainty in the environment towards policy changes by governments (Bernake, 1983; Rodrik, 1991). To repay debt stocks, governments could enforce policies that might indirectly depress



Source: Government debt is retrieved from World Economic Outlook, IMF electronic database.

Figure 1.1 : Trends of Sovereign Debt in EU-28, 1990-2013.

investment and economic growth, for instance printing money, thereby generating the specter of hyperinflation (Dogan & Bilgili, 2014; Martin, 2015) and issuance of sovereign debt that shifts off private investment through loan offerings (Hauer, 2009). Therefore, discretionary and erroneous policies could create investment disincentives in debtor countries because investors have no confidence in the prudence of government policies.

In light of the foregoing views, this study casts doubt on the question of whether substantial growth of sovereign debt in the 10 selected European countries, namely: Portugal, Ireland, Italy, Greece, Spain, the U.K, France, Germany, Austria, and Iceland discourages FDI inflows and affects FDI-growth nexus? Is the sovereign debt level sustainable in these countries? In this regard, the background of FDI, sovereign debt, and economic growth based on these 10 selected European countries are discussed in the following section.

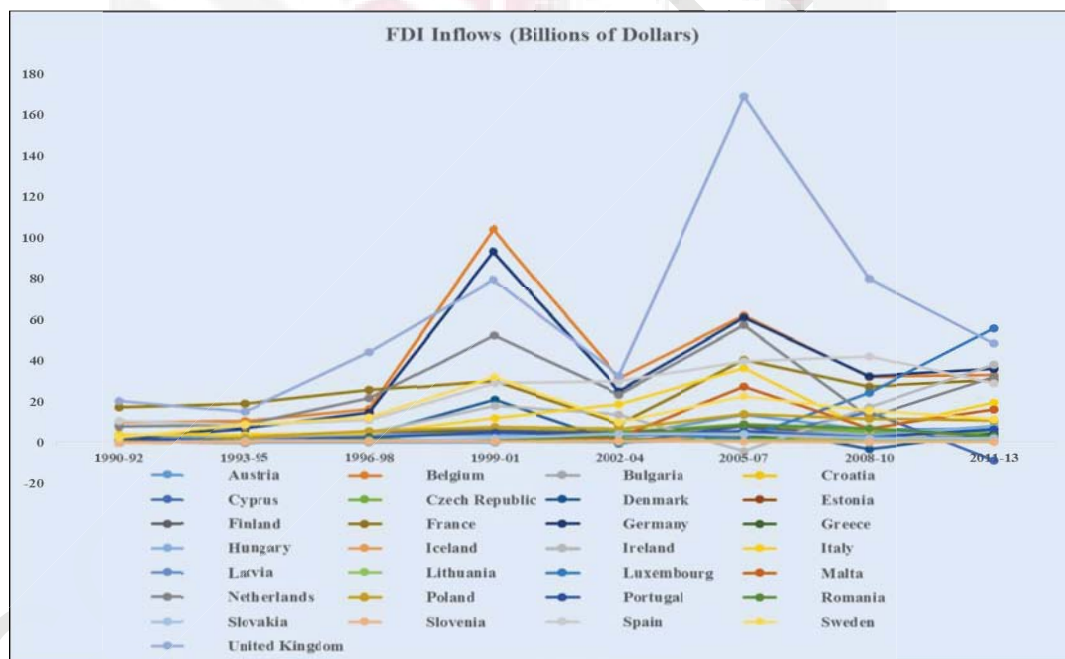
1.2.2 Foreign Direct Investment in EU-28

The European Union (EU) has undergone the process of enlargement since it was formed. Europe, which has experienced growing flows of foreign capital since the 1990s, has been built up strategies to attract FDI as a tool to stimulate economic activities and sustain economic growth (Martin & Velazquez, 2000; Villaverde & Maza, 2015). In fact, the steady increases of FDI flows in European countries could be attributed to EU enlargement, introduction of the euro currency, and economic liberalization associated with the abolishment of rigid trade policies (Kalotay, 2006; Villaverde & Maza, 2015). Therefore, the inflows of FDI do not merely promote

economic growth in European countries, but also play a vital role in fostering the transition process in European transition economies (Hanousek, Kocenda, & Maurel, 2011).

Figure 1.2 shows that the inflows of FDI in EU-28 were low and stagnant in the early 1990s. The capital flows, however, surged prominently from mid 1990s up to the beginning of 2000s. The considerable growth of foreign capital was driven by widespread deregulation and privatization, which vastly improved the investment climate. Nevertheless, FDI began to bottom out in 2004 due to the recession in European countries but showed an upward trend in 2007.

In the aftermath of the crisis, FDI flows into EU-28 declined sharply from 2007 and reached its lowest level during the period 2008-2010. The European economies such as Belgium, the United Kingdom (U.K), France, Netherlands, Sweden, Iceland, Germany, Finland, and Italy experienced declines in FDI. This



Source: Data of FDI retrieved from UNCTAD FDI Statistics electronic database.

Figure 1.2 : Trends of FDI in European Countries in EU-28, 1980-2013.

was largely attributed to disinvestments in the United States, Switzerland, and intra-European countries, where investors' confidence weakened significantly around the world. After 2010, FDI remained stagnant with some countries such as Germany, Spain, Sweden, and Cyprus further experiencing worsening capitals flows during the period 2011-2013.

1.3 Sovereign Debt, Foreign Direct Investment, and Economic Growth in the 10 Selected European Countries

1.3.1 Foreign Direct Investment in the 10 Selected European Countries

With the advent of globalization, FDI became increasingly important in European countries as a channel for integrating national economies into the world economy (Buch, Kokta, & Piazzolo, 2003; Galego, Vieira, & Vieira, 2004). Complementary to trade, FDI generates a deeper association between the economies of European and non-European countries through capital movement. According to Di Mauro (1999), FDI represents the leading edge of integration and globalization processes on the European continent. Foreign firms in Europe have enhanced the efficiency of production and encouraged the European economy to promote its goods and services more broadly in international markets. Hence, foreign investment creates direct, stable, and long-lasting links between the European and world economies through access to new markets for high value added products and services (Bevan & Estrin, 2004).

Germany, for instance, an economy in the European continent with a high degree of openness in its market and a stable political system, has attracted market-seeking foreign investment into the country (Jost, 2013). These foreign companies have built production and distribution facilities in Germany, thereby contributing to growth acceleration and fostering its integration process into the global economy through the transfer of capital and information technology (Jost, 2010). In addition, the inflows of foreign investment have also been a driving force of integration for peripheral countries like Portugal, Greece, and Ireland through financial liberalization and the mobility of factors of production across the world (OECD, 1994b; OECD, 1994c).

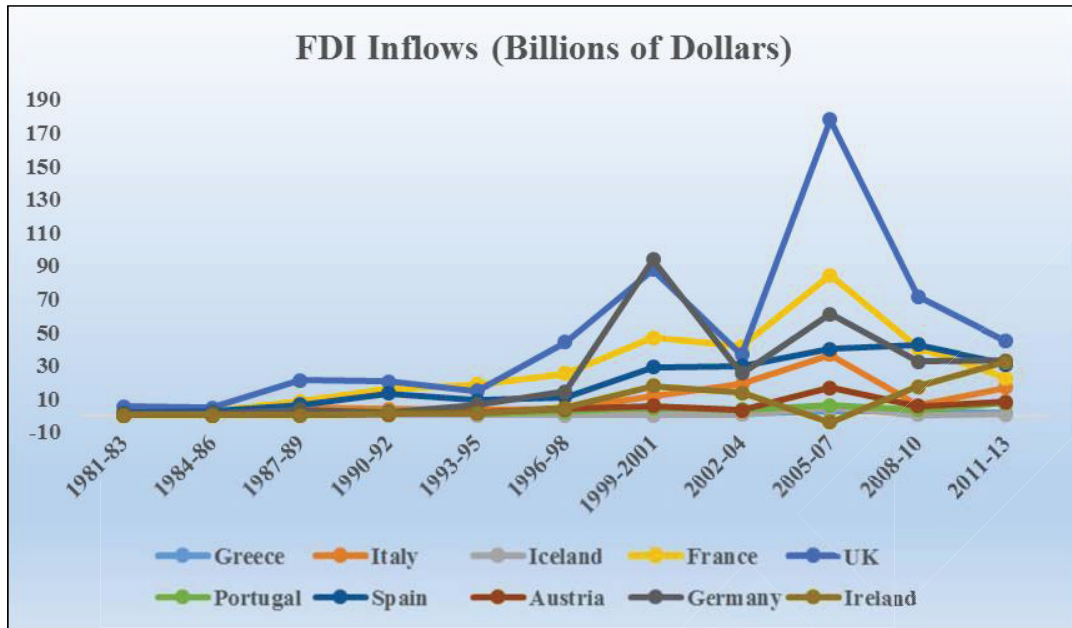
Apart from being a key element in the contemporary global economy, FDI is also regarded as the essential arm in the transition process from a command system towards a market system (Barrell & Holland, 2000; Hanousek et al., 2011). This is notable in European transition economies where inward investment has accelerated the process of privatization, formed a base for more effective corporate governance, and facilitated the building of institutions and infrastructure (Djankov & Murrell, 2002; Danson, Helinska-Hughes, & Hughes, 2003; Estrin, Hanousek, Kocenda, & Svejnar, 2009). Further, transition economies in Europe have also benefited from international experience, production know-how, diffusion and application of novel technologies, and the employment opportunities and financial resources associated with foreign enterprises (Barrell & Pain, 1999; Bevan & Estrin, 2004; Hanousek et al., 2011). It is evident that foreign investment has restructured the economy, modernized the living standards, and shaped the development path in European countries (Demekas, Horvath, Ribakova, & Wu, 2007; Roberts, Thompson, & Mikołajczyk, 2008).

For instance, FDI has provided a crucial boost to economic development and capital formation in the transition economies of Portugal, Ireland, and Italy (OECD, 1994a; OECD, 1994b; OECD, 1994c). As important avenues for the transfer of capital and technological innovation, foreign-owned firms have contributed extensively to the expansion of output, higher productivity and export growth, as well as restructuring and modernizing of the industrial and services sectors (Danson et al., 2003; Andzra & Rodrigues, 2010). Moreover, FDI has also played a critical role in the development of small economies like Greece, which has allowed the country to gain from the external knowledge brought in by multinational firms, enhance competitiveness in international market, and ultimately align with the leading countries (Barrios, 2004; Petrakou, 2013).

In sum, foreign investment in European countries is important not only in the context of higher productivity and economic growth, but also in the process of transition and integration of European economies.

1.3.2 Trends of Foreign Direct Investment and Economic Growth in the 10 Selected European Countries: An Overview

Figure 1.3 shows the trends of the three-year average in FDI (billions of dollars) in the 10 selected European countries for the period 1981-2013. In general, the average initial inward FDI in these European countries was small and insignificant for the period 1981-1983, with a minimum of \$0.22 billion and a maximum of \$5.49 billion. The inflows of foreign investment, nonetheless, grew slowly throughout 1984-1998, followed by a significant upsurge during the period 1999-2001. This phenomenon is especially evident in France, the U.K, Germany, Spain, and Ireland where FDI inflows increased after the mid-1990s and peaked at a historical record during the years 1999-2001, with Germany registering the highest value of \$93.6 billion among these countries. According to Liebscher (2006), the strong inflows of FDI in European countries at the end of 1990s through 2001 were driven by massive privatization, given the integration process. Hence, this encouraged growth in foreign investment flows into the Euro area.



Source: Data of FDI retrieved from UNCTAD FDI Statistics electronic database.

Figure 1.3 : Three-year Average of FDI in the 10 Selected European Countries, 1980-2013.

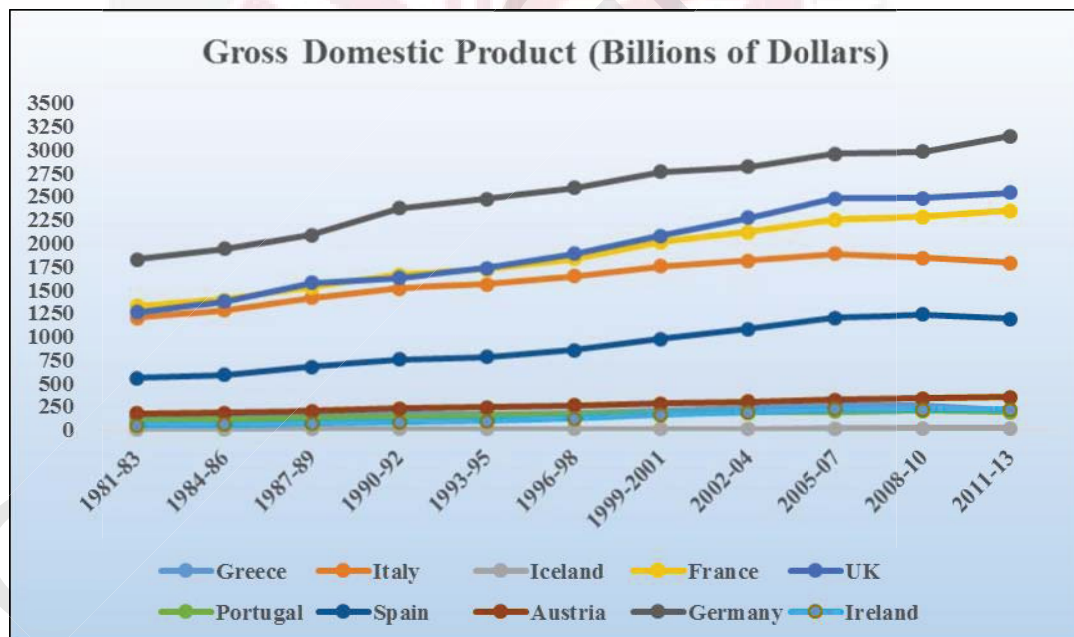
Despite an impressive surge of FDI during the period 1999-2001, European countries experienced radical decline in FDI thereafter until 2004, with the exception of Spain and Italy. The stagnation of FDI after 2001 could be attributed to the Great Recession and a prominent inflow of foreign capital into the developing countries, notably China and India. The remarkable increase of FDI in the developing countries reflects the greater market potential and cheaper labor, thereby reducing the inflows into European countries (Oxelheim & Ghauri, 2008; Meunier, 2014). Even so, despite Europe having experienced a drastic drop in foreign capital during the early 2000s, FDI inflows reached a zenith in 2007, with a maximum of \$178.04 billion recorded in the U.K. as compared to other countries. According to Kalotay (2006), EU enlargement in May 2004, policy restructuring initiatives, especially market liberalization, improved trade policy and collaboration between enterprises reshaped the investment climate in European countries. Thus, these endeavors greatly contributed towards attracting FDI in the mid-2000s.

Nonetheless, the financial crisis of 2008-2009, caused by the meltdown in the subprime mortgage market in the U.S, did not merely leave a deep scar on the global economy but also influenced the context of FDI flows into European countries (UNCTAD, 2012; Weitzel, Kling, & Gerritsen, 2014). The share of FDI inflows to European countries drastically declined during the period 2008-2010¹, despite some countries such as Ireland and Italy showing an increase in the years 2011-2013. According to UNCTAD (2009a), the significant fall in FDI was mainly

¹ For Ireland, though the trend of the three-year average FDI increased during the period 2008-2010, the total FDI declined significantly from \$24.71 billion in 2007 to -\$16.45 billion in 2008.

due to the instability of economic conditions and the shrinking in the availability of credit resources. This declining trend of FDI, however, revealed the attractiveness of developing countries as destinations for FDI after the financial turmoil in 2008. Based on the data analysis reported in UNCTAD (2009a), China, for instance, became the recipient of the second largest amount of FDI, with a more than \$100 billion U.S. in 2010.

In the context of GDP (billions of dollars) as shown in Figure 1.4, the trend shows a steady increase after 1981 until 2007 in the 10 selected European countries. Germany, which has the largest economy among these countries, and other peripheral countries such as the U.K., France, and Italy, revealed a marked rise in GDP from an average of \$1,203-\$1,830 billion during the period 1981-1983 to \$1,888-\$2,961 billion during the years 2005-2007. Even Iceland, which recorded the smallest GDP with a value of \$8.47 billion during the first period, also experienced a sizable growth to \$17.84 billion in 2007. Moreover, the GDP in other countries such as Greece, Portugal, Spain, Austria, and Ireland experienced sharp increase after the 1980s until 2007, ranging from \$61-\$564 billion during the period 1981-1983 to \$201-\$1,205 billion in the years 2005-2007. Nonetheless, the financial turmoil had a serious impact on European economies. Manifestly, the



Source: Data of GDP retrieved from the World Bank Development Indicators electronic database.

Figure 1.4 : Three-year Average of GDP in the 10 Selected European countries, 1980-2013.

GDP in these countries experienced stagnation during the period 2008-2010, and some countries, such as Germany, the U.K., and France showed only a slight increase in GDP in the years 2011-2013.

Figure 1.5 displays the scatter plots and correlation between FDI inflows (billions of dollars) and GDP (billions of dollars) in the 10 selected European countries. Apparently, most of the observations are scattered from the middle to the top right in the diagrams. This distribution, most noticeable in the U.K., Italy, France, Portugal, and Ireland, signifies that higher economic growth is associated with more inward FDI flows. In addition, the ordinary least squared (OLS) fitted lines plotted also suggest that the relationship between GDP and the inflows of FDI is positive, i.e., the GDP rises when FDI inflows increases. In Figure 1.5, the highest value of correlation is 0.81 in Spain, indicating a strong positive association between FDI and GDP. Moreover, the correlation values in Greece, Austria, Italy, Portugal, France, and the U.K are between 0.61 and 0.73, revealing a moderate strength of association between FDI and GDP in these countries. In contrast, in Ireland, Germany, and Iceland the coefficient of correlation was relatively lower between both variables, that is, from 0.41 to 0.54. In summary, the diagrams reveal that higher FDI fosters economic growth in the 10 selected European countries.

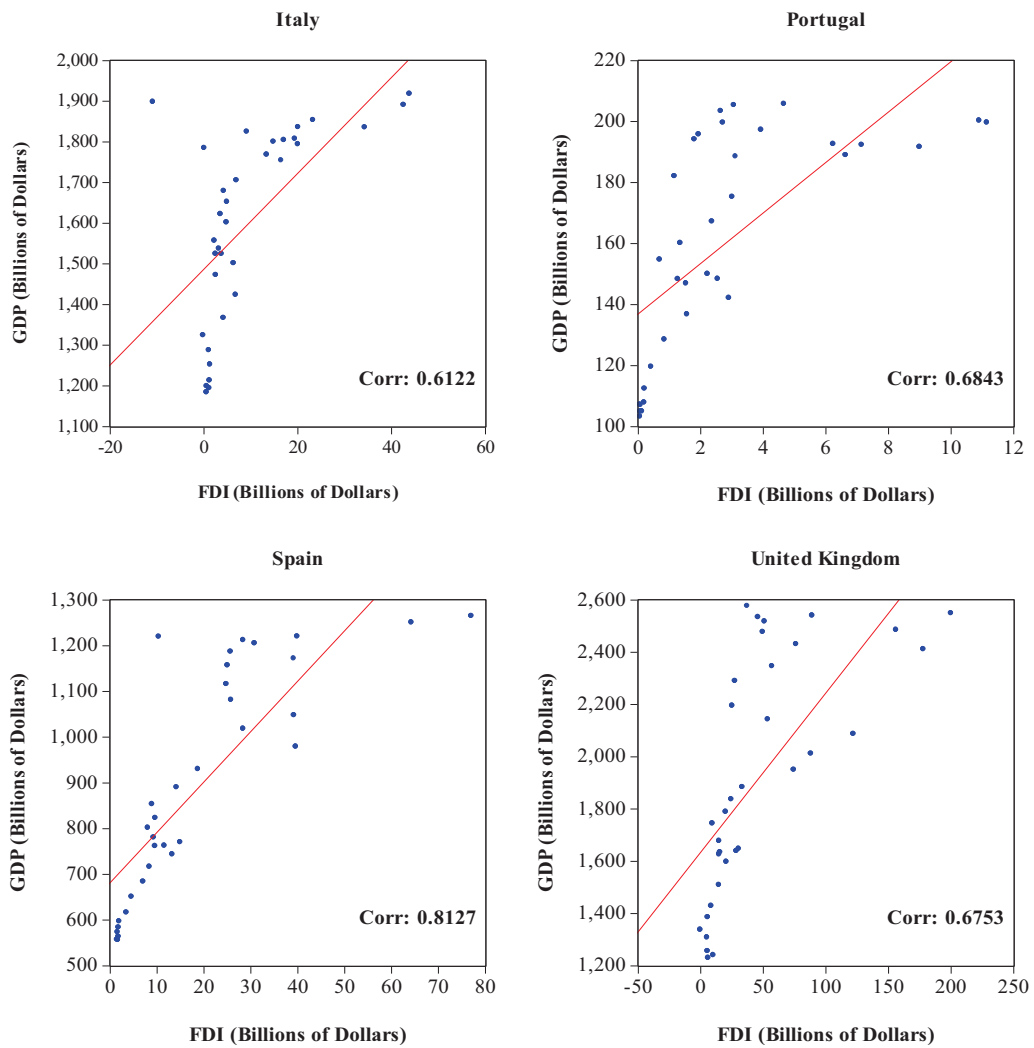
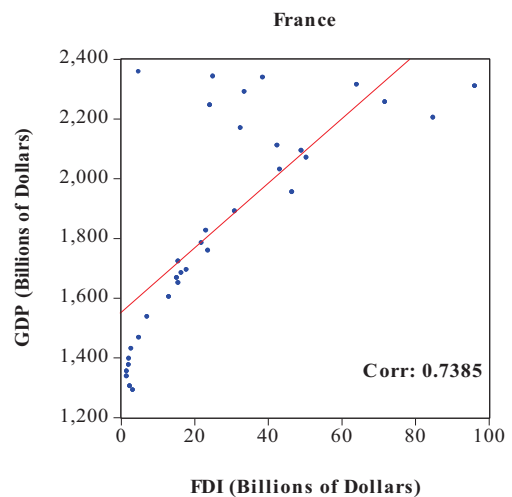
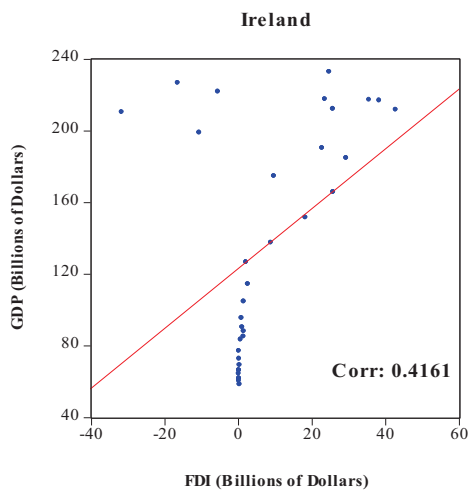
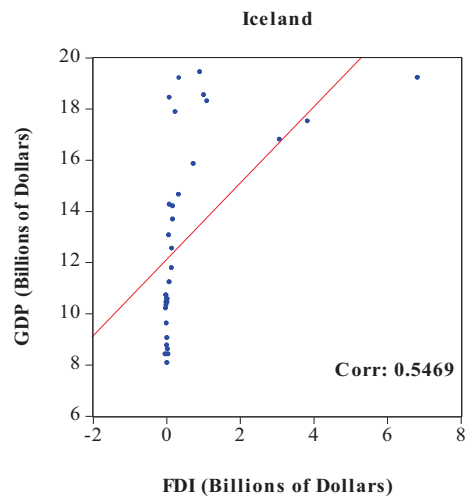
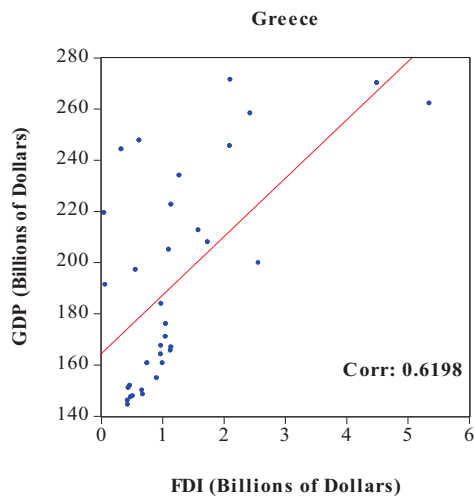
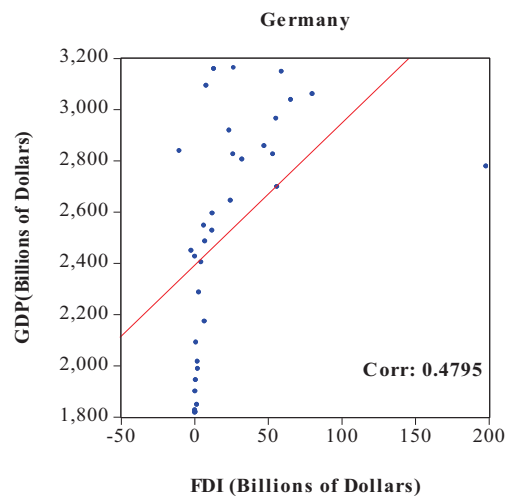
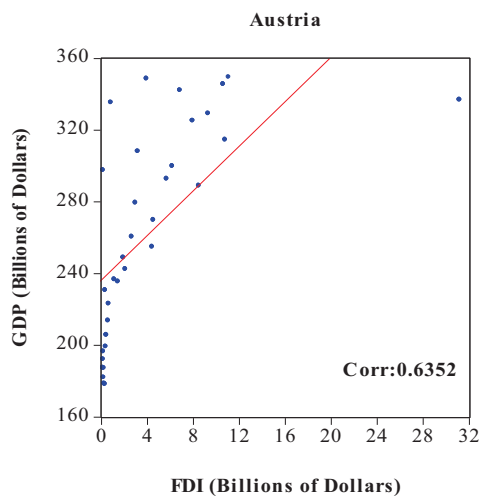


Figure 1.5 : FDI and GDP in the 10 Selected European Countries, 1980-2013.



Source: Data of FDI and GDP retrieved from UNCTAD FDI Statistics and the World Bank Development Indicators electronic databases, respectively.

Figure 1.5 : FDI and GDP in the 10 Selected European Countries, 1980-2013 (continued).

1.3.3 Evolution of Sovereign Debt During the Global Financial Crisis in the Selected European Countries

Europe always presented an impression to economists and policymakers of a continent resting on a stable and liberalized financial system, with the exception of Spain and Ireland which were beset with some banking problems (Pan & Wang, 2012; Cayla, 2013). Nevertheless, statistics analyzed by the European Central Bank (ECB) in recent years reveal that the European countries are in fact in a similar situation as the United States. Just like in the U.S. economy, the liabilities in the European countries also had steadily increased. More recently, the global crisis has in fact changed the landscape of macroeconomics in European countries, particularly in the context of sovereign debt levels.

The unprecedented historical levels of sovereign debt in European countries in recent years have renewed concern among policymakers and economists (Furceri & Zdzienicka, 2012; Stracca, 2015). In fact, evolution of the subprime crisis into the financial and debt crises of 2008-2010 is anecdotal evidence of the tragedy facing the European countries. Starting with a decline in investors' confidence towards the mortgage securities market in the U.S., it prompted a series of responses in financial institutions and developed into an international financial crisis (Mishkin, 2010; Grammatikos & Vermeulen, 2012). The collapse of Lehman Brothers further reflected where the crisis would deepen and severely affect a wide range of economic and financial activities. To reverse the credit and liquidity crunches in the banking system as well as stabilize the economy, the governments in Europe delivered stimulus packages, in particular through credit channels. As a consequence, the fiscal expansion resulted in sizable growth in debt levels in European countries (Checherita-Westphal & Rother, 2012; Dogan & Bilgili, 2014).

For instance, Greek's government provided financial assistance to troubled banks to stabilize the financial system and enhance economic activities (Arnold, 2012; Gnegne & Jawadi, 2013). However, the ensuing recession led to both a shrinking of government tax revenue and higher spending on unemployment benefits (Luigi, 2011; Ifanti, Argyrioub, & Kalofonouc, 2013). Ultimately, the recession placed a heavy burden on public finance and contributed to sizable growth in sovereign debt (Teica, 2012; Gnegne & Jawadi, 2013).

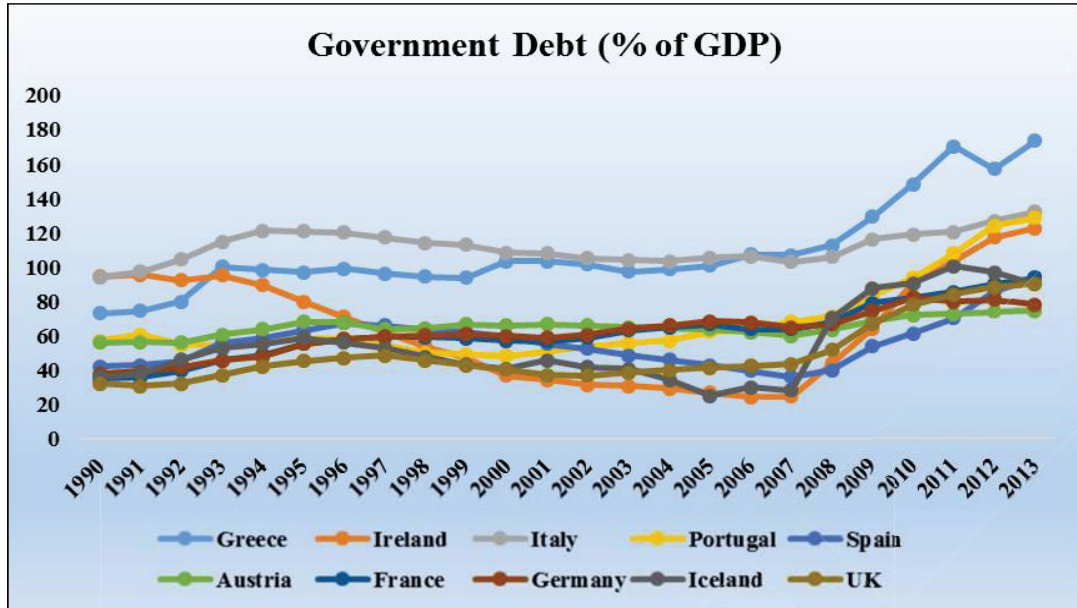
To curb the contagion effect from spreading to the rest of the Euro area, a rescue measure, known as the European Financial Stability Facility (EFSF) was put in place by the the ECB and International Monetary Fund (IMF). This involved an injection of 110 billion euros and 109 billion euros into the Greek economy in 2010 and 2011, respectively (Arnold, 2012; Arghyrou & Kontonikas, 2012). However, the aid given by financial agents was not effective or adequate to cure the financial illness of Greece and rescue other peripheral European countries from the contagion (Neaime, 2015).

This circumstance can be reasoned by the lax regulations in the financial system, inadequacy of banking supervision, corporate governance failure, and adoption of euro single currency, which revealed susceptibility to the crisis since it was invented without forming a supranational body to supervise spending and transfers between the Euro economies (Arnold, 2012; Hoque, Andriosopoulos, Andriosopoulos, Douady, 2015). Therefore, Greece was not the only nation severely affected by the economic crisis which evolved into a sovereign debt crisis, other countries like Portugal, Ireland, Iceland, and Italy also experienced soaring debt levels that raised concerns on the sustainability of the debts (Neaime, 2015). Eventually, these peripheral European countries encountered a dismal debt crisis (Moro, 2014; Ehrmann, Osbat, Strasky, & Uuskula, 2014). Besides, countries like Germany, the U.K., France, and Austria also experienced deterioration in sovereign debt in the aftermath of the global crisis (Lane, 2012; Matesanz & Ortega, 2015).

1.3.4 Trends of Sovereign Debt in the 10 Selected European Countries: A General Overview

Figure 1.6 shows the trends in sovereign debt (as a percentage of GDP) in the 10 selected European countries for the period 1990-2013. In general, these countries experienced a low and reasonable level of sovereign debt after the 1990s until 2007, with the exception of Greece and Italy. The sovereign debt of Italy was high surpassing 100% and that of Greece hovering around 100% from 1993 onwards.

On the contrary, the debt level in other peripheral countries declined during this period. In the case of Spain, for instance, sovereign debt plummeted from 67% in 1996 to 36% in 2007. Iceland faced a similar scenario as Spain, where the debt level began to decline from 59% in 1995 to 29% in 2007. On the other hand, despite Ireland experiencing a huge debt level of around



Source: Sovereign debt data retrieved from World Economic Outlook, IMF electronic database.

Figure 1.6 : Trends of Sovereign Debt in the 10 Selected European Countries, 1990-2013.

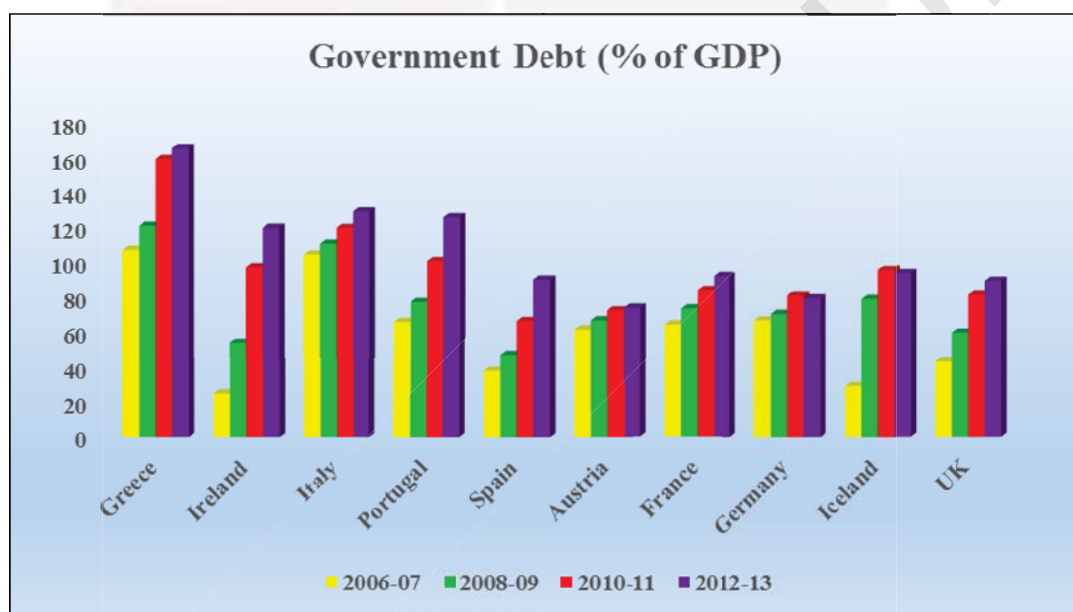
95% in the early 1990s, it shrank drastically over time and reached its' lowest level of about 25% in 2007. Apart from this, Austria, France, Germany, and Portugal had stable debt levels of around 50% to 68% from the 1990s until the mid-2000s, except for the U.K., which enjoyed a much lower debt level of around 30% to 48%.

The unprecedented global reach of the financial crisis, nevertheless, had an immense impact on the rapid growth of debts in European countries (Greiner, 2012; Ifanti et al., 2013; Papadopoulos, Stamati, Nikolaidou, & Anagnostopoulos, 2013). Greece, which was most affected by the financial meltdown in 2008-2009, rapidly accumulated the liabilities and swiftly reached an unsustainable debt level. The sovereign debt in Greece increased significantly from 113% in 2008 to 174% in 2013, although it was hovering around 100% during the pre-crisis period. Following Greece, the sovereign debt in Portugal, Ireland, and Italy rose to 129%, 123% and 133%, respectively in 2013, even though these countries did not borrow much at the beginning of the new millennium, with the exception of Italy. Further, Spain and Iceland were also affected by the global recession with high debt stock accumulations of 94% and 90%, respectively, in the same year.

Germany, the largest and soundest economy in Europe, together with other peripheral countries like Austria, France, and the U.K., also were not spared the severe aftermath of the global crisis. The prevailing sovereign debt level in these European countries hit a high of around 90% in 2012, with the exception of Germany and Austria, which were slightly lower at 81% and 74%, respectively. The prominent financial linkage among the European countries resulted in these sounder economies that were financially stable with fiscal discipline heading

towards greater default risk. This is evident from the fact that banks in France, Germany, and the U.K. were exploring the foreign claims held by Portugal, Ireland, Italy, Greece, and Spain (PIIGS). In a nutshell, any weakness in PIIGS would have a contagion effect on the rest of the peripheral countries and consequently augment the annual deficits and sovereign debt levels (Neaime, 2015).

Figure 1.7 reflects the two-year average of sovereign deb for the period 2006 to 2013. Compared to the pre-crisis years (2006-2007), by and large, all selected European countries experienced a significant increase in sovereign debt during the post-crisis period (2008-2013), with Greece, Ireland, Italy, and Portugal surpassing 100% in 2011 and thereafter. Among these countries, Greece, in



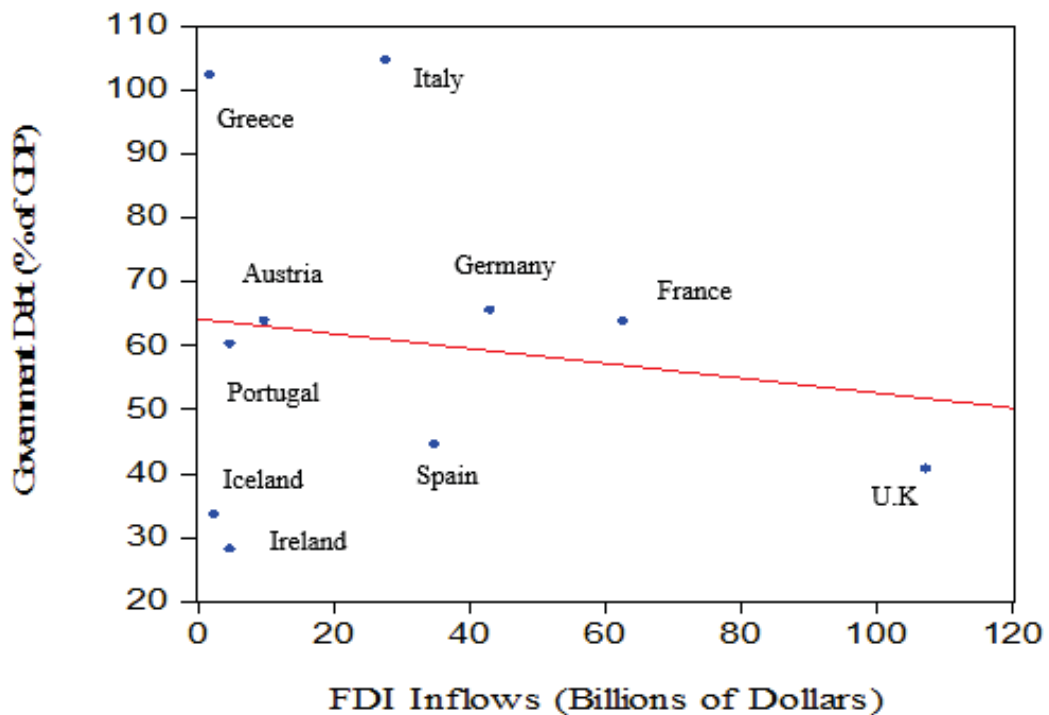
Source: Government debt data retrieved from the World Economic Outlook, IMF electronic database.

Figure 1.7 : Two-year Average of Sovereign Debt in the 10 Selected European Countries, 2006-2013.

particular, recorded the highest debt level of around 166% during the years 2012-2013, followed by Italy, Portugal, and Ireland with debt levels ranging from 120% to 129%. In contrast, other countries, such as Spain, Austria, France, Germany, Iceland, and the U.K., reported relatively lower debt levels, with the average ranging from 74% to 94% in the years 2012-2013, even these countries underwent a significant increase in sovereign debt during the post-crisis period.

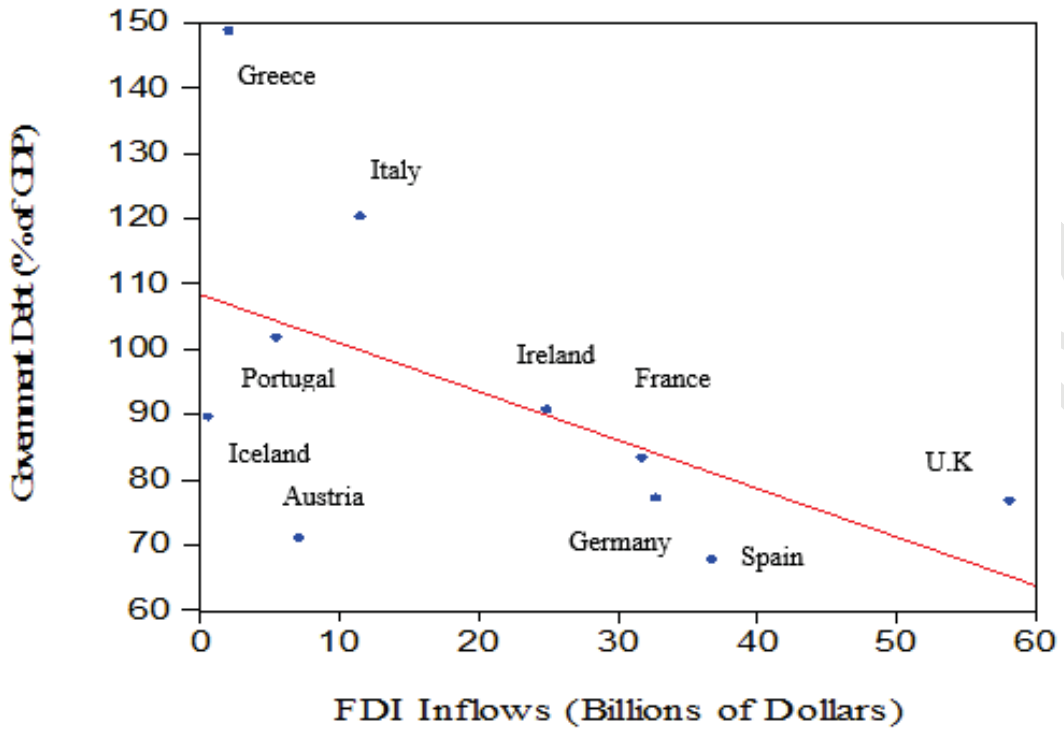
1.3.5 Sovereign Debt, Foreign Direct Investment, and Economic Growth in the 10 Selected European Countries: An Overview

The figures below display inward FDI flows (billions of dollars) and sovereign debt (as a percentage of GDP) as well as GDP (billions of dollars) and sovereign debt (as a percentage of GDP) for the pre-crisis period (2002-2007), post-crisis period (2008-2013), and the entire period (1990-2013). Meanwhile, Table 1.1 presents a summary based on these periods. Figures 1.8, 1.9, and 1.10 indicate that high sovereign debt generally is associated with low FDI inflows. Nevertheless, the fitted line is steeper in post-crisis period due to higher sovereign debt and lower FDI as compared to the pre-crisis period. Thus, the correlation between FDI and debt during the pre-crisis, post-crisis, and the entire sample period suggests that FDI is inversely correlated with sovereign debt levels.



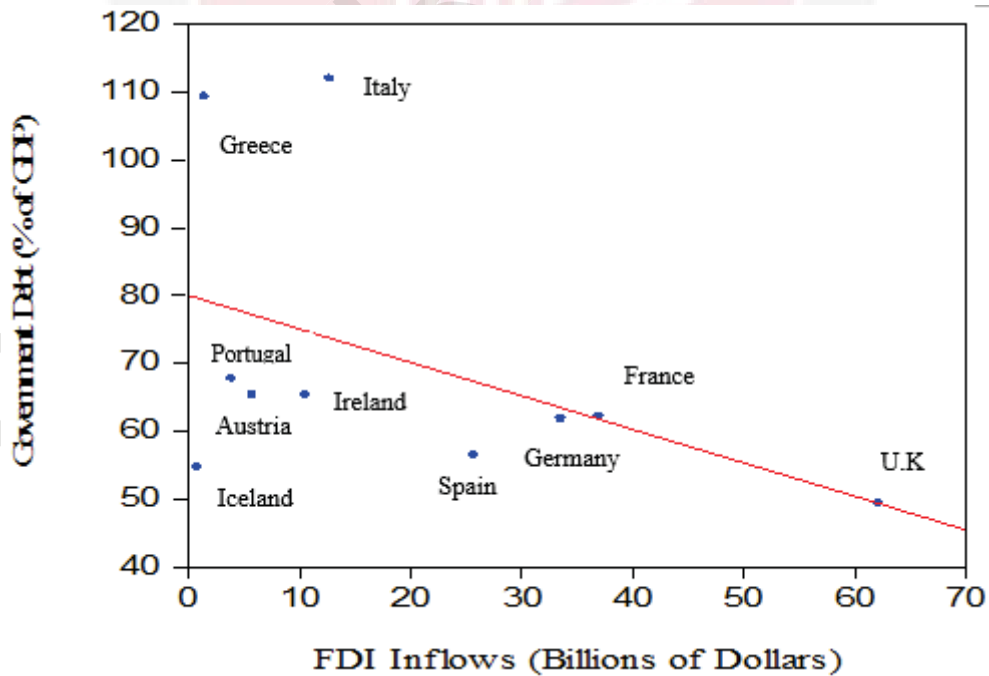
Source: The data of FDI and sovereign debt retrieved from UNCTAD FDI Statistics and IMF electronic databases, respectively.

Figure 1.8 : Average of FDI and Sovereign Debt in the 10 Selected European Countries during the Pre-crisis period (2002-2007).



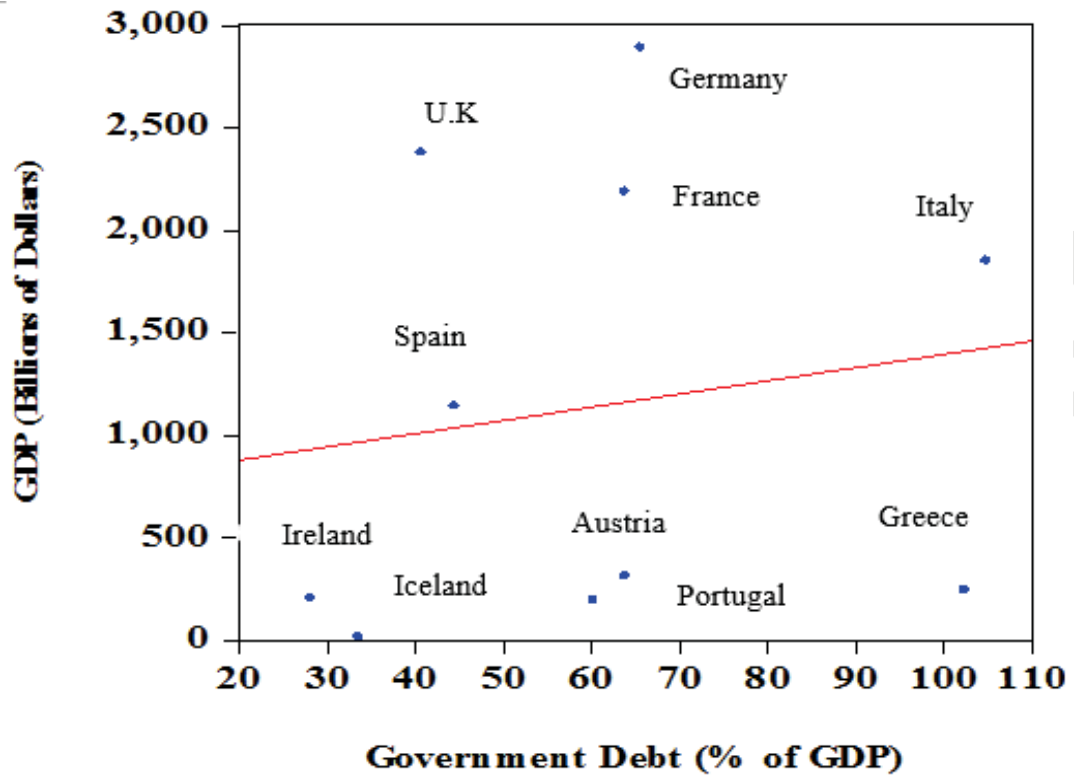
Source: The data of FDI and sovereign debt retrieved from UNCTAD FDI Statistics and IMF electronic databases, respectively.

Figure 1.9 : Average of FDI and Sovereign Debt in the 10 Selected European Countries during the Post-crisis period (2008-2013).



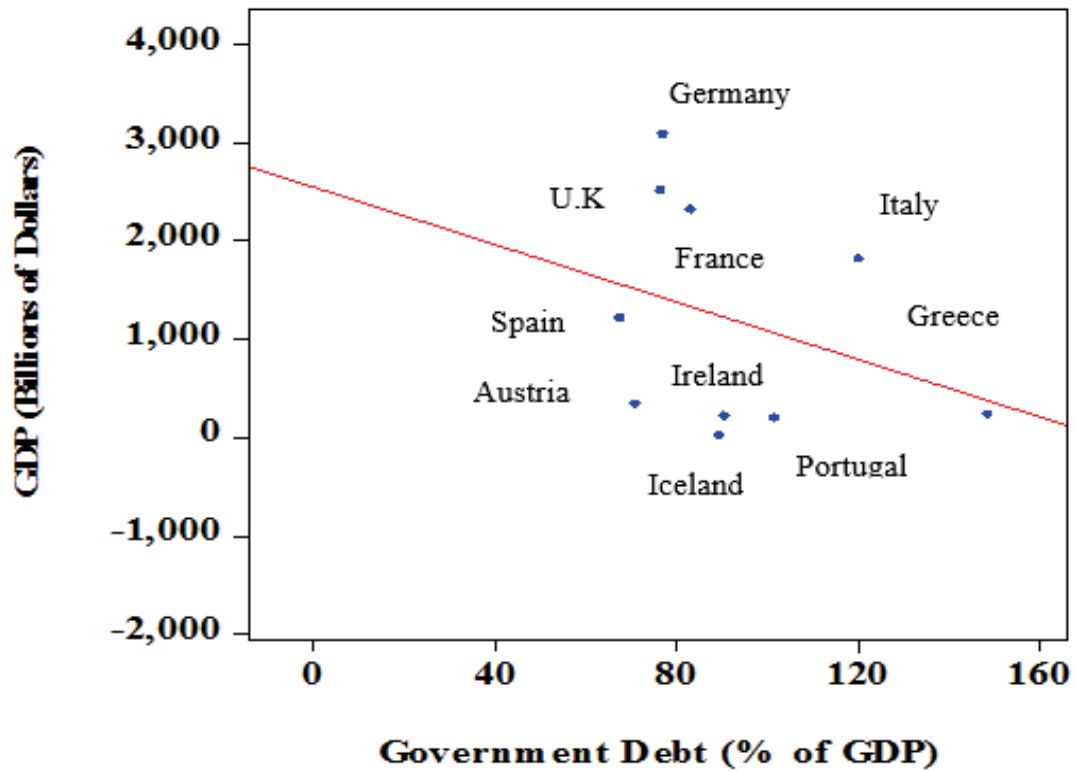
Source: The data of FDI and sovereign debt retrieved from UNCTAD FDI Statistics and IMF electronic databases, respectively.

Figure 1.10 : Average of FDI and Sovereign Debt in the 10 Selected European Countries from 1990-2013.



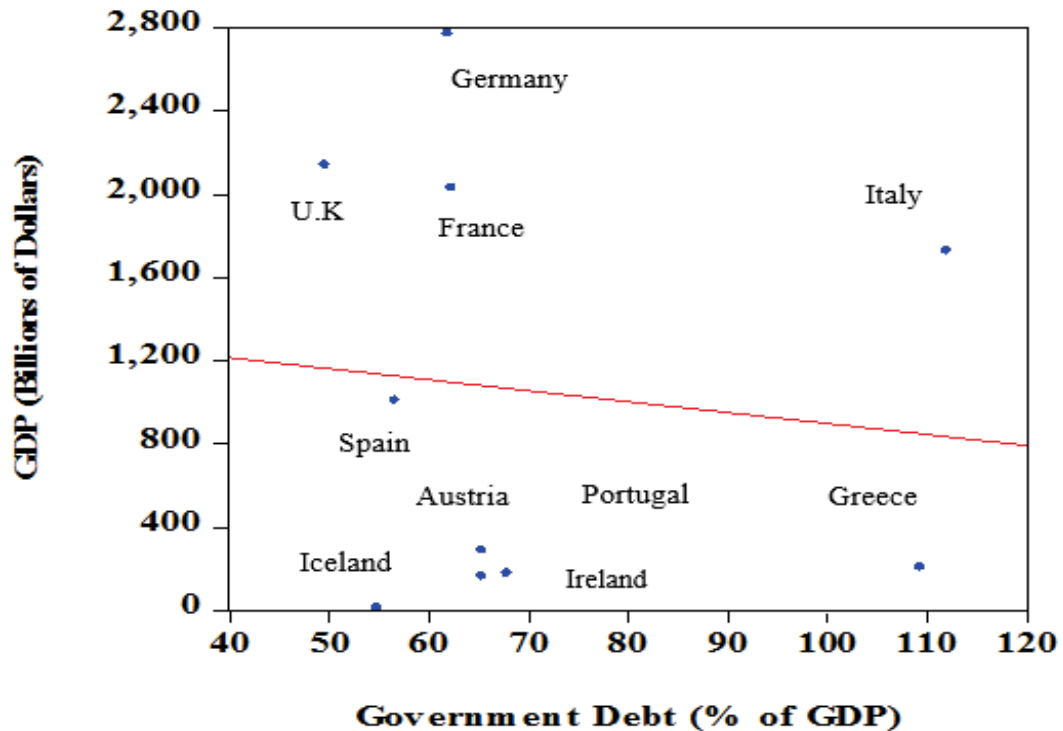
Source: The data of sovereign debt and GDP retrieved IMF and World Development Indicators electronic databases, respectively.

Figure 1.11 : Average of Sovereign Debt and GDP in the 10 Selected European Countries from 2002-2007.



Source: The data of sovereign debt and GDP retrieved IMF and World Development Indicators electronic databases, respectively.

Figure 1.12 : Average of Sovereign Debt and GDP in the 10 Selected European Countries from 2008-2013.



Source: The data of sovereign debt and GDP retrieved IMF and World Development Indicators electronic databases, respectively.

Figure 1.13 : Average of Sovereign Debt and GDP in the 10 Selected European Countries from 1990-2013.

Figure 1.11 reveals that high sovereign debt is associated with high GDP during the pre-crisis period. Nevertheless, the relationship is intrinsically reversed during the post-crisis period (Figure 1.12) and the entire period (Figure 1.13) as high sovereign debt is correlated with low economic growth. This could be attributed to the decline in consumption and global demand, recession, weak financial system, and macroeconomic instability in Europe that have reduced both domestic and foreign investments and slowed down economic growth (UNCTAD, 2013).

As shown in Table 1.1, on average, the sovereign debt in these European countries did not, at least at the first glance, appear to be a looming problem during the pre-crisis period, with the exception of Greece and Italy, where sovereign debt levels reached around 102% and 105%, respectively. The underlying reason for such massive debt accumulation in both countries is the excessive deficits incurred in the preceding periods when the sovereign debt exceeded 100%. In the perspectives of FDI and GDP, foreign investment and GDP in Greece remained relatively low level during the pre-crisis, with a recorded average of \$1.9 and \$ 246.6 billion, while for Italy it was \$27.7 billion and \$1,851 billion, respectively.

Table 1.1 : Average of FDI and Sovereign Debt in the 10 Selected European Countries.

	Pre-Crisis (2002-2007)			Post-Crisis (2008-2013)			Overall (1990-2013)		
	FDI	Debt	GDP	FDI	Debt	GDP	FDI	Debt	GDP
Greece	1.92	102.3	246.6	2.12	148.7	233.8	1.50	109.2	210.1
Italy	27.7	104.7	1851	11.56	120.3	1815	12.7	111.9	1728
Iceland	2.48	33.5	16.37	0.62	89.5	18.6	0.8	54.7	14.5
France	62.8	63.7	2190	31.76	83.2	2314	37.0	62.2	2031
U.K.	107	40.7	2379	58.16	76.7	2513	62.2	49.5	2141
Portugal	4.80	60.2	197.5	5.55	101.7	198.1	3.9	67.8	180.4
Spain	34.9	44.4	1143	36.75	67.6	1212	25.6	56.5	1010
Austria	9.9	63.8	313.7	7.11	71.0	341.7	5.7	65.3	291.5
Germany	43.1	65.5	2891	32.79	77.1	3086	33.5	61.8	2771
Ireland	4.8	28.1	206.5	24.91	90.6	217.1	10.5	63.3	165.0

Source: The data of FDI, sovereign debt, and GDP retrieved from UNCTAD FDI Statistics; World Bank Development Indicators, WDI, and World Economic Outlook, IMF electronic databases, respectively.

Note: FDI and GDP refer to FDI inflows and gross domestic product in billions of dollars while sovereign debt is government debt (% of GDP).

In contrast, Iceland and Ireland had a relatively low level of sovereign debt compared to Greece and Italy, with an average of 34% and 28%, respectively. As for foreign investment, both countries only reached an approximate value of \$2.4 billion and \$4.8 billion, respectively, during the pre-crisis years. Despite this, Ireland showed a relatively higher GDP of \$206.5 billion compared to Iceland of only \$16.3 billion. Moreover, countries such as the U.K., Spain, Portugal, France, and Austria experienced stable debt levels of between 41%-66% with the average FDI and GDP ranging from \$34.9-\$107.3 billion and \$1,143-\$2,379 billion, except for Portugal and Austria, which recorded \$4.8 billion and \$9.9 billion for FDI and \$197.5 billion and \$313.7 billion for GDP, respectively.

In the aftermath of the global financial crisis, sovereign debt surged considerably from a range of 28%-105% in the pre-crisis period to 68%-149% during the post-crisis period, with FDI declining from a maximum of \$107.3 billion to \$58.1 billion. According to Gnegne & Jawadi (2013), the substantial rise in sovereign debt and decline in foreign investment in European countries after the global recession are an outcome of the tremendous government stimulus packages. In addition, growth in the aging population required increased government spending on pensions and healthcare, while the weak tax revenue collections associated with higher government expenditures on unemployment placed a strain on the public finances (Luigi, 2011). Hence, the governments' commitment to restrict the

likelihood of a new Great Depression coupled with the cost of social obligations ultimately fueled a rapid deterioration in the sovereign debt levels.

With the rise of sovereign debt after the global crisis, most of the European countries experienced a decline in foreign investment inflows. This is evident in the case of Italy, Iceland, France, the U.K., Germany, and Austria, where foreign investments reduced drastically from a range of \$2.4-\$107.3 billion during the pre-crisis period to \$0.6-\$58.1 billion in the post-crisis period. On the other hand, sovereign debt in these countries increased from a range of 33%-105% to about 77%-120%. According to UNCTAD (2009a) and Schmidt & Zwick (2015), reductions in capital flows were accompanied by a high degree of uncertainty. The uncertainty not only about the state and the sustainability of public borrowing but also about the policies and economic prospects for the future. Greece, Portugal, Spain, and Ireland also experienced a similar condition, where the debt levels rose from an average of 28%-102% to 68%-149%. However, a sharp hike in public borrowing during the post-crisis years brought about a slight upsurge in foreign investment in these countries, with Ireland registering a relatively large increase to \$24.9 billion. Despite sovereign debts upsurge in the 10 selected European countries, the GDP showed an increase from the range of \$16.3-\$2,899 billion during the pre-crisis period to \$18.6-\$3,086 billion in the post-crisis years, with the exception of Greece and Italy which experienced a decline in GDP to \$233.8 billion and \$ 1,815 billion, respectively.

1.4 Problem Statement

In Europe, FDI has played a crucial role in enhancing productivity and strengthening the association between Europe and the rest of the world economy. Nonetheless, the onset of the global crisis triggered an enormous increase in sovereign debt and led to the landscape change in the context of economics and investments in Europe. Therefore, this sparked the interest of this study to focus on Europe's debt condition and its impact on foreign capital and economic growth.

First, a sizeable sovereign debt is likely to deter foreign investment through credit resources in European countries. An increasing share of financial resources is absorbed by the public sector through government borrowing, leading to inefficiency in funds allocation to more productive and profitable investments in the private sector (Hauner, 2009). The inefficient and limited credit facilities ultimately discourage foreign investment. Besides, a huge debt service burden is expected to result in foreign investors encircled by greater uncertainty towards the economic prospects and government policies. In this respect, the unprecedented rise in sovereign debt yielded a stylized fact that the dilemma of debt in European countries had an immense impact on the inflows of foreign investment.

Second, high debt levels raise concerns regarding the influence of sovereign debt on FDI-growth nexus. As noted earlier, high sovereign debt tends to redirect financial resources for government expenditure rather than for private productive investment. A fall in loan availability in the private sector reduces the funds for extending innovative activities projected by FDI in the host countries and, therefore, has unfavorable implications on the economy (Choong, Lau, Liew, & Pua, 2010). Additionally, high debt levels induce government to tighten fiscal policy through reduced spending (Cimadomo et al., 2014,). The reduction in public expenditure impacts not only the social allowances but also tax incentives for research and development (R&D) and labor force training schemes which are essential for the country to benefit from FDI. As a consequence, high debt levels is expected to influence the effects of FDI on economic growth in European countries.

Third, European countries experienced an abrupt upsurge in their sovereign debt and bonds spread, signaling escalation of economic and financial default risks from market insight (Weitzel et al., 2014). Most recently, sovereign debts attained a critical level in European countries as reflected in excessive borrowings, arrears payments, debt rescheduling, and sluggish economic growth (Dogan & Bilgili, 2014). The deterioration of sovereign debt has drawn the attention of this study on debt sustainability, as the debt issue has been severely threatening the economic viability of the European countries. In particular, this study investigates the non-linear effect of sovereign debt on FDI and growth nexus.

Against this background, this study raises concerns about sovereign debt in European countries based on three questions: First, does sovereign debt condition affect FDI inflows into European countries? Second, since the effects of FDI on economic growth depend on the countries' condition, does sovereign debt affect FDI-growth nexus in Europe? Third, what is the threshold level of sovereign debt in European countries? In particular, what would be the impact of foreign investment on economic growth if the sovereign debt rises beyond the threshold value?

1.5 Objectives of the Study

The nexus between FDI and growth is of considerable importance to economists and researchers who view FDI as a strategic economic variable. In light of the debt problems in Europe, this study is keen to investigate the role of sovereign debt on FDI and economic growth based on the 10 selected European countries – Greece, Germany, Portugal, Italy, Ireland, France, Iceland, the U.K, Austria, and Spain – during the period 1990-2013. The specific objectives of the study are as follows:

1. To examine the determinants of foreign investment in the context of sovereign debt.
2. To investigate the role of sovereign debt on FDI-growth nexus.
3. To examine the threshold level of sovereign debt.

1.6 Significance of the Study

This study extends the present economics literature and contributes in several ways. First, in the economics and business literature, numerous scholars have studied the determinants of FDI; nevertheless, the determining factors have evolved. While a low-cost labor force and well-developed infrastructure may result in large FDI inflows, imbalances in the macroeconomics, especially the debt levels, has also drawn the serious attention of foreign investors in recent years. Thus far, concerns about the country's condition, particularly in terms of public borrowing, on FDI's flows have been far less investigated. Therefore, identifying and studying the determinants of FDI in the context of sovereign debt is essential to derive appropriate and effective policies to attract foreign investments to promote economic growth.

Second, many countries have drawn significant attention in attracting FDI as a major economic strategy. Hence, it is crucial to examine the effects of FDI on growth in related to the country condition. If sovereign debt in European countries plays an essential role in influencing the FDI-growth nexus, then a heavy debt burden is likely to reduce the positive externalities of FDI. In this respect, this study demonstrates the importance of investigating sovereign debt when examining the economic effects of FDI. To date, the role of sovereign debt in the FDI-growth relation has not been fully studied. To the best of my knowledge, this study is unique in this respect. Hence, this study seeks to enrich the economics literature and benefit researchers who are interested in studying the relevant fields in the future. Also, it is hoped that this study provides useful insight information for policymakers who formulate policies and strategies to stabilize the economies in these related countries.

Third, the soaring sovereign debt in developed countries could largely be attributed to improper debt management policies and governance. Poor management of sovereign debt infers that the country over borrows, which is counterproductive to the development process. Thus, this research is timely to provide policymakers with new insights regarding the sustainability of debt by examining the debt threshold level. With such a framework in place, awareness of government and policymakers could be developed to maintain low and reasonable debt levels by enhancing the effectiveness of debt management capability and formulating sound debt management policies.

Additionally, determining the optimal debt level will not only allow countries to maintain a favorable debt position, but will also give them the ability to shift to a stronger and more sustainable growth path since affordable borrowings could be used to finance productive activities. Therefore, a sustainable and well managed debt level is expected to encourage investment and increase a country's economic growth, especially in resource-scarce economies. To date, very few studies have examined the threshold level of sovereign debt by taking into consideration of the recent crisis in European countries. Thus, this study aims to fill this research gap

and the findings from this attempt could serve as a foundation for further similar research in the future.

1.7 Organization of the Study

This study consists of five chapters and is organized as follows: Chapter 1 discusses the theoretical background of the study, issues and objectives. Chapter 2 presents a review of theoretical literature and empirical evidence on both the determinants of FDI and economic growth. Hence, reviewing previous literatures provide a general conclusion for the study at the end of this chapter. Chapter 3 discusses the theoretical framework, model specifications, methodology, and data collection. This chapter comprises five sub-sections. Section 3.1 and Section 3.2 provide the introduction and theoretical framework, respectively. The models designed to address the issues in this study are discussed in Section 3.2 as well. Section 3.3 and Section 3.4 detail the estimation techniques adopted for the analysis and sensitivity test, respectively, while Section 3.5 discusses the source of data used in this study. Lastly, the estimated findings of the analysis and interpretations are presented in Chapter 4, while Chapter 5 provides the concluding remarks, policy implications, and recommendations of the study.

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