

**UNIVERSITY OF PIRAEUS**



**DEPARTMENT OF MARITIME STUDIES**

**M.Sc. IN MARITIME STUDIES**

**SOVEREIGN DEBT CRISIS IN THE  
EUROZONE: WITH SPECIAL REFERENCE TO  
THE PERIPHERAL COUNTRIES**

Lois Skevofylax

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## **DECLARATION**

### DECLARATION

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The present dissertation was approved unanimously by the three – member committee appointed by the General Assembly of the Department of Maritime Studies, University of Piraeus in accordance with the regulations of the postgraduate program in shipping.

Committee Members were:

- Professor Eleftherios Thalassinos (Supervisor)
- Professor Andreas Merikas
- Associate Professor Dimitrios Gounopoulos

The approval of the dissertation by the Department of Maritimes Studies, University of Piraeus does not imply acceptance of the opinions of the author.

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## **ABSTRACT**

The aim of this dissertation was to explore the overreaching theory that sovereign debt crisis plays in the economy of a nation in conjunction with the active role of the Eurozone member states. The study introduces the previous financial crises and concentrates in the current sovereign debt crisis.

The following research defines a description of how this crisis is formed and how the European leaders through their policy measures, are reflected in the crisis. One of the main objectives of this study is to identify the highly indebted peripheral countries (Greece, Ireland, Italy, Portugal and Spain) in order to highlight the consequences against sovereign debt dynamics in the Eurozone. A scenario approach, as the explanatory method to illustrate potential events about the future of the Euro area and to consider the implications of the member states was presented.

Results indicate that rescue packages along with controlled tough austerity measures failed to provide sufficient confidence to the financial markets, as the problems facing the PIIGS (Portugal, Italy, Ireland, Greece and Spain) remained and were aggravated as GDP growth rates were falling, yields on government bonds rose sharply and unemployment rates were rising.

Our empirical findings derived from the research methods conducted, suggest that the survival of the common currency area, and in effect Eurozone, depends not only on macro-economic issues but to a large extent on policy-making.

Keywords: Eurozone, Sovereign Debt, PIIGS, Rating Agencies, Fiscal Policy, Deficits and Debt, CDS, Government Bond Spreads.

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## LIST OF ABBREVIATIONS

<b>CDS</b>	Credit Default Swap
<b>CPI</b>	Consumer Price Index
<b>CRAs</b>	Credit Rating Agencies
<b>ECB</b>	European Central Bank
<b>ECON</b>	Committee on Economic and Monetary Affairs
<b>EFSF</b>	European Financial Stability Facility
<b>EMU</b>	European Monetary Union
<b>EU</b>	European Union
<b>EUR</b>	Euro
<b>GDP</b>	Gross Domestic Product
<b>GIIPS</b>	Greece, Ireland, Italy, Portugal and Spain
<b>IMF</b>	International Monetary Fund
<b>LTROs</b>	Longer Term Refinancing Operations
<b>NAFTA</b>	North American Free Trade Agreement
<b>PIIGS</b>	Portugal, Ireland, Italy, Greece and Spain
<b>USD</b>	United States Dollars

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## CHAPTER 1 – INTRODUCTION

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## **1. Introduction**

In the economic environment for the last five years, bank executives, government officials, and public institutions involvement have been sharply criticized for failing to anticipate the global financial crisis. The speed and depth of the market declines shocked the public. Although of this occurrence has not been equal in all countries, it is nevertheless remarkable that the growth in public spending has been a general phenomenon despite the considerable institutional differences, geographic and language barriers that have existed among industrialized economies.

Although the developed world had suffered numerous recessions in the past 150 years, in December 2009, with the global economy inching out of the Great Recession, the sovereign debt crisis hit Europe, elevating questions for the existence of the common currency and raised grave doubts about the ability of major banks and even sovereign governments to honour their obligations.

Markedly reduced growth prospects and sharply increased public debt in several advanced countries have heightened concerns about sovereign credit and liquidity risk, posing a considerable challenge to banking systems and financial stability. Therefore, what issues are most important in order to address properly the Euro crisis?

The on-going sovereign debt crisis in Europe and the risk contagion effects led to extremely nervous trading and high volatility on the financial markets in 2011. The economic outlook for numerous countries gradually deteriorated. After the financial crisis, governments around the world implemented large scale fiscal expansion. In favour of finance such policies during the economic recession, sovereign debt especially in major developed economies increased rapidly, accompanied by the increase of the trading volume of sovereign Credit Default Swap (CDS). This indicates that global investors are increasingly raise concerns about sovereign default risks than before.

Five years on from the emergence of the financial crisis and the Eurozone continues to experience difficulties. The foremost fundamental problem is debt. But is debt the consequence of the current structure of world finance and its institutions or is poor regulations at government levels, and therefore of unsustainable policies?

The aim of this study is to explore the overreaching theory that sovereign debt crisis plays in the economy of a nation and indicate the most important factors that led to the current crisis. Policy responses and its impact on the Eurozone are also addressed, as the pace of the political response of the Eurozone authorities has been too slow and the content of the measures taken has not matched up to the ambitions of political declarations.

One of the main objectives of this study is to identify the highly indebted peripheral countries in order to highlight the implications against sovereign debt dynamics in the Eurozone. To carry out the analysis we examine the role of rating agencies in the current sovereign debt crisis and subsequently the developments in Eurozone focusing predominantly on peripheral countries referred by the acronym 'PIIGS' (or in some cases 'GIIPS') which referred to Portugal, Ireland, Italy, Greece and Spain. Yet, as will be shown, underlying developments were widely different among these countries. These dilemmas raise the question of whether financial markets may have mispriced risks either before or after the start of the crisis, or in both periods.

Following the agreement to expand the Eurozone rescue fund, Eurozone leaders are working on a plan to recapitalise European Union (EU) banks to protect them from the potential fallout of sovereign defaults in the highly indebted euro-area countries (Greece, Ireland, Italy, Portugal and Spain). European Central Bank is making efforts to pump liquidity into the financial sector and bolster confidence, but still many EU banks remain highly exposed to sovereign debt. So, what went wrong in the way the ECB designed its lender of last resort operations?

Given the importance of all the above issues for the stability of the European Monetary Union (EMU) a scenario approach used, together with a number of factors that affect sovereign debt crisis by estimating relationships between Eurozone economies including selected fundamental variables. Therefore, what would be the optimal scenario outline for sovereign debt restructuring in the existing financial environment?

This study will follow the standard format and will be structured as follows: the next chapter, the literature review, introduces with a brief overview of the crisis of 2007 – 2011 which describes key features and events, the actions of regulators and feedbacks from the markets to the real economy. Then defines the concept of country risk and it investigates numerous scholarly articles on sovereign debt crisis existing in the literature. Given economic updates in this study we also highlight the scale of sovereign debt ratings for a range of countries.

Chapter III introduces a number of developments and fundamentals variables emphasized in the highly-indebted euro-area countries (Greece, Ireland, Italy, Portugal and Spain) related to the sovereign debt crisis and how a nation's debt burden is reported. As a final point the link between sovereign debt crisis and Credit Default Swap (CDS) values is also addressed.

Chapter IV presents the research methodology and its limitations.

Chapter V introduces the findings from our research methodology, which in line with the literature review and the scenario approach, will serve as the basis for discussion.

The final chapter will highlight the implications for research and for practitioners towards this study.

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**CHAPTER 2 – LITERATURE  
REVIEW**

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## **2. Sovereign Debt Crisis**

### **2.1 Introduction**

Global financial markets and capital flows have been tremendously volatile ever since the global financial crisis in August 2007. The collapse of US and global real estate prices in the beginning of the aforesaid year initiated an international financial crisis which subsequently spread to the real economy.

The squeeze of liquidity in 2008, which implied a drying up of liquidity among financial institutions, forced many banks and investors to repatriate capital to finance investment and meet redemption calls, thus severely restricting the capital available to the real side of the economy and triggering a major global recession (Adrian and Shin 2010), Borio (2009), Tirole (2010).

The general public responses in the U.S. and Europe found these events predominantly troubling because they had assumed that elected officials and regulators were well-informed about financial risks and capable of limiting serious threats to their investments, savings, and pensions. Policymakers, central bankers, financial regulators, ratings agencies, all seemed to fail to sense the looming financial danger. Markedly reduced growth prospects and sharply increased public debt in several advanced countries have heightened concerns about sovereign credit and liquidity risk, posing a considerable challenge to banking systems and financial stability.

2011 was still a very difficult year for the world economy. In Europe, the sovereign debt burdens of some nations and the potential for contagion across the wider Eurozone caused a widespread loss of market confidence and triggered comprehensive efforts by governments and central banks to stabilise the situation. The United States economy came across with a weakening pace of recovery and concerns arose over the capacity of the U.S. government to effectively reduce its debt burden. In Asia, fears over the emergence of asset bubbles in China gave rise to concerns of a wider economic slowdown in the region.



In this flagging global economic environment the term sovereign risk was prominent as the world's financial markets experienced high levels of volatility, liquidity stress and risk aversion which we had not seen since the immediate aftermath of the collapse of Lehman Brothers.

Contrary to this belief, sovereign risk factors have always been an integral part of making sound investment decisions. What seems to have happened, however, is that many investors had become complacent about sovereign risk assessment, particularly in the Eurozone. Simply assuming that all members of the single currency region would pursue improved public finances and fiscal strategies because they were obliged to under the Maastricht criteria has proven to be a mistake.

Looking ahead in 2012, the outlook for the global economy remains uncertain. In the United States the economy has shown signs of strengthening. The Chinese economy is more likely to avoid a sharp slowdown that was feared during 2011 and in the Eurozone governments and regulators have shown considerable determination in tackling the debt crisis. Europe's leaders have also embraced a very important challenge of developing a more integrated approach to fiscal issues facing the single currency union. As we have closely observed these developments, we also remain alert to the risks in our environment consisted of economic, political and social, which still remain considerable factors.

This chapter provides a broad framework to examine how vulnerabilities could build up and suddenly erupt in a financial crisis, with potentially disastrous feedback effects for sovereign debt and economic growth. The study begins with a brief overview of the crisis of 2007 – 2011 which describes key features and events, the actions of regulators and feedbacks from the markets to the real economy. Then, we recapitulate and classify the various types of country risk in order to approach the origin of the term of sovereign risk. Then, several scholarly approaches coexist on sovereign debt crisis and can be differentiated depending on their terminology, their definition of risk, the sources of risk they evaluate, or the nature of the investment they consider. The last part presents the role of Credit Rating Agencies (CRAs) and highlights the scale of sovereign debt ratings for a range of countries.

## **2.2 Key Features and Stages of the Global Financial Crisis, 2007 – 2011.**

Attention has focused on various types of financial crises such as banking, currency, and twin crises, as well as, increasingly, sovereign defaults; on the role of monetary regimes, especially the gold standard, and of capital flows; on the consequences of financial crises on the real economy, including conditions of recovery (Bordo and Rogoff, 1996, Goodhart and Delargy, 1998, Flandreau and Zumer, 2004, Ferguson and Schularik, 2006). However, as authors suggest this time it may be different (Reinhart and Rogoff, 2009). The financial debacle of 2007-2008 was the most serious financial crisis in history and it was a banking crisis taking place in advanced economies a fairly rare occurrence since the 1930s (Cassis, 2011).

According to academics, the existing crisis could be divided into four phases:

*Phase 1* Build-ups of vulnerabilities

*Phase 2* A parallel banking systems

*Phase 3* Lehman bankruptcy and global financial crisis / Great recession and

*Phase 4* Sovereign debt crises

In order to understand the origin of the crisis it is essential to ponder the huge growth in the so called ‘subprime mortgage lending’ during the periods 2000 and 2006. The ‘private label’ mortgage-backed securities (MBSs) expanded into subprime mortgages via securitisation, which pooled a large number of mortgages together in new structure called asset-backed securities (ABSs).

In the first phase of the crisis, the surge in new credit created from securitising subprime mortgages in the US contributed to the upward spiral of higher house prices, and eventually to speculation and a bubble in the housing market. While these worthless assets (‘bubbles’) have burst, causing asset prices (e.g., housing and commercial

property) to decline, the liabilities owed to global investors remain at full price, generating questions regarding the solvency of governments and their banking systems.

Poor regulation meant discipline in mortgage lending eroded from a loosening of lending standards. As adjustable rate mortgage interest payments increased, many households could not afford to pay their mortgages and ultimately, the surge of house prices slowed and many borrowers defaulted. While the crisis began with a credit shock from defaults by subprime borrowers in the United States in mid-2007, there are additional features which augmented the subprime credit shock and turned it into a much more serious crisis.

The second phase of the crisis in 2007 could be presumed as a similar banking system initiated by negative credit shock from subprime borrowers, illiquid structured credit without transparent values, very short-term funding of longer maturity assets (maturity transformation) and finally the lack of a lender to core institutions in what had grown into a very considerable 'parallel banking system' (outside the US banking sector) (Loeys and Cennella, 2008).

A key contributing factor to the severity of the crisis was the build-up in leverage financed by wholesale short-term funding. The leverage in securitised products came mostly from the way products funded (collateralised debt obligations - CDO) whereby a large portfolio of credit securities is created and then a new capital structure is issued against the underlying portfolio (Coval et al., 2008). By 2007, short-dated funding of longer maturity assets outside of the regulated banking system in the US economy were about USD 5.9 trillion (Loeys and Cennella, 2008).

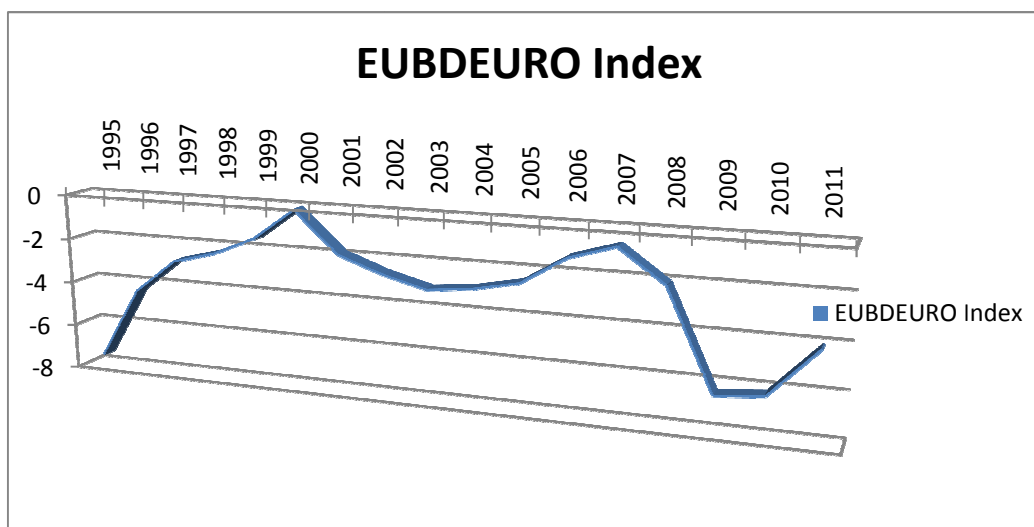
Although this maturity transformation outside of the banking world amounted to 40% of the total maturity transformation in the US financial system in 2007, until then there was no official lender of last resort to this 'parallel banking system'. The vulnerabilities were piled up from 2003 to 2007, but didn't erupt into a full-blown crisis until mid-2007, when lenders stopped providing in short-dated funding.

The third phase of the crisis began in September 2008 (a 'financial fragility' period), when financial markets and the rating agencies decided Lehman Brothers was near bankruptcy. The US Treasury tried to arrange financial support but after bailing out the investment bank Bear Stearns in March 2008, U.S. Treasury Secretary Henry Paulson insisted that the government has no intention to bail out other banks (Skeel, 2011). Lehman declared bankruptcy on 14 September 2008, which was the largest bankruptcy in the history of the world. This had also serious impact on the financial markets in the European Union (EU) countries.

As a result, world stock markets plunged, wiping out USD 1 trillion in market value. The crisis rapidly spilled over internationally. Several banks in the United Kingdom (UK), Belgium and other countries were taken over by their governments. Depositors started a run on an Icelandic bank, the Icelandic króna fell by over 60%, and the three largest Icelandic banks had to be nationalised, triggering a sovereign debt crisis. Bank lending to Eastern Europe and the Baltics led to distress in some EU and Nordic banks in 2009. The 'fiscal stabilization' began and widespread government support via liability guarantees, capital injections and economic stimulus rescue packages was initiated to counteract the sharp recession caused by many spill overs from the crisis in a global level.

Many governments significantly increased their borrowing, raising sovereign debt levels simultaneously with declines in tax revenues, higher expenditures and increasing fiscal deficits. The average fiscal deficit in the euro area in 2007 was only 0.6% before it grew to 7% during the financial crisis (see **Figure 2.1**). In the same period, the average government debt rose from 66% to 84% of GDP. The academics also highlighted that fiscal deficits in the euro area were stable or even shrinking since the early 1990s (Atterres, 2011).

*Figure 2.1: Eurozone Budget Deficit or Surplus as a % of GDP*

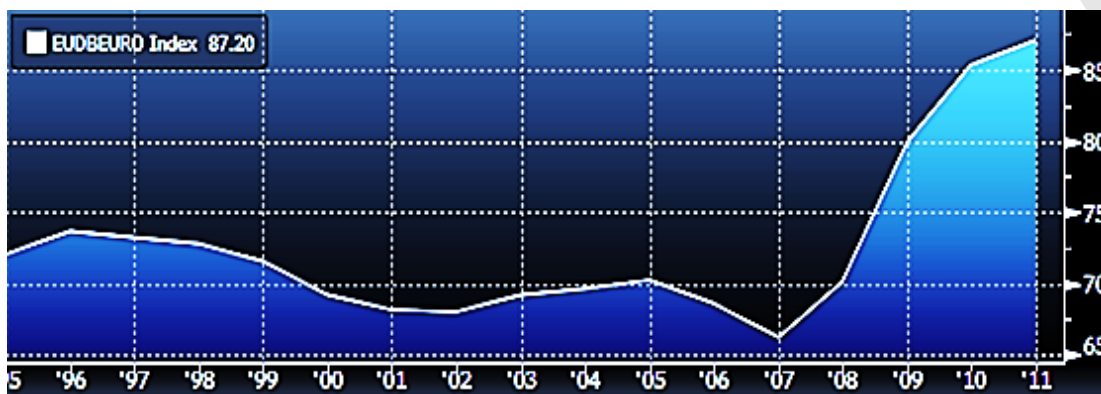


*Source: Eurostat, 2012*

Unprecedented household debt levels were also another cause. The International Monetary Fund (IMF) reported in April 2012 that in advanced economies, during the five years preceding 2007, the ratio of household debt to income up surged by an average of 39 percentage points, to 138 per cent. When house prices declined, many households faced their wealth shrink relative to their debt. By the end of 2011, real house prices had fallen from their peak by about 41% in Ireland, 29% in Iceland, 23% in Spain and the United States, and 21% in Denmark. Household defaults, underwater mortgages (where the loan balance exceeds the house value), foreclosures, and fire sales were endemic to a number of economies as of 2012. Household deleveraging by paying off debts or defaulting on them has begun in some countries, which decelerate economic growth (McKinsey, 2011).

But still high debt levels alone may not explain the crisis. The budget deficit for the euro area as a whole (see **Figure 2.2**) is much lower and the euro area's government debt/GDP ratio of 86% in 2010 was about the same level as that of the US. Moreover, private-sector indebtedness across the euro area is markedly lower than in the highly leveraged Anglo – Saxon economies.

*Figure 2.2: Eurozone Government Debt as a % of GDP*



*Note: As 31 Dec. 2011*

*Source: Bloomberg Finance L.P., 2012*

The investors turn their attention on the solvency concerns with a linkage between government debt risk and fragility in banking sector (Bolton and Olivier, 2011). Following this, financial analysts and international investors entered into contracts called credit default swap (CDS) values instead of Eurobond to evaluate country risk and default probabilities (including government issued bonds). Likewise, central bankers use these values for monitoring money and financial markets. But, since multiple CDSs could be purchased on the same security, it is unclear what exposure each country's banking system now has to CDS. These contracts reflect the expectations and forecasts of both who sells and who owns the risk. In crisis periods, CDS values may have an increase much more than the default probability.

The fourth phase of the crisis, which emerged in 2010, is the sovereign debt crisis. This appeared first in the peripheral EU countries specifically in Greece, Portugal and Ireland collectively accounted for 6% of the Eurozone's gross domestic product (GDP), before morphing into wider concerns about UK and US debt sustainability. In June 2012, Spain also became a matter of concern, when rising interest rates began to affect its ability to access capital markets, leading to a bailout of its banks and other measures (Forell and Steinhauser, 2012). Sovereign debt along with fiscal issues and banking sector risks are intertwined. Banking risks spilled over; increasing sovereign risk via increased contingent liabilities to banks (this was particularly extreme in the case of Ireland).

As sovereign credit risks rise, the value of government support to banks becomes more uncertain, and sovereign spreads can spill over, increasing bank borrowing costs. Large scale banking rollover, refinancing and high sovereign borrowing needs occurred simultaneously in 2010 in many countries. By August 2011, there was serious concern about sovereign risk in Italy, Spain and also France, triggering concerns about the viability of the euro area single currency.

As a final point, the Eurozone is facing a serious sovereign debt crisis. The financial health of one country is heavily dependent on the financial health of other countries. Moreover, contagion risk level depends on the way that each EU government manage risk or how they diversify risk level accompanied by default probability. The current debt crisis has shown that a reform of current EU mechanisms must be put in force, otherwise the stability of the Eurozone will be jeopardised and the euro currency itself will be negatively affected.

## **2.3 Background Definitions and Concepts**

### **2.3.1 An Overview of Country Risk**

Analysing the driving forces of sovereign crisis within the euro area is attracting a lot of interest in the literature. In order to address properly the major issues related to the crisis it is essential to introduce and define first the concept of country risk. Several approaches coexist and can be differentiated depending on their terminology, their definition of risk, the sources of risk they evaluate, or the nature of the investment they consider.

The perception of 'political risk' began to emerge in the literature of the 1960s, with authors like Usher (1965) or Root (1968). Researchers tried to assess the risk of investing abroad in terms of 'investment climate' (Gabriel, 1966 and Stobaugh, 1969). Nevertheless, as the next decades demonstrated, the definition of 'political stability or instability and how to measure the phenomenon and what the causal forces' are proved to be more complex than originally anticipated and is still far from being resolved.

**Table 2.1** presents the various approaches of the literature on country risk.

*Table 2.1: Various Approaches of the Literature on Country Risk*

Terminologies	Definition of risk	Sources of risk	Nature of the investment	Historical perspective	Methodology
<ul style="list-style-type: none"> <li>• Political risk</li> <li>• Country risk</li> <li>• Sovereign risk</li> <li>• Cross-border risk</li> </ul>	<ul style="list-style-type: none"> <li>• Performance variance</li> <li>• Negative outcome</li> </ul>	<ul style="list-style-type: none"> <li>• Sovereign interference</li> <li>• Environmental instability</li> </ul>	<ul style="list-style-type: none"> <li>• Foreign direct investment</li> <li>• Banking commercial loans</li> <li>• Portfolio investment</li> </ul>	<ul style="list-style-type: none"> <li>• 1960s–1970s</li> <li>• 1980s</li> <li>• 1990s–?</li> </ul>	<ul style="list-style-type: none"> <li>• Qualitative</li> <li>• Quantitative</li> </ul>

*Source:* Boucher, Clark and Gros Lambert, Country Risk Assessment, 2003

Academics as well as practitioners are still short of a consensus about the scope of this field of research. In the literature dealing with the risk of doing business abroad, the two terms most frequently encountered are ‘Country risk’ and ‘Political risk’. Less frequently references to ‘Cross-border risk’ or ‘Sovereign risk’ can be found. ‘Political risk’ is the oldest terminology and appears mostly in academic articles. ‘Country risk’ began to be widely used in the 1970s. It was originally more professionally oriented in the sense that it aimed at addressing the concrete issue of a particular business in a particular country and was generally used by the banking industry.

This stream of literature flourished in the aftermath of the international debt crisis of the 1980s. Desta (1985) points out that, an analyst in international lending institutions prefer to use the term ‘Country risk’ or ‘Sovereign risk’ as opposed to political risk.

It is imperative to note that the literature distinguishes between risk and uncertainty. Risk occurs when the outcome is uncertain, but the probabilities of all outcomes are known or estimable. Uncertainty on the other hand refers to a situation where probabilities are unknown. In this sense, one aim of an investor is to reduce uncertainty by learning about the risk concerning the profits or the value of the firm, coming from the variability of the future state of the economy. Therefore, Country risk indices support the investor by reducing uncertainty and detecting the variability potential of the profits and therefore the value of the investment undertaken abroad.



Thus, the notion of risk has different meanings and may be understood either as a performance variance or just as the likelihood of a negative outcome that reduces the initially expected return. However, as evidenced by March and Shapira (1987) or Baird and Thomas (1990), practitioners are more concerned by failing to achieve a given target performance than by the entire set of possible outcomes. Consequently it is more appealing to follow a downside risk approach as opposed to a total risk perspective.

### **2.3.2 Country Risk Categories and their Measurements**

Analysts have tended to separate Country risk into the six main categories such as *Economic Risk*, *Transfer Risk*, *Exchange Rate Risk*, *Location or Neighbourhood Risk*, *Political Risk* and finally, *Sovereign Risk* (Coplin and O'Leary, eds. 1994). Many of these categories overlap each other, given the interrelationship of the domestic economy with the political system and with the international community. Even though many risk analysts may not agree completely with these categories, these six concepts tend to show up in risk ratings from most services.

For the purpose of our study we will give a brief overview of these categories and we will focus more on the sovereign risk category.

#### *Economic Risk*

Risk arises from the potential for detrimental changes in fundamental economic policy goals (fiscal, monetary, international, or wealth distribution or creation) or a significant change in a country's comparative advantage (e.g., resource depletion or industry decline). Economic risk often overlaps with political risk in some measurement systems since both deals with policy.

Analysts examine traditional measures of fiscal and monetary policy. For longer term investments, they also examine growth theory factors. For fiscal policy, usually consider factors such as the size and detail of government expenditures (investment vs. spending as a per cent of GDP), tax policy (types and rates of taxation), and the

government's debt situation (government deficit/GDP, total government debt/GDP, debt financing sources). Moreover, they assess the impact of monetary policy and financial maturity on economic growth (inflation, money supply growth, real and nominal interest rates, and financial sector/GDP).

For longer term investments, they focus on long run growth factors (such as private and foreign direct investment/GDP, labour force growth, unemployment and productivity), the degree of openness of economy (exports plus imports/GDP, FDI/total private investment) and institutional factors that might affect wealth creation (property rights, extent of any black market).

#### *Transfer Risk*

This type of risk arises from a decision by a foreign government to restrict different types of capital movements. Usually is analysed as a function of a country's ability to earn foreign currency, with the implication that difficulty earning foreign currency increases the probability that some form of capital controls can emerge.

Typical measures include the ratio of debt service payments to exports or to exports plus net foreign direct investment (debt/interest service ratios), the structure of foreign debt relative to income (various debt/GDP ratios), foreign currency reserves divided by various import categories (import coverage), and measures related to the current account status (external financing gap, current account as a per cent of GDP).

#### *Exchange Risk*

Exchange risk includes an unexpected change in currency regime for instance, a change from a fixed to a floating exchange rate. Many of the quantitative measures used to identify transfer risk and also identify exchange rate risk since a sharp devaluation of the currency could reduce some of the imbalances that lead to increased transfer risk. A country's exchange rate policy might assist isolate exchange risk. Managed floats, where the government attempts to control the currency in a narrow trading range, tend to possess higher risk than fixed or currency board systems. Floating exchange rate

systems in general sustain the lowest risk of producing an unexpected adverse exchange movement.

#### *Location or Neighbourhood Risk*

Spill over effects caused by problems in a region, in a country's trading partner, or in countries with similar perceived characteristics. Geographic position provides the simplest measure of location risk. Trading partners, international trading alliances (Mercosur, NAFTA, and EU), size, borders, and distance from economically or politically important countries or regions could also be helpful define location risk.

#### *Political Risk*

This category includes the risk of a change in political institutions stemming from a change in government control, social fabric, or other non-economic factor. Furthermore, includes the potential for internal and external conflicts, expropriation risk and traditional political analysis. Risk assessment necessitates analysis of many factors, including the relationships of various groups in a country, the decision-making process in the government, and the history of the country. Insurance exists for some political risks, obtainable from a number of government agencies and international organizations.

#### *Sovereign Risk*

A government becomes unwilling or unable to meet its loan obligations, or reneges on loans it guarantees. Sovereign risk could be related to transfer risk because a government may run out of foreign exchange due to unfavourable developments in its balance of payments. It also relates to political risk in a manner that a government may decide not to honour its commitments for political reasons. The literature designates sovereign risk in a separate category because a private lender faces a unique risk in dealing with a sovereign government which will be analysed in further detail in the following sessions. Should the government decide not to meet its obligations, the private lender realistically cannot sue the foreign government without its permission.

Analysts calculate ability to pay using transfer risk measures. Willingness to pay requires an assessment of the history of a government's repayment performance, an analysis of the potential costs to the borrowing government of debt repudiation, and a study of the potential for debt rescheduling by consortiums of private lenders or international institutions. Sovereign risk may be further complicated by the international setting.

### *Sovereign Risk versus Country Risk*

Sovereign risk and country risk are conceptually distinct in the following ways:

- Sovereign risk measures the risk of a country defaulting on its debt obligations.
- Country risk measures the risk of a country's business environment, including the legal environment, levels of corruption, and socioeconomic variables such as income disparity.

Someone analysing a corporation, needs to take into consideration not only the credit risk of the sovereign in which it operates, but also the risk of doing business within that nation. The fusion of these two risks may lead to instances where the sovereign and country risk may diverge significantly and present conflicting views of that nation.

## **2.4 Reviews on Scholarly Articles on Sovereign Debt Crisis**

Sovereign debt crisis is not a new occurrence in the world. In the recession of the late 1960s and early 1970s, over accumulation of capital was a problem in Europe as well as in the US. European responses to the crisis varied widely. The emerging market crises also in the 1980s and 1990s and the fact that financial integration increased, sovereign risk analysis has become a growing field of interest.

Reviewing the sovereign rating history and its methodological evolution, Moody's (2002) states that the name 'sovereign ceiling' changed to 'country ceiling' in 1997, because the ambiguous term 'sovereign' could be taken to refer sometimes to the

country as a whole and sometimes to the government itself as an issuer. The term 'Country risk' as opposed to 'Political risk' has been gaining ascendancy because it has a broader meaning and it can include any risk specific to a given country, whereas 'Political risk' restricts the risks to those that are exclusively political in nature.

The risk is that a country (sovereign) reneges on its debt and, therefore, is in default. Country risk usually refers to all entities in a country, whereas the term Sovereign risk is reserved for the government as an obligor (Caouette, et al., 1998). Borio and Packer (2004) give an overview of the recent literature. They find that three perspectives on sovereign risk have gained prominence under the rubrics 'debt intolerance', 'original sin', and 'currency mismatches'.

Debt intolerance refers to the inability of many developing countries to handle overall debt levels that would seem quite manageable by the standards of more advanced industrialized economies. Original sin points to the inability of a country to borrow abroad in its own currency. Currency mismatches refer to the sensitivity of net worth or the present value of net income to changes in the exchange rate. However, all three perspectives lack a clear theoretical background with respect to sovereign risk (Borio and Packer, 2004).

Rabah, Bertrand and Amadou (2011) analysed the spill over effects of sovereign rating news across countries and financial markets. They used daily data on credit default swaps spreads, stock market indices and for a set of European countries. Their findings revealed that sovereign rating downgrades have statistically and economically significant spill over effects across countries and financial markets. The implication of their study is that announcements made by rating agencies could trigger significant tremors in the markets.

Grammatikos and Vermeulen (2012) found strong evidence of transmission of crisis to European non-financials from US non-financials. They also tested how the sovereign debt crisis affected stock markets. On behalf of this, they split the crisis into pre and post-Lehman sub-periods. The outcomes revealed that financials become significantly

more dependent on changes in Greek CDS spreads after Lehman's collapse, compared to the Pre-Lehman sub-period. However, they found limited evidence of increase in dependence of European financials on US financials.

In an applied point of view the term 'Sovereign risk' refers to the risk that a government may default on its debt obligations. Overall, when governments have bonds that are due to mature, means that they don't have sufficient tax receipts on hand to repay all the debt, so it is essential to re-enter the market in order to raise further money via a bond issuance. Sovereign risk thus includes 'refinancing risk', when a government is unable to raise sufficient new debt in the market (i.e. at reasonable market prices and in sufficient volume) to repay upcoming bond maturities. Sovereign risk could also be used to refer to a country imposing regulations, restricting the ability of issuers in that country to meet their obligations, such as foreign currency restrictions.

The European sovereign crisis has substantially reduced the equity market integration for most industries. Taking into account the current conditions in the Eurozone, the term sovereign risk has been used to widely classify the large budget deficits and very high government debt levels of a number of countries, such as Greece, Italy, Ireland, Portugal and Spain.

These countries, suffer from very high net debt levels plus very high budget deficits, which are adding substantially to their debt burden. This on-going accumulation of large deficits and debt is raising doubts in the market that these countries may at some point not be able to repay bonds as they mature. A borrowing country that has higher budget deficit levels over a long period of time accumulates large government debt levels, giving that borrower less financial flexibility to borrow in the future. Therefore, these two indicators are at some point the key ones to notice when assessing sovereign risk. According to Jamal's research findings (2011), bailouts encouraged the financial outlook but created more pressures on sovereign debt service.

Sovereign and country risk seems to present a much more difficulty to model than credit risk for several reasons (for the differences between country and credit risk, see Scholtens, 2004). First, the lack of a liquid secondary financial market makes it very

difficult to price sovereign risk for a specific obligor and tenor. Compared to stock markets, emerging bond markets are much less efficient (Saunders and Allen, 2002). Octavio and Martin et al. (2011) examined the role of monetary policy as a determinant of stock liquidity. Value at Risk (VaR) models was used by the researchers to examine the relationship between monetary policy and market liquidity. The results revealed that expansionary monetary policies entailed more liquid stocks. Furthermore, they noticed that ECB's monetary policies determined the liquidity of the stock markets in the Eurozone.

Second, although countries do present national accounts, because of valuation issues and wide divergence in accounting practices, these cannot be used in a similar way as the accounts of corporations. Usually, national accounting data are available only with a considerable time-lag, especially in developing countries. Moreover, various authors doubt the accuracy of national accounts to reflect the economic strengths and weaknesses of economies (Deaton, 2003). Additionally, countries cannot technically go into bankruptcy in the way corporations do but in an economic sense they might could (Solberg, 1988).

Finally, it is worth mention to refer that sovereign debt differs from private-sector debt or debt incurred by households and corporations, for two main reasons. First, there is no international bankruptcy court that can enforce debt contracts between private investors and sovereign governments.

In the domestic context, private borrowers cannot simply refuse to repay debts to creditors. Domestic laws and courts can force debtors to turn over existing assets to creditors or put the debtor through bankruptcy proceedings, during which the borrower liquidates its assets and turns them over to the creditor.

In the international context, by contrast, there are no internationally accepted laws or bankruptcy courts to provide creditors recourse against governments that refuse to repay their debts. Debt contracts between governments and private creditors often include provisions that stipulate what jurisdiction's law is to be applied in the event of a dispute

about the contract. However, the approach of forcing a government that has defaulted on its debt to abide by another country's court ruling that it must repay the loan is not possible. Proposals for creating internationally accepted bankruptcy proceedings and regulations, possibly to be overseen by the International Monetary Fund (IMF) have not been fruitful (Jorra, 2012).

Second, is that sovereign debt is 'unsecured', or not backed by collateral. Governments cannot credibly commit to turn over assets if they are unable to repay their debts, because, as above-mentioned, there is no international authority to compel them do so. This contrasts with the private sector, where debt contracts are frequently backed by collateral.

An example given, property serves as collateral for mortgages in most countries. Some private-sector debt is not backed by collateral. Credit card debt, for example, is unsecured. Then again, sovereign debt may be less risky than private-sector debt because governments have the power of taxation to raise money in order to service debt, unlike private borrowers. A further point given is that some credit rating agencies use the credit rating of the sovereign as an upper limit for the ratings that domestic borrowers in that country can receive. However, the strict use of a sovereign credit rating ceiling for domestic borrowers has waned in recent years.

Another lesson from the Eurozone is that excessive private debt could be as poisonous as too much government debt. Greece floundered because its government ran (and hid) unsustainable fiscal deficits, as did Portugal. But authorities in Spain and Ireland were fiscally prudent – Ireland ran budget surpluses until 2007 and had reduced government debt to 30% of GDP by the mid-2000s. But Irish and Spanish banks were reckless. They lent too much for property development and created property bubbles that burst and, in exploding, crippled their banks, economies and government finances.

Concerns over rising debt levels are not restricted to the Eurozone. It is generally argued that governments, even in the absence of international bankruptcy court and secured



debt contracts, are determined to repay their debts in order to build a good reputation in capital markets.

A reputation for creditworthiness means that the government have the ability to borrow from investors at low interest rates, because investors view the loan as having a low level of risk. If the government does not have a good reputation with creditors, creditors will require high interest rates to compensate for the risk entailed in the investment, or they will refuse to lend the government money at all. Some empirical evidence suggests that default can have adverse effects on international trade and economic growth, providing other incentives for governments to repay their debts (Rose, 2005).

Despite these incentives to repay debt, there is a background of governments suspending debt payments or falling behind on their debt payments, referred to as 'defaulting' on their debt. A debt crisis typically refers to a situation where a country is either unable or unwilling to pay its debt. A debt crisis may not result in an actual default if, for example, the International Monetary Fund (IMF) lends the government the money it needs in order to stay current in its debt obligations. However, many governments that do default find an orderly way to restructure their debt that is acceptable to markets. Debt restructuring refers to some reorganization of the debt, such as a reduction in principal or lowering of interest rate that makes debt payment easier for the borrower but still entails some payments to creditors. A creditor may get less in a debt restructuring than was originally agreed, but this may be preferable than getting nothing.

Debates over why governments default are typically referred in a government's 'ability' to repay versus a government's 'willingness' to repay. For instance, a government may be unable to repay debt denominated in foreign currency if it does not have sufficient access to foreign exchange. By contrast, a government may be unwilling to repay debt incurred under a previous regime, even if it has the resources to do so.

## **2.5 Credit Ratings Agencies (CRAs)**

The rating classification of sovereign public debt is, somehow, an assessment of the economic, financial and political situation of an economy, given also a measure of the country development. In fact, higher default risk premiums are associated with lower rating and higher government yields, increasing therefore the financing cost of the government (Afonso, 2002).

Sovereign credit ratings have been in the spotlight since the start of the European debt crisis, and have received considerable attention from both the media and the political community. The European Union has been an active legislator on ratings with the adoption of the first (November 2009) and second (May 2011) Regulations on Credit Rating Agencies, and proposals for a third published by the European Commission in November 2011. The European Parliament has been an active participant in this process, including the adoption in March 2011 of a Report on Credit Rating Agencies (2010/2302(INI)) by its Committee on Economic and Monetary Affairs (ECON)<sup>1</sup>.

Credit ratings provide an assessment of the probability of default, with the criteria for a rating assessment for any sovereign based on a large set of indicators, which include the assessment of the public finance situation (past dynamics through debt levels, current dynamics through budget deficit and future dynamics through e.g. the pension liabilities), interest rate levels, growth prospect, and the government's commitment to repay. They could affect financial markets, as they get the information based on the creditworthiness of the country. Moreover, institutional investors, such as pension funds and insurers, are obliged by law or their own statutes to purchase and hold bonds with a certain minimum rating. Likewise, banks' portfolios depend upon the credit ratings on the assets they hold due to regulatory requirements. Therefore, their decisions might generate a significant portfolio shift, which could trigger a reaction on spreads (Tamakoshi and Hamori, 2012).

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<sup>1</sup> See IP/A/ECON/NT/2011-04

Sovereign credit ratings and their associated default probabilities have historically been used by leading international banks for determining their capital allocation in a particular country, pricing of sovereign bonds and loans and, most importantly, as an input to their credit risk management models. Such credit ratings and default probabilities are traditionally provided by the leading credit rating agencies (CRAs).

A common measure of sovereign default risk used by many investors is the sovereign risk rating that leading rating agencies such as Moody's, Standard and Poor's (S&P), and Fitch assign to each borrower. A key function of sovereign ratings is to measure the credit risk of the sovereign issuer. The lower the rating (and the higher the credit risk) then follows the higher borrowing costs. This link explains why ratings should reflect in an accurate fashion the degree of sovereign credit risk. According to the Basel Capital Accord – Basel II, banks were allowed to use their internal sovereign ratings or CRAs' ratings and their associated default rates in determining their required regulatory capital against credit risk. However, the track-record of CRAs is not impressive. Many analysts have commented on their very limited capacity to gauge problems associated with the ability and, more importantly, the willingness of sovereign debtors to pay.

The three main rating agencies, S&P, Moody's and Fitch, use rating scales with the best quality issuers receiving a triple-A notation. As often carried out in the literature (Gande and Parsley, 2005 and Afonso et al., 2011), the sovereign credit rating information converted into a discrete variable that codifies the decision of the rating agencies using a linear scale as depicted. The ratings are grouped into 22 categories from 1 (triple-A) to 22 (default) (See **Table 2.2a**). Analysts also take into consideration the changes in the credit outlook and credit watch.

Rating agencies sometimes lower the credit outlook and then put a country under credit watch, sometime do the opposite. The second move has generally lower impact relative to the first move. Therefore, the first negative news (either outlook or watch) is set equal to +0.5, while the second bad news is set equal to +0.25; similarly, the first positive news (either outlook or watch) is set equal to -0.5, while second good news is set equal to -0.25. The data are discrete time processes.

Table 2.2a: Credit Measure Rating Systems

	S&P/Fitch	Credit rating variable	Moody's	Credit rating variable
<b>Explicit credit rating</b>				
Exceptional	AAA	1	Aaa	1
	AA+	2	Aa1	2
	AA	3	Aa2	3
Excellent	AA-	4	Aa3	4
	A+	5	A1	5
	A	6	A2	6
Good	A-	7	A3	7
	BBB+	8	Baa1	8
	BBB	9	Baa2	9
Adequate	BBB-	10	Baa3	10
	BB+	11	Ba1	11
	BB	12	Ba2	12
Questionable	BB-	13	Ba3	13
	B+	14	B1	14
	B	15	B2	15
Poor	B-	16	B3	16
	CCC+	17	Caa1	17
	CCC	18	Caa2	18
Default	CCC-	19	Caa3	19
	CC	20	Ca	20
	C	21	C	21
	D	22		22
<b>Credit outlook</b>				
Positive	-0.5 or -0.25			
Negative	+0.5 or +0.25			
<b>Credit watch</b>				
Positive	-0.5 or -0.25			
Negative	+0.5 or +0.25			

Source: European Central Bank, February 2012

Table 2.2b: Credit Measure Rating Systems (continued...)

Rating		Characterisation of debt and issuer
S&P	Moody's	
<b>Investment-grade ratings</b>		
AAA	Aaa	Bonds, which are Aaa, are judged to be of the best quality. They carry the smallest degree of investment risk and are generally referred to as <i>gilt edged</i> . Interest payments are protected by a large or by an exceptionally stable margin and principal is secure. While the various protective elements are likely to change, such changes as can be visualized are most unlikely to impair the fundamentally strong position of such issues.
AA+	Aa1	Bonds, which are rated Aa, are judged to be of high quality by all standards. Together with the Aaa group they comprise what are generally known as high-grade bonds. They are rated lower than the best bonds because margins of protection may not be as large as in Aaa securities or fluctuation of protective elements may be of greater amplitude or there may be other elements present which make the long-term risk appear somewhat larger than the Aaa securities.
AA	Aa2	
AA-	Aa3	
A+	A1	Bonds, which are rated A, possess many favourable investment attributes and are to be considered as upper-medium-grade obligations. Factors giving security to principal and interest are considered adequate, but elements may be present which suggest a susceptibility to impairment some time in the future.
A	A2	
A-	A3	
BBB+	Baa1	Bonds, which are rated Baa, are considered as medium-grade obligations (i.e., they are neither highly protected nor poorly secured). Interest payments and principal security appear adequate for the present but certain protective elements may be lacking or may be characteristically unreliable over any great length of time. Such bonds lack outstanding investment characteristics and in fact have speculative characteristics as well.
BBB	Baa2	
BBB-	Baa3	
<b>Speculative-grade ratings</b>		
BB+	Ba1	Bonds, which are rated Ba, are judged to have speculative elements; their future cannot be considered as well assured. Often the protection of interest and principal payments may be very moderate, and thereby not well safeguarded during both good and bad times over the future. Uncertainty of position characterises bonds in this class.
BB	Ba2	
BB-	Ba3	
B+	B1	Bonds, which are rated B, generally lack characteristics of the desirable investment. Assurance of interest and principal payments or of maintenance of other terms of the contract over any long period of time may be small.
B	B2	
B-	B3	
CCC+	Caa1	Bonds, which are rated Caa, are of poor standing. Such issues may be in default or there may be present elements of danger with respect to principal or interest.
CCC	Caa2	
CCC-	Caa3	
CC	Ca	Bonds, which are rated Ca, represent obligations, which are speculative in a high degree. Such issues are often in default or have other marked shortcomings.
C	C	Bonds, which are rated C, are the lowest rated class of bonds, and issues so rated can be regarded as having extremely poor prospects of ever attaining any real investment standing.

Source: Moody's

Credit ratings are supposed to provide an objective opinion on the relative ability and willingness of parties with debt obligations to meet financial commitments. Even if there are a large number of credit rating agencies, the market is a natural oligopoly dominated by Moody's Investors Service, and Standard & Poor's. The two of them are in between them responsible for around 80 per cent of the credit rating market (Afonso, 2002). Even if the two agencies use different symbols in expressing the ratings, they use the same rating scale, as shown in **Table 2.2b**.

Sovereign risk ratings are based upon an assessment of both the ability and the willingness of a country to service its debt. These ratings take into account criteria that include the key economic and socio-political attributes of sovereign entities. The assessment considers solvency and liquidity factors in evaluating the economic ability to pay, while political criteria such as development level of government and institutions, the degree of integration into global financial networks, and constraining forces such as social unrest are all important in assessing the willingness to pay. Sovereign risk ratings are thus based mainly on economic factors, however, a country's history as a borrower on global markets and political (governance) factors are also important.

Credit rating agencies derive some of their importance from the fact that the regulatory system relies on their assessments. Reducing this reliance in the long term is desirable. However, robust alternative assessments of risk will need to be developed. In the short term, frequent changes to the CRAs regulatory environment, in a context of high market uncertainty, may add to market stress. Moreover, improving the quality of ratings through regulatory initiatives on other fronts may also not be an easy task.

Prior to the 2007 – 2011 deep economic crisis, credit ratings were taken as being an objective metric. But they were discredited because of massive misrepresentations of creditworthiness in connection with securitized instruments based on sub primes. Clearly, this situation complicates the use of proper indicators and methods to measure and price sovereign risk.

In fact, recent discussions highlight a range of (suggested) indicators that attempt to clarify sovereign risk in a perspective from macroeconomic to financial to credit ratings. Users needed to understand what each indicator was actually capturing as not all are intended to measure the same thing and some indicators would be influenced by factors outside the scope of others. For example, while both credit ratings and credit default swap (CDS) spreads reveal the expected risk of default, the fact that CDS spreads are influenced not just by 'economic' fundamentals but also by (at times elusive) 'market factors of demand and supply' such as global risk aversion means that these indicators might give conflicting messages.

Many empirical studies have presented that market measures of risk such as credit default swaps or swap spreads act as credit quality which deteriorates or improves well ahead of a rating action. This indicates that the market often leads decisions by rating agencies and triggers into question the information value of credit ratings. This has led to suggestions that, rather than relying on credit rating agencies, debt managers, investors, and policymakers should focus on market measures of sovereign risk.

### **2.5.1 Sovereign Ratings Outlook**

Analysts presume further near-term rating downgrades in the euro area, and a broader range of downgrades over the longer term including the US, UK and Japan. They do not expect any upgrades among advanced economies, other than a technical one for Greece exiting from expected default status (Economist Intelligent Unit, 2012).

Ratings in periphery countries are likely to be hit by economic weakness, with resultant adverse debt and deficit trends over time. In addition, analysts give the probability that Greece will leave European Monetary Union (EMU) over the next 12-18 months, with a prospect of 90% to happen (versus 50-75% previously) (Citi Research, 2012). Greece's exit ('Grexit') if it occurs is likely to intensify capital flight from periphery countries. For the core countries, sovereign ratings are likely to be hit by worries that the worsening EMU crisis will eventually lead to greater fiscal burden sharing, rising figures of bank recapitalization costs, or adverse effects from economic weakness on the

fiscal outlook. Over the longer term, it is estimated that further downgrades will take place among many EMU countries.

According to economic weakness and fiscal slippage, the UK's AAA sovereign rating is also likely to come under question. The US is currently on Negative Outlook by both Moody's and S&P and is expected a one-notch downgrade over the next 2-3 years. Downwards ratings are also pressure for Japan over the next 2-3 years, predicated on longer-term debt sustainability trends. The pool of solid AAAs is likely to become smaller and smaller, with only Canada, the Australasian countries, Switzerland and the Scandis likely to remain AAA Stable over the near term and longer term (see **Table 2.3**).

*Table 2.3: Global — Expected Sovereign Ratings Changes (measured from current ratings by S&P and/or Moody's), 2012-14*

<b>Forecast Near Term Ratings Changes (Next 2 – 3 Quarters)</b>		<b>Forecast Near Term Ratings Changes (Next 2 – 3 Years)</b>	
<b>Upgrades</b>	<b>Downgrades</b>	<b>Upgrades</b>	<b>Downgrades</b>
	<b>Austria, Belgium, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain</b>	<b>Greece</b>	<b>Austria, Belgium, France, Germany, Ireland, Italy, Japan, Netherlands, Portugal, Spain, UK, US</b>

*Source:* Standard and Poor's and Moody's, July 2012

Given economic updates, analysts remain to expect further downgrades over the near term in the euro area and a broader range of downgrades over the longer term (see **Table 2.4**).

Table 2.4: Advanced Economies — Sovereign Long-Term Debt Ratings and Ratings Forecasts

Country	S & P Ratings				Moody's			
	Current Rating	Current Outlook	Near-Term (Up to 9 Months) Forecast Rating	Long-Term (Next 2-3 Years) Forecast Rating & Outlook	Current Rating	Current Outlook	Near-Term (Up to 9 Months) Forecast Rating	Long-Term (Next 2-3 Years) Forecast Rating & Outlook
<b>US</b>	AA+	Neg	AA+(Neg)	AA ↓	Aaa	Neg	Aaa(Neg)	Aa1↓
<b>Canada</b>	AAA	Stable	AAA	AAA	Aaa	Stable	Aaa	Aaa
<b>Japan</b>	AA-	Neg	AA- (Neg)	A+ ↓	Aa3	Stable	Aa3	A1↓
<b>Germany</b>	AAA	Stable	AAA(Neg W)	AA+↓	Aaa	Neg	Aa1↓	Aa1↓
<b>France</b>	AA+	Neg	AA+(Neg W)	AA(Neg) ↓	Aaa	Neg	Aa1↓	Aa1(Neg) ↓
<b>Italy</b>	BBB+	Neg	BBB↓	BBB-↓↓	Baa2	Neg	Ba1(Neg) ↓↓	Ba2↓↓↓
<b>Spain</b>	BBB+	Neg	BBB↓	BBB-↓↓	Baa3	Neg W	Ba1(Neg) ↓	Ba2↓↓
<b>Austria</b>	AA+	Neg	AA+(Neg W)	AA(Neg) ↓	Aaa	Neg	Aa1↓	Aa1(Neg) ↓
<b>Belgium</b>	AA	Neg	AA(Neg W)	AA-↓	Aa3	Neg	A1↓	A1↓
<b>Finland</b>	AAA	Neg	AAA(Neg W)	AAA(Neg)	Aaa	Stable	Aaa(Neg)	Aaa(Neg)
<b>Greece</b>	CCC	Stable	D↓↓↓↓	CCC↓↓↓↓	C		C	Caa2↓↓↓↓
<b>Ireland</b>	BBB+	Neg	BBB-↓↓	BB↓↓↓↓	Ba1	Neg	Ba2↓	Ba3↓↓
<b>Netherlands</b>	AAA	Neg	AAA(Neg W)	AA+(Neg) ↓	Aaa	Neg	Aa1↓	Aa1 (Neg) ↓
<b>Portugal</b>	BB	Neg	B+↓↓	CCC↓↓↓↓↓	Ba3	Neg	B1↓	Caa2↓↓↓↓↓
<b>UK</b>	AAA	Stable	AAA(Neg)	AA+↓	Aaa	Neg	Aaa(Neg)	Aa1↓
<b>Switzerland</b>	AAA	Stable	AAA	AAA	Aaa	Stable	Aaa	Aaa
<b>Sweden</b>	AAA	Stable	AAA	AAA	Aaa	Stable	Aaa	Aaa
<b>Denmark</b>	AAA	Stable	AAA	AAA	Aaa	Stable	Aaa	Aaa
<b>Norway</b>	AAA	Stable	AAA	AAA	Aaa	Stable	Aaa	Aaa

Note: Arrows denote expected ratings changes from the current rating. (Neg) denotes Negative Outlook. (Neg W) denotes Negative Watch. SD means Selective Default. (P) Indicate Provisional. The number of arrows denotes the expected change in ratings notches from the current level. A maximum of five arrows is presented even for countries that are expected more than five notches of ratings change. NA Not available.

Sources: Moody's, S&P and Citi Investment Research and Analysis, 2012



Predictions of downgraded ratings analyst approximate in many core EMU sovereigns for the next 2-3 quarters, including Germany. These moves reflect the higher probability of Greece's potential exit from the euro zone, the weak economic backdrop, broad based fiscal slippage and bank stresses. This is also strengthened by the fact that Moody's and S&P already have many EMU countries on Negative Outlook.

On July 2012<sup>2</sup>, Moody's announced its change of Germany and the Netherlands on Negative Outlook (at Aaa Negative Outlook, these sovereign are now rated the same as France and Austria by Moody's) giving two main reasons for this change:

- Increased susceptibility to event risk due to the rising probability of a Greek exit.
- Increased likelihood that greater collective support for other euro area sovereigns, most notably Spain and Italy, will be required. Moody's placed on Negative Outlook those Aaa euro area sovereigns whose balance sheets are expected to bear the main financial burden of support.

In the near term both major agencies stress that a Greek exit would constitute a 'defining' moment in the euro project and effectively break the assumption of irreversibility. In addition, based on the assumption that Spain and Italy are likely to enter some form of Troika programme by the end of 2012 despite the fact that Greece leaves EMU, is expected at least a one notch downgrade.

Over the longer term, the persistent economic weakness and adverse fiscal trends will prompt further downgrades among EMU periphery countries. Canada, the Australasian countries, Switzerland and the Scandis are likely to remain AAA Stable. UK may well lose its AAA status if growth remains elusive and fiscal consolidation is partly delayed. Lastly, US is currently on Negative Outlook by both Moody's and S&P and it is estimated at a one-notch downgrade while ratings pressure for Japan predicated on longer-term debt sustainability trends.

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<sup>2</sup> *Moody's Announcement: "Moody's changes the outlook to negative on Germany, the Netherlands, and Luxembourg and affirms Finland's Aaa stable rating". 23 July 2012.*

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**CHAPTER 3 – LITERATURE  
REVIEW**

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### **3. Euro Area**

#### **3.1 Addressing Developments**

The global financial crisis has led to a rapid accumulation of government debt in most countries of the euro area and in the euro area as a whole. While the current financial crisis is global in nature, Europe has its own special brand of institutional arrangements that are being tested in the extreme and which have exacerbated the financial crisis. The monetary union is being subjected to asymmetric real shocks through external competitiveness and trade.

One important aspect of the current crisis is that it has not impacted all European countries uniformly. Actually there is a big divergence between the core countries (such as Germany and France) and the crisis-hit peripheral countries (Greece, Ireland, Italy, Portugal and Spain). Even though the core countries have been enjoying an economic recovery since 2010, the peripheral countries are still struggling with recession.

Being part of the same monetary union (i.e. the Eurozone), they are governed by the same monetary policy. While all Eurozone countries were at the height of a financial and economic crisis, there was no debate regarding the appropriateness of the monetary policy. Several issuers had to pay (and are paying) significantly higher borrowing rates. In some extreme cases market access became a huge test for the issuer, a situation further aggravated by contagion pressures (Beirne and Fratzscher, 2012) and periods of mood swings of markets that seem to be unrelated to changes in economic fundamentals. Financial stress has risen dramatically, in particular in the euro area, with adverse feedback loops between the financial sector and the real economy gaining strength, while most banks are having no access to the market for senior unsecured bank debt. Lastly, it highlights the difficult task ahead of the European Central Bank regarding the rising of the interest rate for the euro.

The Eurozone slid into a recession towards the end of the previous year due to the increasing uncertainty on future development of the debt crisis and the retarding effects

of the fiscal consolidation programmes that were launched many countries. As the European debt crisis intensified over the course of 2011 (see **Figure 3.1**), realization struck that just providing additional funding for markets fire fighting emergencies may not be the solution.

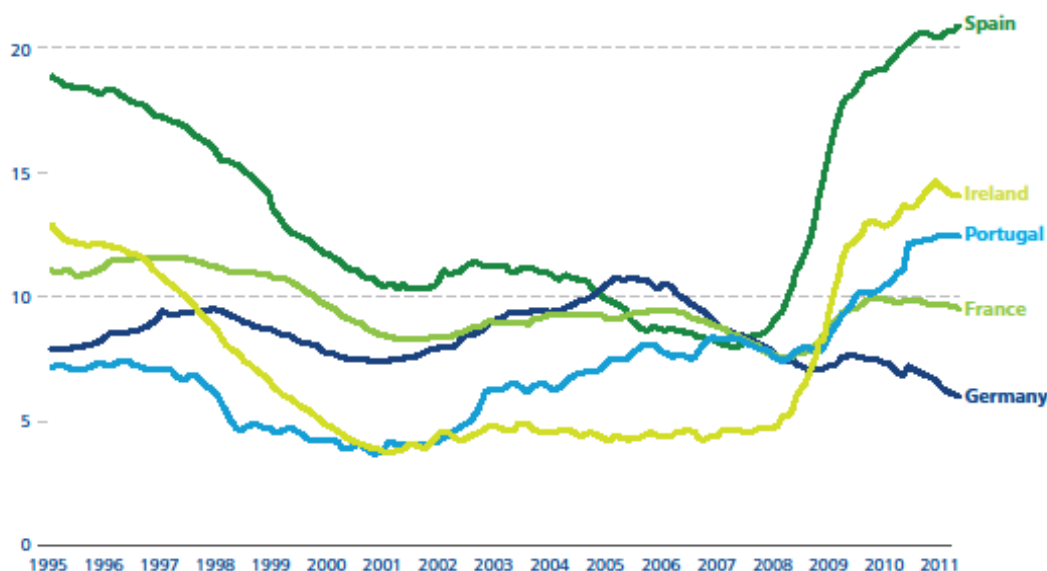
Figure 3.1: The Euro Crisis: Chronology of Events 2011



Source: Deloitte, 2012

The recent crisis also generated changes in the government debt issuance practices in many Eurozone countries. Before the crisis, these practices had converted to a common standard which involved placement of long-term, fixed rate debt denominated in national currency via competitive auctions. With the inability to adjust exchange rates, these pressures are forced into the labour market and unemployment (see **Figure 3.2**). This has led some countries over past years to try to alleviate pressures with fiscal slippage. Relatedly, job creation has been hampered, with unemployment remaining high in many advanced economies, especially among the young in the euro area periphery. The resulting indebtedness has been exacerbated by the financial crisis and recession, and this in turn is contributing to underlying financial instability – Europe’s biggest problem.

*Figure 3.2: Unemployment Rates in the Eurozone (for Selected Countries)*



*Source: Eurostat, 2012*

Europe combines traditional along with capital markets banking system, and this is interacting with the sovereign crisis in a dangerous way. The countries with large capital markets, banks are heavily exposed to the sovereign debt of larger EU countries like Spain and Italy, and these securities' sharp price fluctuations affects collateral values and true mark-to-market losses. Therefore, the impact of the crisis was that it has forced governments to assume additional risk. This negative effect was especially pronounced in countries with high deficit and high debt.

Potential concerns about solvency immediately prevail into a liquidity crisis. 'Solvency' is a medium to long-term concept and requires that the government's net present value budget constraint is fulfilled, stipulating that the net present value of the government's future primary balances must be at least as high as the net present value of outstanding government debt ('flow concept')<sup>3</sup>.

Securities dealing, prime broking and over-the-counter (OTC) derivatives are based on margin accounts and the need for quality collateral, calls for which are periodically triggered by significant price shifts. When banks cannot meet collateral calls, liquidity crises emerge and banks are not given the time to recapitalise through earnings. Small and medium-sized enterprise (SME) funding depends on banks, and deleveraging as a consequence of these pressures reinforces downward pressure on the economy.

Turning to policies aimed at reducing risks, the focus is clearly on Europe. Fiscal consolidation is in effect in most advanced economies and many of the policy debates revolve around how best to balance the adverse short-term effects of fiscal consolidation and bank deleveraging versus their favourable long-term effects. The challenge that the policy-makers face is to reduce inefficient spending and avoid a deflationary spell, through structural reforms.

In the euro area, sovereigns and banks face significant refinancing requirements for 2012, estimated at 23 per cent of GDP. Deleveraging pressures are also likely to stay

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<sup>3</sup> *According to the 'stock concept', solvency requires that the net present value of all future outstanding liabilities shall not be higher than the outstanding amount of assets*

elevated, as banks undergo \$2.6 trillion in balance sheet reduction over the next two years (IMF, 2012).

For a long period of time, the European Central Bank (ECB) has been reluctant to play an active part in the rescue plans of the Eurozone. The stabilizing effects of the European Central Bank's (ECB's) and longer-term refinancing operations (LTROs) in periphery financial markets have thus eroded. The ECB provided €489 billion in the form of cheap (1 per cent) three-year loans to 523 European banks in its first long-term refinancing operation (LTRO), with two main objectives. First, to provide liquidity as banks need to deal with big refinancing needs of short-term maturing debt in forthcoming weeks and second, to encourage the banks to buy sovereign debt of weaker Eurozone countries to ease the stress on the ECB's own balance sheet under the Securities Markets Program (SMP) (Deloitte, 2012).

The ECB's LTROs have averted a liquidity-driven crisis by replacing private funding with official financing, but fundamental weaknesses remain and have forestalled an imminent liquidity squeeze that could have led to a banking crisis. The latest data reveals that banks are reluctant to extend credit (to each other and to the private sector) amongst economic uncertainty and tougher capital requirements under new banking regulation (ECB, 2012).

The share prices of Eurozone banks are therefore definitely one of the most volatile financial assets in terms of prices. This high relative variability of share prices of eurozone banks is rational as Eurozone banks seems to be particularly fragile because of their profitability and their balance sheet structure (see **Tables 3.1a, 3.2a and 3.3**). Their capital has increased (**Table 3.1a**), but it is true that they have higher total assets-to-capital ratios (**Table 3.2a**) and that their profitability weakened in 2011 (**Table 3.3**).

Table 3.1a: Capital of Banks (in local currency)

	At 31/12/2006	At 31/12/2007	At 31/12/2008	At 31/12/2009	At 31/12/2010	At 31/12/2011
<b>Euro zone (EUR bn)</b>	640.15	745.71	723.53	840.05	910.33	842.57

Source: Datastream, June 2012

Table 3.1b: Capital of Banks in EUR billion (continued...)

Country	At 31/12/2006	At 31/12/2007	At 31/12/2008	At 31/12/2009	At 31/12/2010	At 31/12/2011
<b>Germany</b>	133.56	147.02	134.49	154.22	173.83	172.28
<b>Belgium</b>	42.11	41.36	28.88	38.94	41.45	16.23
<b>Cyprus</b>	NA	0.84	0.59	0.59	6.83	3.69
<b>Spain</b>	97.97	105.65	107.3	125.58	150.47	176.75
<b>Finland</b>	11.88	1.87	1.64	2.27	2.38	2.33
<b>France</b>	153.91	157.47	162.47	196.61	201.62	197.94
<b>Greece</b>	18.54	23.84	20.92	30.55	27.96	-0.34
<b>Ireland</b>	5.33	17.2	15.79	16.84	10.91	10.2
<b>Italy</b>	96.52	165.47	164.85	178.21	184.37	154.18
<b>Luxembourg</b>	0.67	1.26	1.13	1.35	1.28	1.23
<b>Malta</b>	0.75	NA	NA	NA	0.96	1.01
<b>Netherlands*</b>	52.92	54.25	56.1	56.24	65.41	70.17
<b>Austria</b>	14.56	17.04	16.48	21.97	26.55	25.68
<b>Portugal</b>	10.91	11.76	12.07	15.94	15.57	10.58
<b>Slovenia</b>	0.52	0.69	0.82	0.75	0.75	0.63
<b>Euro zone</b>	<b>640.15</b>	<b>745.71</b>	<b>723.53</b>	<b>840.05</b>	<b>910.33</b>	<b>842.57</b>

(\*) Incl. bancassurance

Source: Datastream, June 2012

Table 3.2a: Banks' Total Assets-to-Capital Ratio

	At 31/12/2006	At 31/12/2007	At 31/12/2008	At 31/12/2009	At 31/12/2010	At 31/12/2011
<b>Euro zone</b>	22.53	22.94	25.69	20.25	19.96	21.96

Source: Datastream, June 2012



Table 3.2b: Banks' Total Assets-to-Capital Ratio (continued...)

Country	At 31/12/2006	At 31/12/2007	At 31/12/2008	At 31/12/2009	At 31/12/2010	At 31/12/2011
Germany	26.98	31.08	35.41	25.43	24.42	25.59
Belgium	22.13	24.9	38.97	24.66	22.1	41.84
Cyprus	NA	76.31	130.11	141.93	12.74	20.6
Spain	15.9	16.61	18.2	16.06	16.47	15.29
Finland	1.88	12.86	18.74	14.66	14.21	16.61
France	27.48	30.76	34.17	26.28	26.08	27.41
Greece	14.18	13.42	19.12	14.15	17.53	-1,335.08
Ireland	29.46	10.59	12.08	10.32	14.57	14.04
Italy	16.06	12.69	13.67	11.93	12.12	14.58
Luxembourg	85.58	52.15	64.59	58.1	62.19	62.64
Malta	13.1	NA	NA	NA	12.69	12.65
Netherlands*	29.36	30.3	29.03	26.25	24.25	23.16
Austria	17.73	17.27	18.84	13.55	13.32	14.66
Portugal	15.64	16.55	17.51	13.91	14.53	20.62
Slovenia	12.61	11.41	10.52	12.67	12.79	14.93

(\*) Incl. bancassurance

Source: Datastream, June 2012

Table 3.3: Banks' Profits (bn, local currency)

Euro zone (EUR bn)	2006	2007	2008	2009	2010	2011	Q1 2012
	100.3	113.1	24.2	42.0	67.4	11.1	-10.7

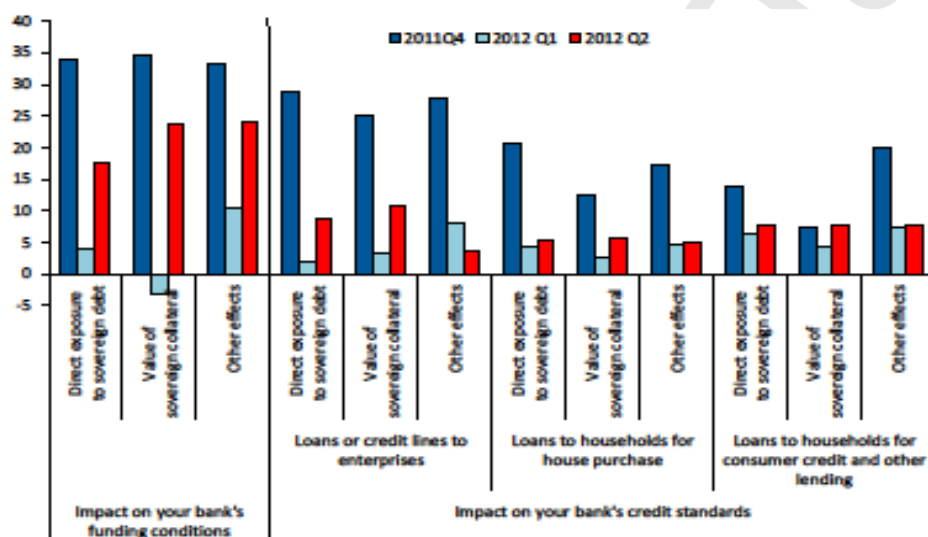
Source: Datastream, June 2012

Notably, the weaker financial positions of governments have lowered the funding benefits that banks derive from implicit or explicit government guarantees. According to ECB publication (2012) on balance, 18% of euro area banks attributed a deterioration of funding conditions to the sovereign debt crisis through their direct exposure to sovereign debt, up from 4% in the previous quarter.

In addition, on balance 24% of euro area banks reported that the decline in the value of sovereign collateral led to a deterioration in their funding conditions in the second quarter of 2012, after a reported positive impact on funding conditions in the first quarter of 2012 (-3%) (See **Figure 3.3**)

Figure 3.3: Impact of the Sovereign Debt Crisis on Bank's Funding Conditions and Credit Standards.

(Net percentages of banks reporting an impact on funding conditions or on the tightening of credit standards)



Note: The net percentages are defined as the difference between the sum of the percentages for 'contributed to a deterioration of funding conditions/tightening of credit standards considerably' and 'somewhat' and the sum of the percentages for 'contributed to an easing of funding conditions/easing of credit standards somewhat' and 'considerably'.

Source: European Central Bank, 2012

Since the crisis hit, the euro area has had to develop new mechanisms of support to heavily indebted members while implementing severe fiscal restraint. Concerns about bailing out investors and burdening public budgets prompted euro area members to entertain sovereign debt restructuring in order to solve the crisis in Europe. So, a commitment is been put in place among Eurozone nations to limit budget deficits and

reduce debt, and the ECB is doing its bit to make sure countries stay solvent long enough to deliver against these promises. However, to fully convince markets that the strategy could succeed, credible actions are needed by governments, showing how they will achieve the promised austerity without stifling growth for years to come. There is still the danger that for some nations, this might prove to be a major challenge.

## **3.2 The PIIGS (Portugal, Ireland, Italy, Greece and Spain) Crisis**

### **3.2.1 Overview of the Crisis**

Many of analysts indicate the beginning of the European sovereign debt crisis to November 2009, when Greece revealed that its budget deficit was 12.7% of gross domestic product (GDP), more than twice what the country had previously disclosed. However, the real origins of the crisis could be traced to Europe's Governments and to the participants that govern European institutions (Voss, 2012).

The creation of the European Union began with ratification of the Maastricht Treaty on 7 February 1992<sup>4</sup>. The Maastricht Treaty provisions imposed stringent economic requirements, known as 'convergence criteria', that member states are required to meet before they could gain admittance to the common currency zone known as the Eurozone.

Certain convergence criteria are *Price developments* where these requirements are designed to ensure that member nations have low and stable inflation. Inflation in the year preceding potential admittance to the Eurozone can only be 1.5% more than the average of the three best-performing member states. In terms of practice, the rate of inflation used to determine if this criterion is met is the preceding 12-month average of the Harmonized Index of Consumer Prices — the EU-wide inflation index.

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<sup>4</sup>See

[http://europa.eu/legislation\\_summaries/institutional\\_affairs/treaties/treaties\\_maastricht\\_en.htm](http://europa.eu/legislation_summaries/institutional_affairs/treaties/treaties_maastricht_en.htm)

The requirements needed for *Fiscal developments* are designed to ensure that a prospective member state has a strong fiscal condition. Among the requirements are budget deficits that cannot exceed 3% of GDP unless a nation finds itself in exceptional and temporary circumstances. Total sovereign debt amounts cannot exceed 60% of GDP. Both of these criteria are waived if there is evidence of substantial and continuous declines.

The *Exchange-rate developments* are requirements that are designed to ensure stability of a member state's currency exchange rate before gaining admittance. Specifically, a prospective member cannot have devalued its currency relative to any other member state's currency for the preceding two years. Additionally, the currency must trade in a narrow band of  $\pm 2.25\%$  around other member states' currencies.

Admittance to the Eurozone combined with great economic rewards as nations whose sovereign credit ratings were lower than those of the strongest member states would be able to borrow money as if they too had the superior rating. Moreover, the common currency held the potential of preventing trading partners from devaluing their currency, forcing all Eurozone members to compete on a level playing field. And with a European economy that featured a common currency, but that excluded centralized fiscal policy, it required individual nations to proactively manage their trade balance, lest such imbalances result in excess debt.

However, there is clear evidence that the Great Recession had imposed an asymmetric shock on the Eurozone, causing downturns of above average severity in the economies of the PIIGS countries (Portugal, Italy, Ireland, Greece and Spain), that are attributable to departure from currency area criteria and including large differences in member country trade balances, limited labour mobility and price flexibility.

It became evident early in 2010 that without external assistance, the Greek government would be forced to default on its debt. Eurozone governments, in conjunction with the International Monetary Fund, responded with conditional loans to enable the Greek government to continue to capsize its maturing debts.

Though it would be easy to exclusively blame Greece for the European sovereign debt crisis investors' fears of sovereign default by other Eurozone economies developed during 2010 and conditional loans had to be provided to the governments of Ireland and Portugal. The crisis deepened when, in the latter half of 2011, it became evident that a default by the Greek government could no longer be avoided.

In the meantime there was substantial sovereign spread contagion by Spain, Italy and modest contagion by other Eurozone countries including France. By early 2012, however, there had been substantial falls in sovereign spreads as a result of bond purchases by Eurozone banks using loans from the European Central Bank, and by late February, confidence had been further restored by reduced expectations of a Greek default (ECB, 2012).

### **3.2.2 The PIIGS Countries (Portugal, Italy, Ireland, Greece and Spain)**

PIIGS is an acronym that refers to Portugal, Italy, Ireland, Greece and Spain (or in some cases as GIIPS). The term was coined to represent the five most at-risk European economies during the European sovereign debt crisis. While the term has become ubiquitous among traders, some organizations have limited or banned use of the term due to its offensive connotation.

The economies of the PIIGS countries differed in several respects comparing to other Eurozone economies. Contrasting others, they had developed deficits on their balance of payments current accounts (largely attributable to the effect of the euro's exchange rate upon the competitiveness of their exports). Additionally, deleveraging of corporate and household debt had reinforced the effects of the recession to a greater extent especially in those who had experienced debt-financed housing booms.

Similarly with others they had developed cyclical deficits in terms of their economies along with their different fiscal policies. This fact resulted with increases in existing

structural effects and in some cases, their budget deficits had been further increased by subventions and guarantees to distressed banks.

The problems varied by country among the economies of PIIGS (or in some cases referred as GIIPS).

➤ **Greece**

The crisis in Greece was originated from the impact of the Great Recession, which severely hurt its largest industries in an already inflated public debt of an economy that had suffered a loss in international competitiveness especially when participate with its membership of the Eurozone.

Its membership in the Eurozone enabled it to use borrowing from abroad in order to finance an economic prosperity. But labour costs surged up rapidly the following years than productivity did and that in effect came up with a decrease in export competitiveness. In addition, the deficit on its balance of payments increased to over 14 per cent of GDP. In 2009, the government ran a budget deficit of 13.6% of GDP, while its public debt stood at more than 115% of GDP (Eurostat, 2012).

The crisis erupted in the winter of 2009/10 with a series of bond rating downgrades by the major credit rating agencies accompanied with a major increase in bond spreads as it became apparent that the Greek government faced the prospect of being unable to fund its maturing debts. Fears that it might default (based upon its large deficits and limited economic prospects) (Arghyrou and Kontonikas, 2012) constrained other members of the Eurozone for financial aid.

An austerity package was launched and in May 2010, a €110 billion rescue package financed jointly by European Union and International Monetary Fund. Further increases in spreads showed that those rescue packages had failed to reassure the markets.

In July 2011, the Eurozone leaders and the International Monetary Fund agreed to lend Greece further 109bn euros (\$155bn, £96.3bn)<sup>5</sup>. Furthermore, as part of the agreement, private sector investors were asked to accept a restructuring agreement involving a 21% loss on their holdings. But the deal failed to reassure investors, and Greece ceased to have access to the bond market. By September 2011, the yield on 10-year Greek government bonds had risen to over 20 per cent, and it was openly acknowledged that default had become unavoidable, and moreover that reduction of the Greek government's debt by about 50 per cent had become essential.

On October 2011, at an EU summit, agreement was reached on a package that included a 50 per cent write off of the Greek government's debt, at the price to Greece of further austerity measures. The associated austerity package is expected to involve 100,000 job losses over the following three years and big reductions in pension's schemes.

In early 2012 there were grave doubts concerning the ability of the Greek government to repay the holders of the €14.4bn of debt that was due to mature in late March. It had been expected that it would be getting a further €130bn tranche of EU/IMF funds before that date, but negotiations concerning the terms of the loan had run into difficulties.

The conditions attached to the loan by the EU/IMF team included a further austerity drive, and the conclusion of the private sector debt swap deal (involving a 50% nominal reduction of Greece's sovereign bonds in private investors' holdings and up to €100 billion of debt forgiveness) that had been taken place of the decisions of 12<sup>th</sup> October 2011.

On February of the same year an agreement was finally reached under which Greece would get a €130 billion EU/IMF loan together with a €109 billion private sector debt write off, conditional upon an intensified austerity programme which include severe

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[http://europa.eu/legislation\\_summaries/economic\\_and\\_monetary\\_affairs/stability\\_and\\_growth\\_pact/index\\_en.htm](http://europa.eu/legislation_summaries/economic_and_monetary_affairs/stability_and_growth_pact/index_en.htm)

reductions in pay, pensions and public sector employment and a €325 million reduction in its budget deficit<sup>6</sup>.

The new government under the second election in June 2012 has put together a €13.5 billion austerity package. The draft budget for 2013 already includes almost €5 billion of cuts in pensions and public-sector salaries intended to achieve a primary budget balance of 1.4 per cent of GDP.

In the autumn of 2012 the EU along with ECB and IMF authorities were grueiling more austerity measures before the release of a delayed €30 billion tranche (that is the last in a first rescue package of €130 billion) and agree to a pending second bailout of the amount of \$173 billion.

The Greek government inquired for a two-year extension until 2016 in order to implement the new measures, and in October 2012, that request was supported by the IMF (The IMF had cut its previous GDP growth forecast from -4.8 per cent to -6.0 per cent for 2012 and from 0 per cent to -4 per cent for 2013, and were consequently expecting substantial reductions in tax revenue) (IMF, 2012).

### ➤ **Ireland**

The effect of the Great Recession along with the bursting of an asset price bubble resulted in a major slump in the Irish economy. Ireland's low interest rate environment led to a credit boom that surpassed America and Britain. While it planned to pursue an export-driven recovery, its tremendous household debt would suffer greatly from any lower wages.

Having joined the Eurozone, the Irish government offered tax incentives to promote inward investment by financial companies and there was a large inflow of capital. During the period of 2001 and 2008 the country's total debt (public and private) attained

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<sup>6</sup> See *Statement by the Eurogroup (21/02/2012)*



over 700 per cent of GDP (421 per cent went to the financial sector and much of the rest was used to finance a housing boom).

In 2008, however, a decline in the output of the construction industry that had started in 2007, developed into a full-scale economic recession and construction and property companies began to default on loans from the banks. Bank losses amounted to as much as 20 per cent of GDP by 2009, and foreign banks and investors, that had been the banks' principal source of short-term finance, became reluctant to risk further commitments. A banking crisis developed, consumer confidence fell and there was a very sharp increase in unemployment<sup>7</sup>.

In September 2008, the Irish government decided to guarantee all deposits in Irish banks, a liability that reached over twice Ireland's GDP. In order to restore its confidence (and after its downgraded rating from AAA to AA+ from Standard and Poor's credit rating agency) in April 2009 decided to purchase directly stocks in certain banks and set up a National Asset Management Agency (a government owned bank)<sup>8</sup> in order to acquire the toxic debt in return for government bonds. In addition, introduced fiscal stimulus measures spread amounting to 4.4 per cent of GDP for the period of 2008 to 2010 which along with its automatic stabilisers resulted in a sharp increase in the country's public debt.

Between 2009 and 2010 Ireland's budget deficit increased from 14.2 per cent to 32.4 per cent of GDP, as a result of the measures taken in support of the banking sector. On the November 2010 the government applied for financial assistance from the EU and the IMF<sup>9</sup>. The package that was agreed included €85 billion in total (€35 billion to restructure the banking sector and €50 billion to assist the state budget). Of that sum, Ireland agreed to provide €17.5 billion from its own reserves and €67.5 billion, was to be divided equally among the International Monetary Fund, the European Commission

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<sup>7</sup> See *The Tiger Tamed*, *The Economist*, November, 2008

<sup>8</sup> See *Proposal for a National Asset Management Agency*, *National Treasury Management Agency*, 8 April 2009

<sup>9</sup> See *Full Text of the Government Statement on its application for financial aid from the EU and IMF*, *Irish Times*, 22 November 2010

and the European Financial Stability Facility. The interest rate on the loans was to average about 5.8%.

In August 2012, an EU and IMF staff team reported that Ireland's banks had been recapitalized enabling a return to the sovereign bond market plus that its fiscal consolidation had been achieved. The economy had returned to growth in 2011, and GDP growth was expected to be 0.4 per cent in 2012 and 1.4 per cent in 2013.

### ➤ **Italy**

The effect of the Great Recession on the Italian economy was relatively severe, but it had a relatively minor effect upon Italy's public debt. Italy had a troublesome combination of dismal productivity, large public debts and trouble collecting taxes. And unlike many European economies, the country never fully recovered from the earlier recession with an expansion of credit or housing.

Concerns about Italy's default risk came up at mid-2011 when doubts about its ability to roll over the debts of €300 billion (with a maturity in 2012) might become unsustainable (even though its budget deficit is among the lowest in the Eurozone - then at 120% of GDP).

In September 2011 the Italian government bonds were downgraded from A+ to A by Standard & Poor's credit rating agency due to the high level of its public debt, its weakening growth prospects and the fragility of its governing coalition. Moreover, its policy differences within parliament were expected to limit the government's ability to respond decisively to economic challenges<sup>10</sup>.

In late October 2011, demands from other European leaders requested in order to enable the Italian government to eliminate its budget deficit by 2013. The promised reforms are reported to include a reduction in the size of the civil service, a €15 billion privatisation

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<sup>10</sup> See Republic of Italy, Standard & Poor's, 19 September 2011

of state assets and the promotion of private sector investment in the infrastructure sector.

The programme of reform approved on the 12<sup>th</sup> of November by the Italian parliament as the Financial Stability Law<sup>11</sup>. On January 2012 Italy sold €8.5bn of one-year bills, at an average yield of 2.74 per cent, less than half the cost incurred when Italy last sold similar bills in mid-December.

However, Standard & Poor's credit rating agency downgraded again the Italian government's bonds (from A to BBB+), stating 'increasing vulnerabilities to external financing risks exacerbated by deepening political, financial, and monetary problems within the Eurozone'<sup>12</sup>.

### ➤ **Portugal**

After the time that the country entered the Eurozone, Portugal's economy suffered from high wage costs and poor productivity leading to a fall in international competitiveness, and to a growing balance of payments deficit - financed by borrowing from abroad. Its principal sources of income were agricultural exports, tourism, and income from its nationals working abroad. All the aforementioned factors were hit by the recession, and its economy suffered a slump earlier than the other Eurozone economies. In response to the downturn (and to fiscal stimulus of about 1¼ per cent of GDP) the 2009 budget deficit rose to over 10 per cent of GDP. There was a return to GDP growth early in 2010, but output fell again and despite of the reductions made in public expenditure, the deficit for the year remained above 9 per cent of GDP.

On May 2011 the EU and the IMF agreed to provide Portugal with a conditional 3 year €78 Billion Extended Fund Facility Arrangement<sup>13</sup>. In January 2012 the Standard and Poor's credit rating agency downgraded the Portuguese government's long-term ratings

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<sup>11</sup> See *Italy MPs Endorse Austerity Law*, BBC News, 12 November 2011

<sup>12</sup> See *Italy's Unsolicited Ratings Lowered to 'BBB+/A-2', Outlook Negative*, Standards & Poor's, 13 January 2012

<sup>13</sup> See *IMF Executive Board Approves an €26 Billion Extended Arrangement for Portugal*, IMF Press Release, No. 11/190, 20 May 2011

(from BBB-/A-3 to BB/B), stating negative impact of deepening political, financial, and monetary problems within the Eurozone on Portugal's already challenging readjustment path and its elevated vulnerabilities to external financing risks<sup>14</sup>.

On September 2012, an EU/IMF review reported that the deficit reduction programme was on progress, along with the recapitalisation of the banking sector, the strengthening of banking supervision and reforms in order to raise competitiveness, employment, and potential growth<sup>15</sup>.

### ➤ **Spain**

The recession in Spain started in the first quarter of 2010. A major contributory factor was the bursting of a vigorous housing bust (with a 30 per cent fall in house prices between 2007 and 2012), as a result of the crash from the construction sector combined with the slump of the banking sector<sup>16</sup>.

Another crucial factor was deleveraging of a deeply indebted housing sector. The Government responded with a major fiscal stimulus together with the effects of the country's automatic stabiliser and as result it came up with the largest budget deficit in the European Union (even though its public debt as a percentage of GDP was among the smallest). At the end of the recession Spain's unemployment rate was among the highest in Europe (particularly among youth), reaching 20 per cent by mid-2010, a development that has been attributed to an extremely dysfunctional labour market<sup>17</sup>.

The weakness of its labour market and the cost of bank rescues were among the reasons that Standard and Poor's credit rating agency in January 2012 downgrades its credit ratings whereas its downgrade was also attributed to the risk that EU policy decisions

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<sup>14</sup> See *Portugal's Ratings Lowered to BB/B, Recovery Rating of 4 Assigned, Outlook Negative, Standards & Poor's*, 13 January 2012

<sup>15</sup> See *Statement by the EC, ECB and IMF on the Fifth Review Mission to Portugal, IMF Press Release No. 12/310, 11 September, 2012*

<sup>16</sup> See *Country Report : Spain, International Monetary Fund, July 2010*

<sup>17</sup> See *Samuel Bentolila, Juan Dolado and Juan Francisco Jimeno : The Spanish Labour Market : A Very Costly Insider-Outsider Divide, Vox, 20 January 2012*

would become self-defeating as a result of reductions in domestic demand and the consequent fall in tax revenues<sup>18</sup>.

Concerns that the Spanish government might be unable to repay its debts due to mature in 2012 were also alleviated by its January sale of almost €10bn of new bonds at much lower rates than at its previous auction. The Spanish economy officially entered a recession again during the first quarter of 2012, for the second time since 2009.

In June 2012 the Spanish government requested, and was granted, a €100 billion loan from the European Union in order to recapitalise its banks. But the bond market reaction was unfavourable, due to the continued weakness of its economy.

To recapitulate the facts five of the region's countries – Greece, Ireland, Italy, Portugal and Spain – have, to varying degrees, seemed to fail generate enough economic growth in order to make their ability to pay back bondholders the guarantee it was intended to be. Although these five were seen as being the countries in immediate danger of a possible default, the crisis has far-reaching consequences that extend beyond their borders to the world as a whole. This is one of most important problems facing the world economy and highlights the frontline of these pressures against sovereign debt dynamics.

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<sup>18</sup> See *Spain's Ratings Lowered to A/A-1, Outlook Negative, Standards & Poor's, 13 January 2012*

### **3.3 Measuring Sovereign Debt**

In order for policy makers to develop and implement the correct economic policies to keep the economy operating properly they must have accurate measures of the economy's current performance. A nation's debt burden is usually reported as a percentage of the country's gross domestic product (GDP), which indicates the size of the country's economy and represents the most basic and comprehensive measure of an economy's performance. Data on sovereign debt are reported in a number of different ways (Smith, 2011).

The three most popular metrics are:

- Total Public Debt

The total public debt is the total amount of debt outstanding. But without context, this figure isn't very informative and can be misleading. As a result, most experts look towards Debt-to-GDP and Debt per Capita as common measures.

- Debt as a Per cent of GDP

Debt as a percentage of gross domestic product is simply the total public debt divided by GDP. Countries with a debt greater than their GDP (or a ratio over 100%) are generally considered to be over indebted.

- Debt per Capita

Debt per capita is simply the total debt divided by the number of citizens. A debt per capita that is in excess of per capita income reduces the likelihood that the government will be able to make up its shortfall through traditional taxation.

Governments usually finance their debt through bonds, which usually have terms from three months to 30 years. The government pays interest rates to give bond buyers a

return on their investment. The more likely it is the bond will be repaid, the lower the interest rate paid and the lower the cost of the sovereign debt. Governments could also take on loans directly from banks, the private sector or even from other countries.

Nonetheless, the European Union has restrictions on how much total debt a country is allowed to have in order to stay in the Eurozone. Therefore, its measurements are broader, and include state and local government debt, as well as future obligations owed to social security<sup>19</sup>.

As long as the sovereign debt remains within a reasonable level, creditors are ensured that this expanded growth will be repaid with interest. Doubts arise when creditors foresee that the country will default on the interest payments. These doubts start to emerge when sovereign debt reaches a certain figure of the country's annual economic output, or Gross Domestic Product (GDP).

The impact and consequences of the Great Recession of 2008-2009 continues to reverberate within the global economy and a near collapse in the European financial system has over time morphed into a sovereign debt crisis, which threatens to push the global economy into another recession.

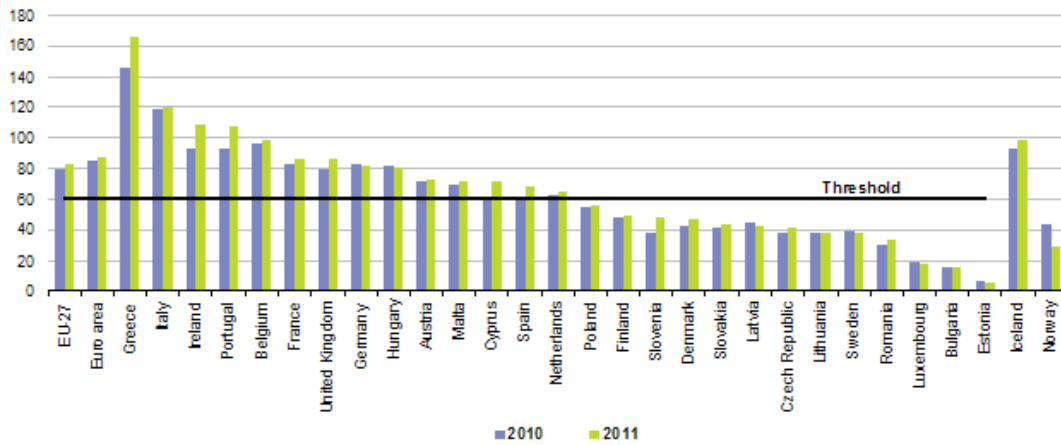
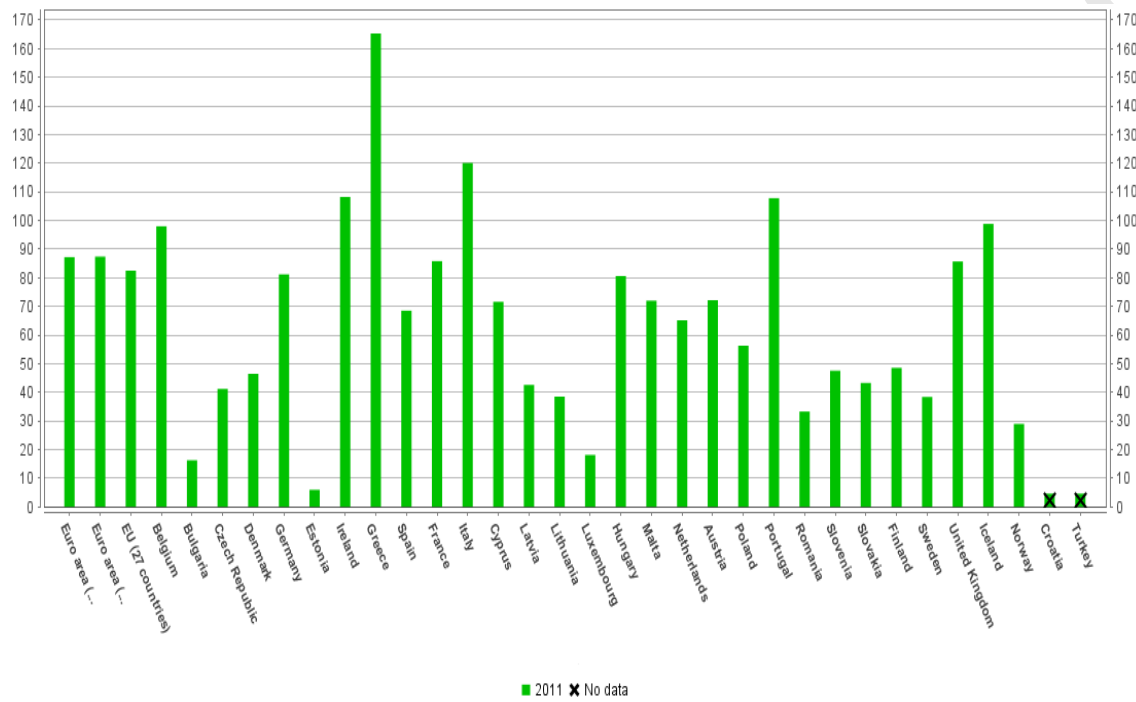
The biggest difference between the financial crisis of 2008-2009 and 2011-2012 is that sovereign debt crises tend to move at a snail's pace compared to financial system collapses. In many advanced economies, the financial crisis accelerated rising levels of sovereign debt (see **Figure 3.4**). Even if contagion spreads, beyond the so-called PIIGS (Portugal, Ireland, Italy, Greece and Spain) to the larger core countries such as France and Germany, the likely slow pace of deleveraging and restructuring indicates that there might be adequate time to adjust bank capital needs, and provide in private sector companies and individuals time to assess and manage their liquidity requirements.

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<sup>19</sup>See

[http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Government\\_finance\\_statistics#Government\\_debt](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Government_finance_statistics#Government_debt)

Figure 3.4: General Government Gross Debt (% of GDP and million EUR)



Source: Eurostat, April 2012

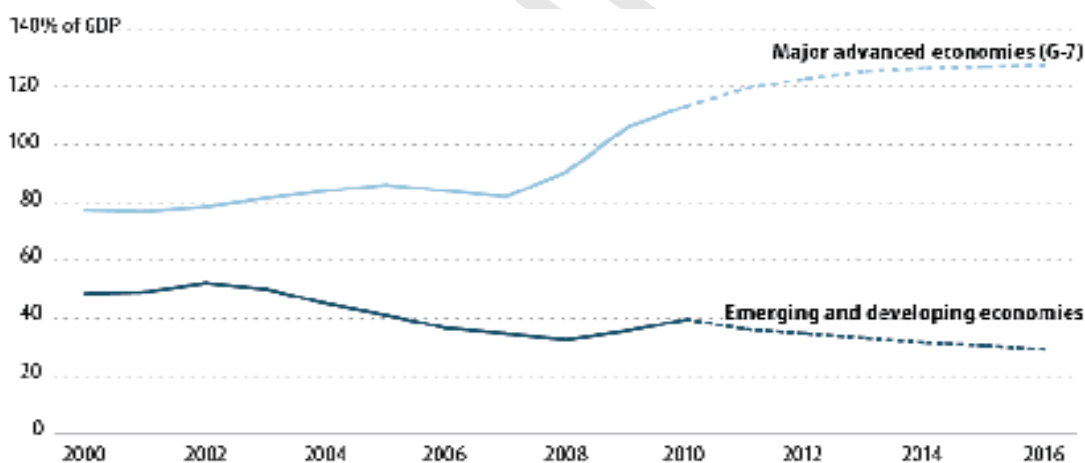
The damage took three main forms, each of which poses a major risk to the stability of the current global economy such as high and rising public debts, fragile banks, and a huge liquidity overhang that will need to be eventually withdrawn.



The financial crisis in 2008 brought an abrupt end to the post-euro growth model in the PIIGS. As they plunged into recession and tax revenues collapsed, government spending was revealed to be unsustainable and their loss of competitiveness dimmed hopes of turning to foreign demand for recovery.

**Figure 3.5** illustrates that gross general government debt in the G – 7 economies (Canada, France, Germany, Italy, Japan, the United Kingdom and the United States) increased slightly in the years before the global financial crisis, from 78% of GDP in 2000 to 84% of GDP in 2006. During the financial crisis, however, sovereign debt levels ballooned, rising to 114% of GDP in 2010. According to the IMF estimates they will increase by another 13 percentage points over the next five years, rising to 127% of GDP in 2016.

*Figure 3.5: Gross General Government Debt in the G – 7 and Emerging and Developing Economies, 2000 - 2016*



*Source:* IMF World Economic Outlook, September 2011

From 2006 to projected year-end 2012, total debt in the Eurozone will have increased from €5,870 billion to €8,714 billion, an increase of €2,844 billion. By comparison, GDP has grown from €8,568 billion in 2006 to an estimated €9,687 billion in 2012, an

increase of €1,119 billion. In different terms, it is projected that absolute debt levels in the Eurozone will have grown 2.5 times faster than GDP (IMF, 2012).

**Table 3.4** presents the IMF's projected figures for 2012 (compound annual growth rates for debt and GDP) for each member of the Eurozone.

*Table 3.4: Projected Debt to GDP Growth Rates (2006-2012)*

<b>Countries</b>	<b>Debt CAGR 2006-2012</b>	<b>GDP CAGR 2006-2012</b>	<b>Debt/GDP CAGR 2006-2012</b>
<b>Austria</b>	5.2%	2.8%	1.85
<b>Belgium</b>	3.9%	2.9%	1.35
<b>Cyprus</b>	4.2%	3.8%	1.11
<b>Estonia</b>	7.0%	3.4%	2.06
<b>Finland</b>	6.4%	2.9%	2.24
<b>France</b>	6.9%	1.9%	3.71
<b>Germany</b>	4.6%	1.8%	2.51
<b>Greece</b>	9.0%	0.4%	23.36
<b>Ireland</b>	22.8%	-1.4%	-15.86
<b>Italy</b>	3.1%	1.3%	2.51
<b>Luxembourg</b>	23.7%	4.7%	5.04
<b>Malta</b>	5.0%	4.6%	1.1
<b>Netherlands</b>	7.2%	2.1%	3.44
<b>Portugal</b>	9.3%	0.9%	10.48
<b>Slovak Republic</b>	10.4%	3.8%	2.72
<b>Slovenia</b>	11.9%	3.1%	3.78
<b>Spain</b>	10.5%	1.8%	5.8

*Source: IMF staff calculations, 2012*

Regarding the table above each member of the Eurozone's debt is growing faster than its GDP, an unsustainable position in the long term.

**Table 3.5** presents the IMF's projections of debt-to-GDP ratios for the year 2012

*Table 3.5: Debt-to-GDP Ratios (for the year 2012)*

<b>Countries</b>	<b>Debt to GDP</b>	<b>Rank</b>
<i>Austria</i>	73.9%	8
<i>Belgium</i>	94.3%	5
<i>Cyprus</i>	66.4%	11
<i>Estonia</i>	5.6%	17
<i>Finland</i>	50.3%	13
<i>France</i>	89.4%	6
<i>Germany</i>	81.9%	7
<i>Greece</i>	189.1%	1
<i>Ireland</i>	115.4%	3
<i>Italy</i>	121.4%	2
<i>Luxembourg</i>	21.5%	16
<i>Malta</i>	66.1%	12
<i>Netherlands</i>	66.5%	10
<i>Portugal</i>	111.8%	4
<i>Slovak Republic</i>	46.9%	15
<i>Slovenia</i>	47.2%	14
<i>Spain</i>	70.2%	9

*Source:* IMF staff calculations, 2012

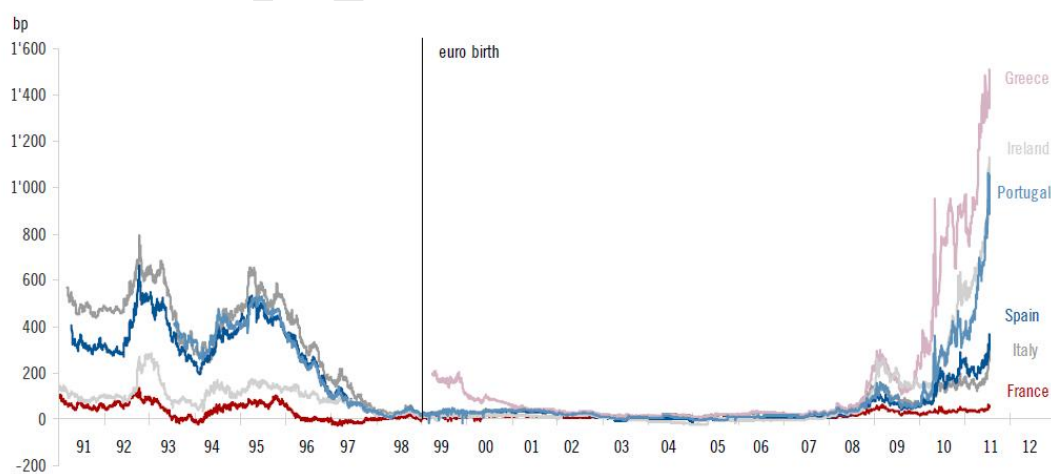
As we see from the table above approximately all Eurozone members (13 out of 17 countries) have debt levels exceeding the amount of 60%. Among this group are the large economies such as Germany (81.9%), France (89.4%), Italy (121.4%), and Spain (70.2%). The projected 2012 debt of these four nations alone totals €6,732 billion, versus projected 2012 GDP of €7,410 a debt-to-GDP ratio of 90.9%, a full 51.4% higher than the maximum required by the convergence criteria we mentioned earlier in this study.

Consequently, the European sovereign debt crisis is truly a European crisis, and not just a crisis for a single country to resolve. The slower progress in advanced economies is due to the magnitude of the shock and the sluggishness of the recovery thereafter, but in some cases also to high interest rates, which are negatively affected by policy uncertainties and banking fragilities. In many advanced economies, consolidation efforts will need to persist for many years if debt ratios are to be restored to pre-crisis levels.

### **3.4 The Link between Eurozone Sovereign Debt and CDS Values**

In the last decade, many economies were marked by the severe financial crises since the Great Depression. The Euro area confronted with economic difficulties and following the collapse of Lehman Brothers on September 2008, the risk premium on European Monetary Union (EMU) government bonds dramatically increased and severe tensions emerged in Eurozone (see **Figure 3.6**). The euro sovereign debt crises started in Greece and later on, spread to the other peripheral European countries Spain, Portugal, Ireland, Italy and still continues.

*Figure 3.6: Sovereign Spreads vs 10Y Bunds for Selected Countries*



Source : Datastream, 2012

The investors focus on the solvency concerns with a linkage between government debt risk and fragility in banking sector (Bolton and Olivier, 2011). After that, the way the market expresses its view of sovereign risk and among various credit derivative instruments, in order to track default probabilities of nations and assess country risk, is the sovereign *Credit Default Swaps* (CDS), which is the most widely traded (Haibin Zhu, 2004). They are based on cumulative intelligence and for countries they reflect the market's estimate of creditworthiness – that of sovereign risk.

The majority of the empirical work has focused on correlation between CDS and sovereign debt though US bond market but only a few studies are available for the Euro bond market. The recent literature on euro sovereign debt crisis has highlighted credit default swap and the stability of the domestic financial system.

An example given with the purpose to examine the CDS was conducted by Duffee (1999) who assessed the applied recovery rates to corporate bonds. The author also evaluated the relationship between Treasury yields and bond yield spread by using two different credit rating indexes to determine this relationship. He also emphasizes that there is a strong relationship between bond yields and yield spread, based on Moody's yield indexes. Therefore, a decline in bond yield spreads is small for Aaa Credit rated bonds but large for Baa credit rated bonds.

Landscoot (2004) analyse the term structure of credit default swaps on Euro bond investment for the time periods of 1998-2002 and compare the empirical results with other studies on USD bonds. Subject to bond characteristics and by investigate the role of credit spreads volatility on both financial and macroeconomic variables, the author found that credit default and volatility are positively related as credit default factor has significant role on volatility.

Barrios et al. (2009) emphasizes on government bond yield spreads in the euro area during the crises. A relationship among foreign debt, current account deficit and sovereign risk premium was found. Risk perception plays a crucial role in crisis period which leads to higher level government bond yield spreads. Main determinants of yield

spreads are credit risk, changes in risk aversion and liquidity considerations. Moreover, their results have shown that sovereign bond interest rates are affected also by global financial markets.

Delatte et al. (2010) examined the nonlinear approach to determine the interaction between European sovereign credit default swaps and bonds. They applied panel smooth transition error correction model by using daily panel data covers for the crisis period from 2008 to 2010. The countries in the study were 11 European countries categorized into two groups. The first group was the 'core Euro area' (Austria, Belgium, Finland, Denmark, Netherlands, France) and the second, the 'high yield' (Greece, Italy, Ireland, Spain and Portugal). They located that threshold tension behaves differently across the two groups with a higher threshold tension over the 'high yield' group. Their results indicate also that there is a high volatility in CDS prices which lead to stress in Eurozone as CDS spread stands as the leading indicator for default risk.

Bolton and Olivier (2011) examined the contagion effect of sovereign debt crises by using the data of 2010 European stress test. They found that the lack of fiscal integration monetary integration is the main problem of government debt, as well as banks have played a significant role in euro sovereign debt crises spread along with the policy response of monetary authorities.

Gomez-Puig and Sosvilla-Rivero (2011) used daily data of 10 year bond yields for the periods from 1990 to 2010 for peripheral EMU countries (Greece, Ireland, Portugal, Italy and Spain). They applied the Granger causality test and found strong causality relation amongst peripheral EMU bond yields. Their findings also indicated that contagion of the crisis through macroeconomic imbalances and banking system could be a fundamental issue.

Santis (2012) examined the euro area long term government bond yields (daily period between September 2008 and August 2011). He determined that three factors have played a key role in developments of sovereign spread which are country specific credit

risk, aggregate regional risk, and the spill over from Greece. The author also indicates the importance of the credit rating information.

As a final point, O’Kane (2012) conducted a more recent study in order to determine the granger causality relationship between credit default swap and bond yield spread. By using daily data for the period January 2008 to September 2011 he found evidence that there is a CDS granger cause bond spread for Greece and Spain, but converse relationship for Italy and France and bidirectional relationship for Portugal and Ireland.

The main reasons of the euro area sovereign debt crises vary to countries. For instance, Ireland crisis differs than Greece, originated in the banking sector, and then spread to the sovereign debt. In Ireland, the main reason of crisis is the increasing probability of default risk related to the domestic housing boom which was financed by foreign borrowers while in contrast, Greece, Portugal and also Italy, the main reason behind the crisis is the high fiscal deficit and public debt (Gomez-Puig and Sosvilla-Rivero, 2011).

The euro area debt crises indicate that Credit default swap (CDS) and bond spreads are the main factors to determine the default risk. CDSs were introduced in mid 1990s and became a popular after 2007.

A CDS is a contract between two counterparties that serves to transfer the credit risk that a certain individual entity or credit defaults from the ‘protection buyer’ to the ‘protection seller’ in exchange for the payment of a regular fee. The buyer of protection may be an investor who owns a government’s bonds and, rather than selling them to the market prefers to ‘hedge’ the risk by buying a CDS (Eichler, 2012).

Sovereign bonds are fixed-income securities issued by central governments (generally in US Dollar (USD) or Euro denomination) in international markets (Aktug et al., 2011) Bond spread is another important indicator of economic volatility of a country that reflects to measure of perceived risk. Bond spread is the difference between the two bond yields with differing credit ratings (Alper et al., 2012).

In a transaction, the buyer receives credit protection while the seller guarantees the creditworthiness of a fixed income instrument such as a corporate bond or asset backed security (CDSs are over the counter - (OTC) derivatives, and pay outs vary according to the specifics of the contract). CDS are designed to offset risks such as defaults and bankruptcies. A protection buyer is similar to a buyer of insurance who buys protection against a future unknown event and for protection seller, it offers the opportunity to take credit exposure and generate income without having to fund the position (Hui and Chung, 2011).

As the credit default swaps culture soared, they have been compared with insurance, because the buyer of a CDS contract pays a periodic fee to the seller in exchange for his guarantee. But since the credit default swap buyer does not have to suffer a loss to receive a pay out from the CDS, such contracts could also be used for 'speculation' purposes.

In case of default, the buyer is fully compensated by receiving e.g. the difference between the notional amount of the loan and its recovery value from the protection seller. Hence, the protection buyer's exposure is identical to that of short-selling the underlying bond and hedging out the interest-rate risk. Commonly, CDS transactions on sovereign entities have a contractual maturity of one to ten years.

If a credit event occurs (bankruptcy, obligation acceleration, obligation default, failure to pay, repudiation / moratorium, or restructuring) the protection seller compensates the protection buyer for the incurred loss by either paying the face value of the bond in exchange for the defaulted bond (physical settlement) or by paying the difference between the post default market value of the bond and the par value (cash settlement) where the post-default value of the bond is fixed by an auction procedure.

The periodic payment, which is usually expressed as a percentage (in basis points) of its notional value, is called the CDS spread (or the CDS premium). The CDS spread is the insurance premium (in basis points per annum as a fraction of the underlying notional) for protection against default. As in a standard interest rate swap the premium is set



such that the CDS has a value of zero at the time of origination. Intuitively, this CDS spread provides an alternative market price of the credit risk of the reference entity in addition to its corporate bond yield from the cash market. The price of credit risk is also available from other financial instruments, such as financial guarantees and syndicated loans in the secondary market. However, these markets are either very small or very illiquid.

As a final point, CDSs are expected to reflect the sovereign credit risk associated with fiscal policies and indicating that the debtor is far from being 'credit risk – free'. The volatility of CDSs connected to countries (such as Greece, Portugal, Spain, Italy) where there exist doubts in terms of creditworthiness tends to be high. By contrast, the CDSs of Germany, Norway and Sweden tend to cluster together. All these statements present the fact that market differentiation between sovereign debtors is growing, and the result is quantitatively expressed through CDSs (ECB, 2012).

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**CHAPTER 4 – RESEARCH  
METHODOLOGY**

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## **4. Research Methodology**

### **4.1 Introduction**

In this chapter the methodological approach that was used in this study, will be delineated in order to produce this study. By describing the research process in detail the reader will be able to understand exactly the process used and the way it was executed. Furthermore, the strengths and potential limitations of these methods are illustrated to fill the identified gaps or if any further improvements are necessary.

### **4.2 The Importance of Triangulation**

The first step of the research process was to outline the particular focus of research i.e. the important role of the financial environment of each nation and in particular the levels of debt European nations can sustain or more precise the current sovereign debt crisis involved in order ensuring a favourable coverage. In order to be able to analyse the overreaching theory of sovereign debt crisis, a reference to the previous financial crises was essential as all those debt events are highly correlated. We explored how the current crisis is formed and how Euro area countries behave according to their policies activities.

This research area was examined in terms of triangulation (Thomas, 2004 pp.23), by combining several methods of primary and secondary research approaches. Denscombe (2007) points out that the appropriate choice and combination of primary and secondary research methodologies is vital for any form of effective research.

By using the method of secondary research we were able to collect, synthesize and finally summarize the existing published academic data. However, this form of research helped only for the foundation of the study so a primary research was vital for the production of this dissertation.

Primary research was a valuable tool for conducting the research as the researcher could gather information in its original form and thus does not have to rely on secondary

research sources which might have been paraphrased by another person (Bryman and Bell, 2007).

The combination of both primary and secondary approaches assists the study for the efficient approaches of the topic and deal with the limitations of both methods. In the following sessions the use of all methods will be presented and how they served effectively in the production of this study.

### **4.3 Writing the Literature Review**

The first step of every form of the research was a first reading of academic material other researchers in the area has already written. The purpose of the reading of the literature review was based on an inductive approach (Saunders et al, 2007, pp.57) which contributed to obtain a more clearly defined purpose with research questions and objectives of the topic. The main purpose of this approach was to review the most relevant and significant research of our topic and present how theories and findings we have developed, help us to come up with some certain conclusions.

The next step after reading and evaluating the literature about sovereign debt crisis was to combine the academic theories in order to form our review that will appear on the study. By doing this, we will provide readers with the necessary background knowledge and objectives concerning the current crisis while we will establish also the boundaries of our research (Bryman and Bell, 2007).

### **4.4 Research Design**

Some of the objectives of this study are to describe the current debt crisis and particularly how this status quo has posed the most fundamental challenges to the Eurozone since the euro was introduced and has led to speculation about the future of the Eurozone. The main objective is to identify how this crisis is formed and how the European leaders through their policy measures, are reflected in this crisis. Moreover, a further objective is to identify the crisis-hit peripheral countries (Greece, Ireland, Italy,

Portugal and Spain) in order to highlight the consequences against sovereign debt dynamics in the Eurozone.

In order to achieve these objectives set in this study, a number of questions were rose as seen below:

✓ *General Economic Policy*

Does the government have an integrative view of its economic policy measures, or does it practice ad hoc interventionism?

Is there inherent coherency and internal consistency of government measures directed at national wealth creation?

Is there constancy and reliability in government measures?

✓ *Markets*

Is the central bank reliable in guaranteeing stable monetary conditions (primacy of price stability, financial system stability, restrictions on government funding)?

✓ *Macroeconomic Policy*

Are there stable fiscal conditions (budget balance)?

Are fiscal burdens low and the tax-expenditure system transparent (tax structure, efficient government expenditure)?

✓ *Social Conditions*

Is there an active policy to curtail extremes in the distribution of income and wealth or is there a practice of favouritism with privileges for special groups?

An exploratory design was used in order to address these objectives. The exploratory design was chosen in order to search for new insights, help to gain a better understanding of a problem or defining a problem more precisely. Furthermore, this design identifies alternative courses of action in order to develop a better approach to the problem. Finally, its flexibility and adaptability to change benefit the research to

become progressively narrower and provide the study with new insights (Saunders et al, 2007).

## **4.5 Types of Research Methods**

According to Bryman and Bell (2007) the main methods of research are categorized into qualitative and quantitative research. According to Ghauri and Gronhaug, (2002) the main difference between qualitative and quantitative research is not ‘quality but procedure’. Further features of the qualitative research methods are that reflect different perspectives on knowledge and research objectives. The research collects the data through observations and theory, then analysed and the concluding theory is produced after the examination of the data analysis (Bryman and Bell, 2007).

For the conduction of this study we used qualitative research method based on grounded theory (Bryman and Bell, 2007, pp.585). This type of research was chosen because the main aim of the study is to explore the European Sovereign Debt Crisis and to obtain a better understanding of its current situation and its aspects to specific nations. Moreover, as this method provides a better framework for analysing qualitative data it provided a better development of our economic theory derived from data and helped the approach and analysis through the research process.

The quantitative research methods were not appropriate for this study as the findings are not obtained by statistical methods or other procedures of quantification (Ghauri and Gronhaug, 2002). On the contrary, a constructivism ontological position was used as it reflects ‘the indeterminacy of our knowledge of the social world’ (Bryman and Bell, 2007, pp.23-25).

## **4.6 Research Methods**

### **4.6.1 Semi - Structured Interview**

In qualitative research methods, interview could be a valuable tool for collecting data. Interviews might be formal and structured, using standardized questions or might be informal and unstructured conversations (Saunders et al, 2007, pp.311). In this study, a semi - structured interview was conducted in order to acquire information and opinions

of a professional in the specific field. This type of interview gave the advantage to cover a wide range of instances and to explore more issues by asking further questions from our main list of predetermined themes.

A set of questions was used as a guide and the order of the questions varied from the flow of the conversation. The list of predetermined themes was sent to the interviewee before the conduction of the interview for a better comprehension over the direction of the interview.

Telephone interviews were also used for the collection of the data where distance barriers made impossible the interaction between the researcher and the interviewee. Finally, the Internet and e-mail communications enhanced the communication between those involved in order to facilitate more data collection.

Finally, ethical considerations were taken into account for conducting these interviews in order to entail an acknowledgement that these covert methods do not violate the principles of informed consent and protect the invasion of privacy of those being studied (Bryman and Bell, 2007, pp.137).

#### **4.6.2 Secondary Analysis of Data**

Secondary analysis of data was used also for the conduction of this project as it is convenient for the study (Bryman and Bell, 2007). Its combination with the collection of primary data advantages the research design as offered the prospect of having access to good quality of data and facilitate the sampling procedures by being more rigorous and by attracting a wide range of resources. However, its complexity of data may often result in its low quality as the size of the data might be difficult to organize and the researcher still needs to carefully evaluate the range and kind of the sources used.

The data used in this study was assembled through numerous databases and web sites and consisted of academic journals, economic reports, surveys, various reviews as well as public documents from different organizations.

Prices are sourced from local exchanges via Thomson Reuters, Bloomberg Finance L.P. and other vendors. Data is sourced from organizations such as International Monetary

Fund and European Central Bank and from Barclays, HSBC Research, BNP Paribas, Deutsche Bank and subject companies.

#### **4.7 Data and Descriptive Analysis**

For the purpose of this study we examined 17 euro area countries: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Malta, Netherlands, Portugal, Slovak Republic, Slovenia and Spain (joined together by a common monetary policy, a common currency and other elements of coordinated economic policy) but we focused mainly on the peripheral EU countries (Greece, Italy, Ireland, Spain and Portugal) by using country-specific data.

Given the fact that the market pricing behaviour has changed with the crisis, we cover the financial crisis period mainly from 1<sup>st</sup> January 2009 to 30<sup>th</sup> September 2012. The frequency of data is daily business unless otherwise indicated.

We use the debt to GDP growth indicator (see **Table 4.1**) and the projected (12-months ahead) growth ratio as explanatory variables, which are commonly used in the literature. The overall results on all other variables are not modified therefore we will present the findings in order to conduct our scenarios.

*Table 4.1: GDP Growth (per cent change on previous year)*

<b>Eurostat</b>	<b>IMF</b>	<b>2009</b>		<b>2010</b>		<b>2011</b>		<b>2012</b>		<b>2013</b>	
<b>Portugal</b>		-2.9	-2.9	1.4	1.4	-1.7	-1.7	-3.3	-3.0	0.3	-1.0
<b>Ireland</b>		-7.0	-7.0	-0.8	-0.8	1.4	1.4	0.5	0.4	1.9	1.4
<b>Italy</b>		-5.5	-5.5	1.8	1.8	0.4	0.4	-1.4	-2.3	0.4	-0.7
<b>Greece</b>		-3.3	-3.3	-4.9	-4.9	-7.1	-7.1	-4.7	-6.0	0.0	-4.0
<b>Spain</b>		-3.7	-3.7	-0.3	-0.3	0.4	0.4	-1.6	-1.5	-0.3	-1.3
<b>Eurozone</b>		-4.3	-4.3	2.0	2.0	1.4	1.4	-0.3	-0.4	1.0	0.2

*Source: Eurostat and IMF staff calculations, 2012*



Eurostat publishes twice a year a news release with the government debt of all European countries for the previous years. In addition, International Monetary Fund publishes world economic and financial surveys. We use this data in real time to assess the impact of government debt. The data are discrete time processes and are calendared on the day of the press release.

We also consider the European Commission figures, which publishes forecasts about fiscal deficit for all European countries. The real effective exchange rates deflated by the consumer price index and the bank assets to GDP ratio used in the previous sections are provided by the European Central Bank. As a final point, we use ratings performance information from the three leading international credit rating agencies, namely Moody's, Standard & Poor's and Fitch.

Sovereign default risk is the core of the latest stage of the global crisis in several developed countries and, particularly, in the Euro Area. The long-term driver of sovereign risk is fiscal sustainability, namely the mix of fiscal policy stance (e.g., debt-to-GDP and primary-deficit-to-GDP ratios, other contingent liabilities) and growth perspectives (hence the proper functioning of economic institutions) of each country in the area warranting the required primary surpluses to balance public liabilities (including implicit ones).

We consider a rich set of fiscal and macroeconomic indicators such as public debt, foreign public debt, banking exposure to foreign and domestic debtors, capital structure of the banking sector of different countries. Such variables involve (or may involve) explicit or implicit liabilities on government, hence we will refer them (in general terms) fiscal variables. In line with the literature, we also consider the main financial variables (solvency and liquidity) potentially affecting spreads' dynamics (See **Table 4.2**, **Table 4.3** and **Table 4.4**).

Table 4.2: Euro Area Economic Forecasts

Euro Area	<i>Real / Forecasts</i>									
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Economic Activity</b>										
<b>Real GDP (YoY%)</b>	1.70	3.20	2.90	0.30	-4.40	2.00	1.50	-0.40	0.60	1.35
<b>CPI (YoY%)</b>	2.19	2.18	2.13	3.28	0.29	1.58	2.69	2.30	1.80	1.80
<b>Unemployment (%)</b>	9.18	8.47	7.60	7.66	9.58	10.12	10.17	11.20	11.45	11.20
<b>External Balance</b>										
<b>Curr. Acct. (% of GDP)</b>	-0.20	-0.10	0.30	-1.25	-0.53	-0.33	-0.05	0.40	0.50	0.30
<b>Fiscal Balance</b>										
<b>Budget (% of GDP)</b>	-2.50	-1.30	-0.70	-2.10	-6.40	-6.20	-4.10	-3.25	-2.50	-
<b>Interest Rates</b>										
<b>Central Bank Rate (%)</b>										
<b>3 - Month Rate (%)</b>	2.25	3.50	4.00	2.50	1.00	1.00	1.00	0.50	0.63	-
<b>2 - Year Note (%)</b>	2.49	3.73	4.68	2.89	0.70	1.01	1.36	0.39	0.59	-
<b>10 - Year Note (%)</b>	2.86	3.90	3.96	1.75	1.33	0.86	0.14	-	-	-
<b>Exchange Rates</b>										
<b>EURUSD</b>	3.31	3.95	4.33	2.95	3.39	2.96	1.83	-	-	-
	1.18	1.32	1.46	1.40	1.43	1.34	1.30	1.22	1.24	1.27

Source: Bloomberg Finance L.P., 2012

Table 4.3: Euro Area Indicators for Selected Countries

<b>Indicator</b>	<b>Last</b>	<b>Observed</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>GREECE</b>					
Real GDP	-6.5	3/12	-4.4	-5.2	-0.9
CPI	1.0	6/12	3.1	0.7	0.0
Unemployment	22.6	4/12	17.7	22.8	22.8
Curr Acc Bal	-8.8	3/12	-9.8	-7.1	-6.3
Budget	-9.1	12/11	-9.1	-7.3	-4.8
3 – Month Rate	0.29	7/12	1.29	--	--
Bond Yield	22.75	7/12	34.96	--	--
Exchange Rate	1.2261	7/12	1.2961	1.2300	1.2500
<b>IRELAND</b>					
Real GDP	-1.1	6/12	1.5	0.1	1.1
CPI	2.4	9/12	1.2	1.7	1.2
Unemployment	14.8	10/12	14.3	14.8	14.5
Curr Acc Bal	1.7	3/12	1.1	1.6	2.5
Budget	-13.4	12/11	-13.4	-8.3	-7.5
3 – Month Rate	0.13	11/12	1.29	--	--
Bond Yield	--	--	5.60	--	--
Exchange Rate	1.2810	11/12	1.2961	1.2900	1.2500
<b>ITALY</b>					
Real GDP	-1.4	3/12	0.4	-2.0	-0.2
CPI	3.6	6/12	2.9	3.1	2.0
Unemployment	10.1	5/12	8.4	10.2	10.6
Curr Acc Bal	-3.2	12/11	-3.2	-2.3	-1.7
Budget	-3.9	12/11	-3.9	-2.3	-1.0
3 – Month Rate	0.29	7/11	1.29	--	--
Bond Yield	5.97	7/11	--	6.21	5.28
Exchange Rate	1.2259	7/11	1.2961	1.2300	1.2500
<b>PORTUGAL</b>					
Real GDP	-3.3	6/12	-1.7	-3.2	-1.8
CPI	2.9	9/12	3.6	2.8	1.5
Unemployment	15.0	6/12	12.7	15.5	16.4
Curr Acc Bal	-3.7	6/12	-6.5	-4.1	-3.1
Budget	-4.4	12/11	-4.4	-5.0	-4.1
3 – Month Rate	0.13	11/12	1.29	--	--
Bond Yield	8.61	11/12	--	--	--
Exchange Rate	1.2747	11/12	1.2961	1.2900	1.2500
<b>SPAIN</b>					
Real GDP	-1.0	6/12	0.7	-1.7	-0.8
CPI	2.2	7/12	3.1	1.8	1.5
Unemployment	24.6	5/12	21.7	24.7	25.9
Curr Acc Bal	-3.5	12/11	-3.5	-2.9	-2.1
Budget	-8.5	12/11	-8.5	-6.2	-4.9
3 – Month Rate	0.29	7/12	1.29	--	--
Bond Yield	6.54	7/12	5.09	6.95	5.93
Exchange Rate	1.2266	7/12	1.2961	1.2300	1.2500

Source: Bloomberg Finance L.P., July 2012

Table 4.4: Fiscal Characteristics for Selected Countries

	<b>Portugal</b>	<b>Ireland</b>	<b>Italy</b>	<b>Greece</b>	<b>Spain</b>
<b>Gross Public Debt end 2011 (per cent GDP)</b>	108	106	120	170	69
<b>Percentage of public debt that is foreign-owned 2007</b>	55	62	42		48
<b>Average time to maturity of public debt, years</b>	6.6	6.9	7.2	7.8	6.4
<b>Fiscal Deficit, 2011 (per cent GDP)</b>	4.4	13.4	3.9	4.4	9.4
<b>10 Year bond yield per cent, October, 2012</b>	8.54	5.12	5.07	18.18	6.77

Source: Eurostat, 2012

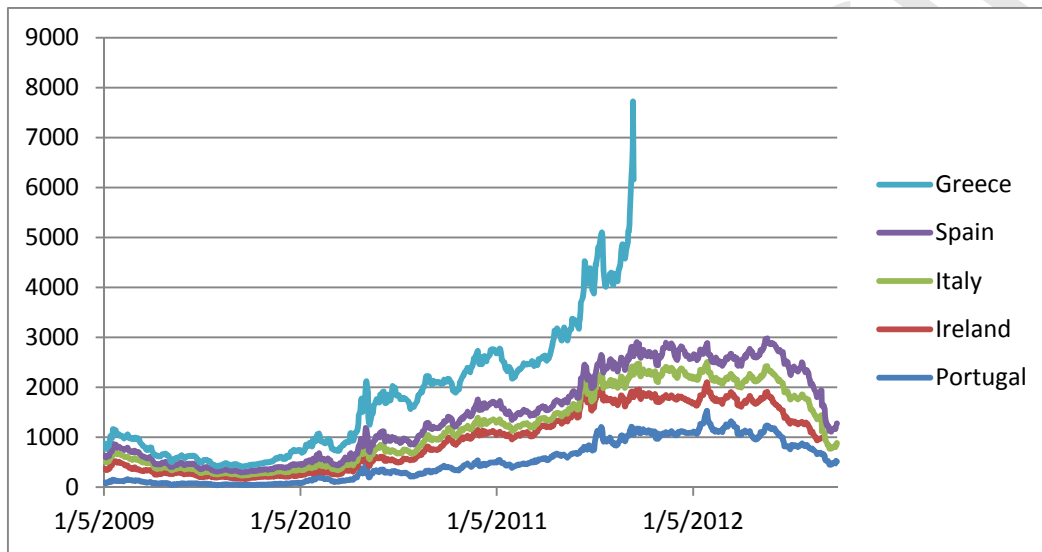
As we have seen from the above tables and while some sources of fiscal risk for instance, the effect of interest rate growth on debt service is relatively easy to identify and quantify, a potentially large number of structural macroeconomic conditions, entailing a political need for public intervention, may affect sovereign risk. Such implicit and contingent government liabilities have been particularly relevant as determinants sovereign debt crises. Much in the same vein, the recently proposed reform of the European framework for preventive coordination and multilateral surveillance of public finances calls for a multi-indicator approach to the assessment countries' fiscal fragility.

In line with the literature, we also consider the main financial variables potentially affecting spreads' dynamics, such as risk and liquidity. To carry out the analysis, we rely on a panel data of relevant indicators and sovereign spreads (for 10-years bonds over German benchmark) for selected Euro Area countries from 2009 to 2012.

We use 10-year government bond yields which derive them from Bloomberg Finance L.P. The rates are secondary market yields of government bonds with a remaining maturity close to ten years. The bond spreads are computed as the difference between the sovereign bond yield and the German government bond with the same residual maturity. The spread data is recorded at a daily frequency and indicates whether a trade has taken place in the instrument during that day. We only use observations for our analysis if the CDS contract was indeed traded.

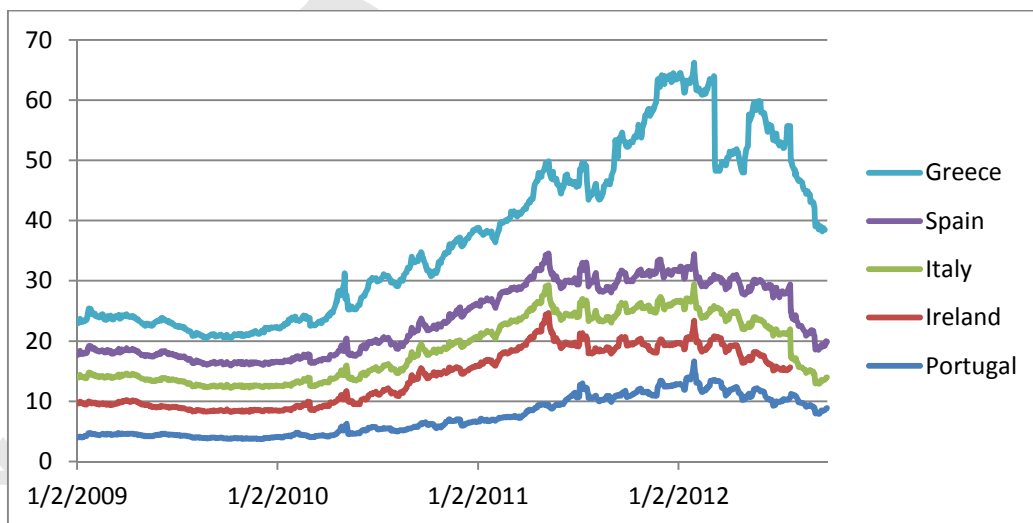
In this non-technical analysis daily close prices for both CDS and bond spreads data is used for the period 01 January 2009 to 30 September 2012. There are no missing data for CDS except from Greece (trading period until 16 September 2011). The below mentioned **Figure 4.1** shows the credit default swap and the following **Figure 4.2** represents sovereign bond yield for peripheral countries such as Greece, Ireland, Italy, Portugal and Spain.

*Figure 4.1: Credit Default Swap (CDS) in Peripheral Countries*



Source: Bloomberg Finance L.P., 2012

*Figure 4.2: Yields on 10-Year Government Bonds over Bunds*



Source: Bloomberg Finance L.P., 2012

In this context, the observed widening of sovereign spreads might reflect increased financial markets concerns regarding the worsening fiscal accounts of most euro area countries on the heels of financial crisis. Furthermore, volatilities of sovereign yields denote the existence of two different groups of countries closely linked (core EMU countries and peripheral EMU countries), with different degree of credibility appointed by the announcements made by policymakers and with different positions regarding the stability of public finance (Sosvilla-Rivero and Morales-Zumaquero, 2012). Hence, regarding to fiscal vulnerabilities and thus default risk concerns, discrimination among sovereign issuers may reveal considerations for the relative liquidity of different government bond markets.

The existing crises present that investors had more interest to negotiate CDS on high yield EU countries and keep requiring higher sovereign default risk premiums until a credible financial system restructuring plan is envisaged. Empirical studies show that during the financial and economic turbulences, there is high correlation between these two derivatives. In Eurozone peripheral countries such as Greece, Ireland, Italy, Portugal and Spain are probably the best examples for this transmission mechanism. The recent econometric debate on this issue is mainly focus on the causal relationship between CDS and bond which is important for policy makers. Most of the studies agree that bond spreads are mainly driven by the credit default swaps.

#### **4.8 Limitations**

It is essential to note that all the discussed methods have certain limitations that might deceive the researcher and might give a false sense of objectivity. The qualitative methodologies we have used in our study might be inadequate and limit the collection data. As we conducted only ten semi-structured interviews and run merely three telephone interviews, the research might be limited in this regard.

The fact that the period in which this study was conducted coincided with fluctuating policy measures by the Eurozone governments was a further limitation which contributed to the difficulty of exploring the role that sovereign debt plays in the economy of a nation. Adding to this, in this study we tried to include different approaches in order to investigate the research topic efficiently. An important

disadvantage in this regard is that, the information given by rating agencies focus on a long-term horizon, using a 'through-the-cycle' rating methodology. As a result, ratings respond only to the component of credit quality changes that the agencies perceive to be permanent. Sovereign spreads, however, may reflect risk assessments by investors who do care about credit quality in the short term.

As a final point, opinions, estimates and projections expressed in this study constitute the current judgement of the author as of the date of this study and may change as subsequent conditions vary.

The main aim of this study was to combine the strengths of our methodology. It was important to explore different angles from the analysts and include various viewpoints in order to meet the objectives of this research. However, a plethora of different angles and approaches might be required rather than a specialization of one specific methodology in order to stand the effectiveness of objectivity.

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## CHAPTER 5 – FINDINGS AND DISCUSSION

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## **5. Findings and Discussion**

### **5.1 Introduction**

The following chapter includes the findings that have emerged after conducting the essential research analysis. The findings were extracted by the information gathered from personal interviews, by the use of academic journals and articles, the exploration of the websites, the use of reports and reviews of research services. This chapter will present three possible scenarios for the future of the Eurozone.

### **5.2 The Eurozone Stance**

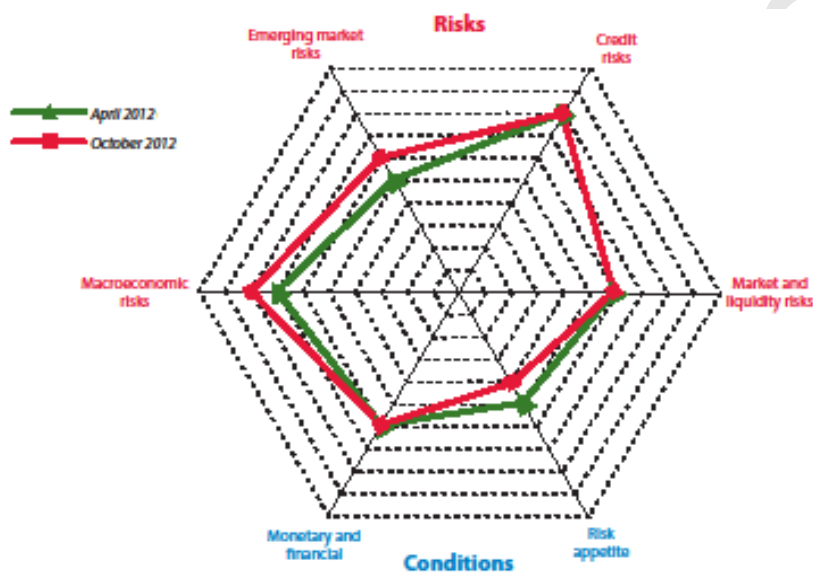
The financial crisis and economic recession have had significant, and probably long-lasting, effects on the global economy and financial markets. Markedly reduced growth prospects and sharply increased public debt in several advanced countries have heightened concerns about sovereign credit and liquidity risk, posing a considerable challenge to banking systems and financial stability.

The problem of high public debt existed before the Great Recession, because of population aging and growth in entitlement spending, but the crisis brought the need to address it forward from the long to the medium term. The global economy has deteriorated further and European and U.S. policymakers deal proactively with their major short-term economic challenges.

The process around the introduction of the Euro was designed in order to allow economic convergence to happen ahead of Euro adoption. In reality, however, political considerations dominated. The Maastricht criteria for economic convergence were repeatedly overruled: Italy entered the European Monetary Union and adopted the common currency at its outset despite having much higher government debt than the 60% limit spelt out in the convergence criteria. Meanwhile, Greece joined the common currency in 2001, despite having broken a number of entrance criteria, including criteria pertaining to deficit and debt levels.

The euro area periphery shows that, despite of favourable developments in financial markets, financial stress has been intensified. The recession in most of the periphery is increasingly spilling into other economies in the region. Risks to financial stability have increased since the April 2012 as confidence in the global financial system has become very fragile (see **Figure 5.1**).

*Figure 5.1: Global Financial Stability Map*



Note: Away from centre signifies higher risks, easier monetary and financial conditions, or higher risk appetite.

Source: IMF staff estimates, 2012

Consensus expects the worst growth performance in the periphery region (with the exception of Ireland) compared to all other advanced economies for this year. Unemployment is rising in all countries in the region and confidence has recently taken a turn for the worse across the periphery.

Academic research pointed out the weaknesses in the institutional setup from the outset and the dangers involved from a forward-looking perspective. Most importantly, while the European Monetary Union (EMU) worked with a common central bank (the ECB), it did not have a common Treasury. There was no common fiscal body that could work towards smoothing out asymmetric shocks facing member countries.

In addition, the ECB's role as a lender of last resort was not well defined. In fact, the founding treaties explicitly prohibited the ECB from taking on such a role, as it was perceived as inflationary and undemocratic for the ECB to provide financing for individual states in a system of independent sovereign nations.

The global financial crisis, which hit global markets and the global economy particularly hard from 2008, tested this structure of the EMU in an unprecedented way (see **Table 5.1**). The crisis became more Europe-centred due to sovereign debt concerns and continued banking sector instabilities.

*Table 5.1: Central Problems of the European Monetary Union (EMU)*

<b>Areas</b>	<b>Central Problems of the EMU</b>
<b>Financial Stability</b>	<b>Credit shortage</b> <b>Inter-bank lending</b> <b>Widely diverging borrowing costs with regard to public debt issuance</b> <b>Risk of sovereign default</b>
<b>Fiscal Discipline</b>	<b>High public debt</b> <b>High public deficits</b> <b>Little fiscal room to support public and private investment</b> <b>Tax divergences</b>
<b>Growth</b>	<b>Recession</b> <b>Low growth</b> <b>Unemployment</b> <b>Social inequalities</b>
<b>Macroeconomic Imbalances</b>	<b>Increasing divergences in growth, unemployment, investment rates</b> <b>High current account deficits and external indebtedness</b>
<b>Governance</b>	<b>Effectiveness</b> <b>Legitimacy</b>

*Source:* International Policy Analysis, 2012

Initially, the deleveraging happened on a broad basis, across essentially all Eurozone countries. Later, a clear pattern of divergence started to become clear. In 2010, the deleveraging process continued in countries in the Eurozone periphery, while economic performance normalised in core Eurozone countries, especially in Germany.

Soon tension concentrated in Greece permeated vulnerable Eurozone countries, and bond spreads widened dramatically in a number of countries. Markets in effect stopped distinguishing between sovereign risks, as the spreads on Eurozone sovereign bonds over German bonds virtually disappeared at least until the onset of the current crisis.

European policymakers responded with a strategy based primarily on fiscal austerity, tight monetary policy coupled with a number of short-term lending facilities, to fill the gap from the disappearance of market-based financing options. To tide the markets over, the ECB began its Securities Market Programme (SMP) to purchase government debt.

The measures agreed to at the June 29, 2012, European Union (EU) summit, and the European Central Bank's (ECB's) establishment of the Outright Monetary Transactions (OMT) program (as a replacement for the Securities Market Programme (SMP))<sup>20</sup> were steps in the right direction and have improved financial conditions, which nevertheless remain once again fragile (IMF, 2012).

### **5.3 Scenario Structure: Driving Factors and Forces**

At the time of writing this study, 17 EU member states had adopted the euro as their currency (Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia and Spain). This currency area comprises a substantial part of the global economy (for about one-fifth of global output when GDP is measured at US dollar rates) (IMF, 2011).

Furthermore, the Eurozone declares one of the largest financial sectors in the world, it has banking exposures to other economies which are larger than that of any other economy, and despite its current tribulations the euro still remains the world's second most important reserve currency.

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<sup>20</sup> OMT features include (1) conditionality: the assisted sovereign signs up for an ESM/EFSSF program or precautionary credit line; (2) mode of intervention: unlimited, fully sterilized, short-dated (one to three years) ECB bond purchases in the secondary market with no formal yield target; (3) ranking of claim: *pari passu* ranking with other bondholders for OMT purchases of sovereign bonds; (4) transparency: OMT holdings and their market values to be published weekly and the average duration and country breakdown to be published monthly; and (5) collateral policy: minimum credit rating requirements for sovereign-issued collateral used for ECB liquidity operations are to be suspended for sovereigns eligible for the OMT program.

In 2012 the euro area will be faced with two broad strategies in order to secure the survival of the single currency: either a restructuring of the debt of euro area states on the periphery, in which measures are adopted to help alleviate their debt burdens; or facilitating the exit of one or more peripheral states from the euro area.

The eruption of the sovereign debt crisis in the Eurozone has generated a lot of uncertainty about the future of the Eurozone and the euro itself. Of course, the degree of uncertainty increases with the length of the time horizon as the institutional framework might change in a fundamental way and it is difficult to predict how the politics of the monetary union might evolve. Over the short run (two to three years), deep institutional reforms (like fiscal union) are unlikely to materialise and the main drivers behind our observations are economic in nature.

This study uses a scenario approach as the explanatory method to illustrate 'visions' about the future of the euro area and to consider the implications for the member states. The analysis points out three baseline scenarios that result from the combination of economic factors, transmission mechanisms and processes. Once the factors are identified, we elaborate on the way they interact and contribute to defining the different scenarios. In a second stage, the possible implications of these events on the Eurozone are discussed.

To begin with, there are some main and key factors that shape the Eurozone's future evolution (see **Table 5.2**) such as, the situation in financial markets which will be crucial to determining the probability of a Eurozone break-up, the external demand, the exchange rate developments that will affect the degree of economic recovery; and lastly fiscal and monetary policies, which now have little room for action, will contribute to shaping market confidence and longer-term risks.

Table 5.2: Main and Key Factors Shaping the Eurozone's Future

DIMENSIONS LEVELS	MONETARY	FINANCIAL	PUBLIC FINANCES	ECONOMIC	SOCIAL	POLITICAL	
<b>NATIONAL</b>	Interest Rates	Credit Provision	Public Deficit /GDP	Growth Rate	Unemployment Rate	NATIONAL FISCAL SOVEREIGNTY	
	Inflation Rates	Inter-banks' Lending	Public Debt /GDP	Employment Rate	Poverty Rate	<u>Governments Parliaments</u>	
	NATIONAL CENTRAL BANKS	<b>NATIONAL BANKS</b>	Public Investment	Unit Labour Cost	Educational Attainment		
		NATIONAL DEVELOPMENT BANKS	Social Spending	Export – Import Rates /GDP	Pension Level		
	OTHER FINANCIAL OPERATORS EQUITY HEDGE FUNDS	<b>Public Debt Spreads</b>	Market Shares	Wage Level			
<b>EUROPEAN</b>	Interest Rate	Stock Exchange Indicators	NATIONAL BUDGETARY LAW STABILITY & CONVERGENCE PROGRAMMES	Current Accounts	SOCIAL PROTECTION STRUCTURE COLLECTIVE BARGAINING	<u>EU BUDGETARY COORDINATION EU TAX COORDINATION</u>	
	Inflation Rates	<b>Inter – bank Lending</b>	Public Debt Limit	Growth rates	Unemployment rate		<b>EU FISCAL AUTHORITY</b>
	Exchange Rates	EIB	<b>Medium – Term Objectives</b>	Low carbon economy	Educational attainment		EU COORDINATION OF ECONOMIC AND SOCIAL POLICIES
	<b>ECB</b>	Financial Regulations	Exceptions to be considered	R&D investment	EMPLOYMENT GUIDELINES		<u>European Council, Council, European Commission, European Parliament</u>
		EUROPEAN FINANCIAL SUPERVISION BODIES	STABILITY AND GROWTH PACT	Export/import rates			<u>European Elections</u>
		<b>EFSM / ESM</b>	Voting procedures	Market shares			
			Control procedures	Current account			
			COMMUNITY BUDGET	<b>MACROECONOMIC SURVEILLANCE</b>			
			Spending priorities	EUROPE 2020 STRATEGY			
			Own resources	<b>EUROPEAN PLAN TO SUPPORT INVESTMENT</b>			
<b>INTERNA-TIONAL</b>	Interest rates	Stock exchange	IMF	Growth rates	ILO	IMF	
	Inflation rates	Indicators	G20	Current accounts	G20	G20	
	Exchange rates	FINANCIAL REGULATIONS					
	IMF	<u>Rating agencies</u>					
	G20	IMF		WTO			
	G20		G20				
	Flow of capital investment						
	New speculative bubbles						

Note: The key factors are indicated in bold, the main economic and social trends (in small letters in the table), the main institutional and policy developments (in capital letters) and the main political actors (underlined)

Source: International Policy Analysis, 2012

Despite numerous crisis summits, rescue packages and cuts, the euro crisis continues to dominate the countries. The economic risks associated with these developments are considerable. What are the potential consequences for the economy of a nation's exit or, worse still, a break-up of the Eurozone? In order to address this issue in both qualitative and quantitative terms possible scenarios will be analysed in the following section.

#### **5.4 Possible Scenarios for the Future of the Eurozone**

In this section we will discuss three scenarios: *first*, the current crisis leads to a break-up of the Eurozone with manifold member states' abandoning the euro, *second*, the Eurozone survives from the crisis and *third*, Eurozone becomes more integrated where substantial reforms in the euro area structures are applied, in order to enforce greater economic and political integration.

##### **Scenario A: The Eurozone Breaks Apart**

The starting point in assessing the potential for a euro exit is the current strategy adopted by the euro area. A leading element to this strategy is the 'fiscal treaty' agreed by twenty-five EU Member States (bar the Czech Republic and the United Kingdom) during the January 2012 European Council meeting in Brussels<sup>21</sup>.

The treaty elevates new institutional provisions (adopted in the 2011) and utters that contracting parties will be required under their international obligations to one another to commit to budgetary reduction and responsible fiscal policies. The effect of the fiscal treaty in the longer-term will ensure that all contracting parties commit to a course of debt reduction and responsible fiscal policy. It remains to be seen, however, whether the fiscal treaty is, as claimed, a form of longer-term 'compensation' held against short-term one-off fiscal transfers to the euro area periphery. These fiscal transfers are effectively the only means available to peripheral euro area nations to regain competitiveness within the euro area.

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21 Ó Broin, P., *The Fiscal Treaty – An Initial Analysis* and McArdle, P., *'The Fiscal Compact and Fiscal Policy'*, Nos. 5 and 6, respectively, of the *Institute of International and European Affairs' Euro Crisis Working Papers Series*.



In a currency union, there are only two options to assist a state in regaining competitiveness during a debt crisis. The first one is by direct fiscal transfers from the core to the periphery and second, by default on a portion of sovereign debt to assist in alleviating the state's debt burden.

In the European Union, regional funds, agricultural subsidies and cohesion funds are already a form of fiscal transfer. Fiscal transfers could also take the form of subsidies, such as cutting the interest rates carried by the loans made bilaterally or via the European Financial Stability Facility (EFSF) or European Stabilisation Mechanism (ESM) to particularly low levels. Direct fiscal transfers ostensibly intended to reduce a state's debt burden; however, they fall foul of economic and monetary union rules.

As fiscal transfers to finance a euro area states' debt are prohibited under the EU Treaties (Lisbon Treaty), however, the only option available is default. Default by a peripheral euro area state could come in various forms, with most scenario-building focusing on the example of Greece. If sovereign default is inevitable, the key objective for the euro area is to make it 'orderly' to prevent contagion to the banking sector and other exposed euro area sovereigns.

Euro exit could happen by a forced exit (e.g. by a refusal to provide loans to the exiting state and the ECB withdrawing its SMP for that state) or by a voluntary withdrawal. The decision to exit the euro area, however, it is not an easy task. Governments in the euro area should prepare efficiently in order to manage the market instability that would result from exit. As the EU Treaties are silent as to the legality of a euro exit, the legal obligations of both the exiting state towards the remaining euro area and its institutions (and vice versa) will be required to be clarified.

There are a large number of possible outcomes of a euro exit. Analytically, the most straightforward form of break-up is the departure of a single country. At the other extreme is a complete break-up in which all current member states return to national currencies. In the middle of these outcomes, a number of countries might exit, leaving behind a 'core' euro, or the Eurozone might split into two separate currency unions – perhaps consisted of a block of Northern European countries (such as Germany, Austria, Finland and the Netherlands) and of a block consisted of Southern European

countries (such as Portugal, Ireland, Italy, Greece and Spain). It would be possible for the Eurozone to break up via the departure of the strong core economies to establish their own union.

On a different point of view, another variant to consider is exit by one or more Northern European countries due to frustration with the current crisis. Concerns elevated after Eurozone's foundation, particularly from Germany regarding the commitment of the ECB to price stability and the commitment of the Southern European countries to sustainable debt levels. Northern European countries did not desire to be a 'fiscal backstop' for the Southern European countries.

A number of euro area countries are being more exposed to financial crises than other EU countries due to three factors: (1) the no bailout clause; (2) the prohibition on monetary financing; and (3) the sovereign-bank debt loop. The effective locking of low growth economies in the euro already removed a substantial competitive advantage from these countries, offset in part by steady flows of cheap credit garnered as a result of euro membership.

To deal with these concerns the ECB was created with the primary goal of price stability, the legal text establishing the euro included a 'no bail-out' clause (Article 125 of the Treaty on the Functioning of the European Union), and limits were put in place on the governments' overall outstanding debt levels (60% of GDP) and annual budget deficits (3% of GDP).

However, the current debt crisis has put these commitments into question. The existing legal framework and institutions supporting the euro as presently constituted (including the ECB) need to continue to stand behind the currency under its narrower membership. Any Treaty amendment legitimising the exit of one or more stronger countries would also have to confirm the continuity of the euro as the currency of the remaining members.

Moreover, the problem of currency mismatch would simply be transferred to the stronger countries leaving the euro. Debtors in these countries with obligations in euros would be better off, but creditors would be worse off. The problems of capital flight will

still remain from weaker economies into stronger ones, in the expectation that the currency of the weaker economies would fall.

As a last point this scenario will have significant repercussions for the EU and the future of European integration. A country facing extraordinary economic difficulties could probably leave the Eurozone without also having to leave the EU. Nonetheless, it would clearly be in a better position if exit could be agreed with other members either in advance or retrospectively. Leaving the euro could therefore be much more difficult without the cooperation of other EU member states and especially for a weaker country. Leaving the EU at the same time would reduce some of these legal obstacles, but could, of course, have many other costs.

### **Scenario B: The Eurozone Survives**

In favour of this scenario it is assumed that the crisis is overcome and divergences among the members of the union move towards a convergence path. A clear recapitalisation strategy at a European level emerges.

Financial markets would calm down if market pressures on vulnerable Southern European countries are calmed by the magnitude of the ECB liquidity support to Eurozone banks and bond purchases, financial support from the EFSF and the IMF, austerity packages in the Southern Eurozone countries, and an orderly restructuring of Greek bonds.

Austerity and structural reforms could successfully reduce imbalances within the Eurozone and obviating the need for additional integration of fiscal policies at the Eurozone level. Furthermore, combined with credible fiscal-adjustment programmes in vulnerable member states would help in re-establish confidence in the Eurozone.

The prospect of this scenario that the Eurozone maintains in its current form largely depends on whether financial markets have confidence in the current crisis response measures. Specifically, much could depend on whether financial markets have confidence in the soundness of the reforms implemented or whether markets are left wondering if reforms will lead to more sustainable fiscal positions. In the fall of 2011, the crisis threatened to spread more broadly, but markets appear to be reassured by

increased liquidity support by the ECB to Eurozone banks, announced in December 2011, and by the steps that Italy and Spain both took to curb deficits.

However, it is unclear how long the ECB will be willing to provide this support, and how long these policy measures will reassure markets. The downgrade by Standard & Poor's on the credit ratings of France, Italy, and seven other Eurozone countries (January, 2012) underscored that more decisive and comprehensive responses from EU leaders could be required if the Eurozone is to continue to survive.

### **Scenario C: The Eurozone Becomes More Integrated**

The government debt crisis has laid bare the inherent fragility of the Eurozone. In different terms, the fragility of the Eurozone stems from monetary union not being embedded in a sufficiently strong political union.

Consequently, the different national economic policies pursued by the member states lead to economic divergences that at some point become unsustainable. When a crisis erupts, the Eurozone lacks the institutions to deal with it. The inherent fragility of the Eurozone has led many observers to question its viability and to forecast its demise.

A third possible scenario is that adequate reforms to the Eurozone mechanisms are implemented, in order to achieve greater economic and political integration. This scenario would entail implementing reforms to reduce fiscal free-riding and to enhance the ability of the Eurozone to respond to any potential future crises. In addition, greater fiscal federalism and a clear mechanism to provide emergency financial assistance to vulnerable countries must be a target.

European leaders have already taken steps to create a permanent fund to provide financial assistance to Eurozone members, the ECB has taken on new powers that increase its flexibility to respond to financial crises in the Eurozone, and the EU has passed new legislation that would introduce significant reforms to economic governance.

However, fiscal policies are an important issue of national sovereignty, and it remains to be seen whether, or to what extent, national governments in the Eurozone are willing to concede control over national budgets to European authorities or implement balanced

budget amendments. What is more, given the fact of the unpopularity of the financial assistance package for Greece and the broader support mechanisms for vulnerable Eurozone members with voters in Northern European countries, still remains unclear whether the countries will be willing to continue providing financial assistance to Eurozone members in crisis.

## **5.5 Implications of the Scenarios**

The Economic and Monetary Union remains incomplete, unable to ensure growth and shaken by instances of sovereign default and exit, with uncontrolled contagion effects. If the *scenario A* was likely to appear, extreme measures to save the banks and governments should be undertaken by the ECB. The law does not allow the ECB to monetise government debt, but it is likely that the same measures that have been taken as a response to the Greek crisis could be implemented on a much larger scale. This could fuel expectations of high inflation and accelerate the break-up of the union.

As a starting point of the current debt crisis, it is not difficult to perceive how a collapse of the Eurozone might occur. First, the guarantee levels provided by the different national governments that will apply in individual bailout operations are unclear. Second, these uncertainties may lead to a failure to attain AAA rating. Third, and most importantly, there is a political problem lurking in the background. The bailout of southern European countries is intensely unpopular in Germany. When in addition the German government will be called upon to recapitalise the German banking system and to use massive amounts of funds to do so, it is likely that the bailouts of southern European countries will be even less popular.

The negative repercussions would be significantly more serious and last considerably longer should a 'Grexit' trigger a domino effect that forces all five crisis-hit countries (Greece, Portugal, Ireland, Italy and Spain) to leave the euro monetary union. The debt problems of Greece, Ireland, Italy, Portugal, and Spain constitute a serious risk to the European banking system, particularly in German and French banks. There are two main types of cross-border losses that banks would be facing in relation to a Eurozone break-up:

- First, there are losses that are linked to currency depreciation of the potential new national currencies of exiting Eurozone member countries.
- Second, there are losses that are linked to increased defaults on assets in exiting Eurozone member countries, irrespective of whether assets stay in Euros, or get redenominated into new currency.

There have been many previous attempts to calculate possible losses for banks in various breakup scenarios. Such macro level calculations of potential bank losses are typically based on Bank for International Settlements (BIS) data, which provide aggregate figures for cross-border bank exposures at the country level. **Table 5.3** and **Figure 5.2** illustrate the losses associated with a sequential exit process, starting with Greece and progressing to Portugal, Ireland, Spain and Italy.

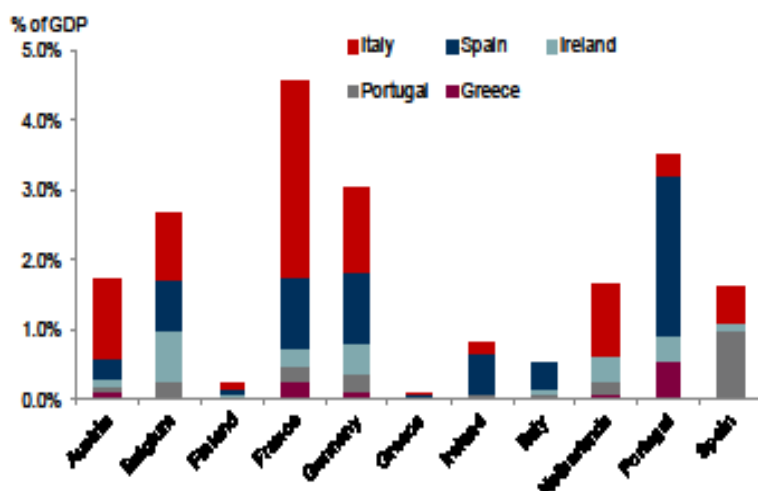
*Table 5.3 Total Bank Losses Exposures to Peripheral Countries (as % of GDP)*

<i>Banking system in:</i>	<i>Losses related to exit in :</i>								
	<i>Greece</i>	<i>Portugal</i>	<i>Ireland</i>	<i>Spain</i>	<i>Italy</i>	<i>PIIGS</i>	<i>Belgium</i>	<i>France</i>	<i>Total Losses</i>
<i>Austria</i>	0.1%	0.1%	0.1%	0.3%	1.1%	<b>1.7%</b>	0.1%	0.6%	<b>2.4%</b>
<i>Belgium</i>	0.0%	0.2%	0.7%	0.7%	0.9%	<b>2.7%</b>		4.0%	<b>6.7%</b>
<i>Finland</i>	0.0%	0.0%	0.0%	0.1%	0.0%	<b>0.2%</b>	0.0%	0.3%	<b>0.5%</b>
<i>France</i>	0.3%	0.2%	0.2%	1.0%	2.8%	<b>4.6%</b>	2.1%		<b>6.6%</b>
<i>Germany</i>	0.1%	0.2%	0.5%	1.0%	1.2%	<b>3.0%</b>	0.3%	1.1%	<b>4.4%</b>
<i>Greece</i>		0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>	0.0%	0.2%	<b>0.3%</b>
<i>Ireland</i>	0.0%	0.1%		0.6%	0.2%	<b>0.8%</b>	0.1%	0.6%	<b>1.5%</b>
<i>Italy</i>	0.0%	0.0%	0.1%	0.3%		<b>0.5%</b>	0.0%	0.4%	<b>0.9%</b>
<i>Netherlands</i>	0.1%	0.1%	0.4%	0.0%	1.0%	<b>1.6%</b>	3.4%	1.9%	<b>6.9%</b>
<i>Portugal</i>	0.6%		0.4%	2.3%	0.3%	<b>3.5%</b>	0.0%	0.7%	<b>4.2%</b>
<i>Spain</i>	0.0%	1.0%	0.1%		0.5%	<b>1.6%</b>	0.1%	0.5%	<b>2.2%</b>

*Source: Authors' calculations, Bank for International Settlements, 2012*

These losses clearly show that French banks will suffer the greatest losses in the case of a PIIGS exit from the Euro. Portugal, Germany, and Belgium are next in line, also looking at significant losses relative to their country GDP. While it is evident that most countries have scaled down their exposure to Greece in recent months, it is clear that Eurozone countries still have significant exposures to PIIGS.

*Figure 5.2: Total Bank Losses to Peripheral Countries (% of GDP)*



*Source:* Bank for International Settlements, 2012

These exposures remain, despite the fact that Eurozone countries have significantly reduced their cross-border lending to PIIGS by 48% since 2007. The consequences would be worst for the five jettisoned peripheral countries, which could expect a severe economic slump, soaring inflation and unemployment and a drastic devaluation of their currency in the first two years following their exit. The rest of the monetary union would also be plunged into a deep recession for the first two years after a break-up of the Eurozone. Investment and demand for exports would be hit particularly hard, but consumer sentiment would also deteriorate in the wake of escalating uncertainty and rising unemployment.

If the *scenario B* applies a break-up of the euro is no longer expected in the short term and Eurozone survives. Some analysts have become very optimistic; but we should not forget the serious problems that remain to be solved before the euro zone can pull out of the crisis. Moreover, we have to point out the dithering by Germany and the Northern Eurozone countries and the risks that they may reverse their stance.

The strategy followed until now has been one of rapid reduction in fiscal deficits (see **Table 5.4**). This strategy has obviously failed: it has led to such a massive contraction in activity that the fiscal deficits have been shrinking only very slowly and at the cost of an unsustainable rise in unemployment.

*Table 5.4: Government Forecasts of Fiscal Deficits (as % of GDP)*

<b>Country</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<i>France</i>	-3.3	-7.5	-7.1	-5.2	-4.5	-3.0	-2.3	-1.6
<i>Spain</i>	-4.5	-11.2	-9.3	-8.9	-6.3	-4.5	-2.8	-1.9
<i>Italy</i>	-2.7	-5.4	-4.6	-3.9	-2.6	-1.8	-1.5	-1.3
<i>Portugal</i>	-3.6	-10.2	-9.8	-4.2	-5.0	-4.5	-2.5	-
<i>Greece</i>	-9.8	-15.6	-10.3	-9.1	-6.5	-4.9	-2.6	-1.1
<i>Ireland*</i>	-7.3	-14.0	-11.3	-10.1	-8.6	-7.5	-5.0	-2.9
<i>Netherlands</i>	0.5	-5.6	-5.1	-4.7	-3.8	-2.7	-	-

(\* excluding bank recapitalization)

*Source:* National sources, 2012

This austerity-based strategy is now being tested at its core. It is not enough to give these countries more time to correct their fiscal deficits; they must be able to use this time to improve their economies structurally. It is well known that the troubled Eurozone countries have to reduce both their fiscal deficit to stabilise their public debt and their external deficit to stabilise their external debt. The problem is that until now, the countries that have reduced their external deficit (Spain, Italy, Greece, Portugal and Ireland) have done so mainly by reducing their domestic demand and imports.



Many economists agree, nonetheless, that these programs are costly to implement. They argue that austerity policies reduce aggregate demand in the short term, causing the economy to contract and unemployment to increase. Additionally, they argue that if economic output falls at a faster rate than the debt does the ratio of debt to GDP could actually rise, failing to address effectively the government's debt burden. Finally, austerity programs could be politically difficult to implement, as anti-austerity protests in a number of countries, including Belgium, Greece, Ireland, and Spain, among others, demonstrate.

In general, there are concerns that because the fiscal cuts that are needed are so large, it will take several years to implement and fiscal consolidation 'fatigue' could disrupt the process. Each round of government expenditure cuts and tax increases is likely to be more painful than the last and could lead to demands from constituents and politicians that creditors should bear more of the burden of adjustment, such as through debt restructuring.

The current focus on austerity, and moving too quickly with austerity measures, could pose a risk to the global economy, and that policies aimed at bolstering growth may need to be re-considered in some advanced economies. Therefore, a new strategy must rapidly be announced; a strategy that will give these countries more time to correct their fiscal deficits and that will prevent a collapse of growth. But as this strategy is due to be very different from that followed until now, this announcement will be difficult, and it is important to prevent it from being wrongly interpreted by investors.

The likelihood of the *scenario C* that the Eurozone becomes more tightly integrated, and although this output has increased since the start of the crisis, it is by no means assured (Abad et al., 2010). As the crisis has unfolded, it has become evident that small, piecemeal steps by EU officials are not sufficient to calm markets about the crisis response.

The combination of fiscal austerity and the damaged bank credit channel was especially detrimental to European economic growth these past few years. With the protection of ECB OMT in the background, ensuring structural rebalancing and consolidations while preventing illiquidity, the market may have a basis for optimism. Despite recent fiscal consolidation announcements and possible fear of additional austerity associated with a Memorandum of Understandings (MoUs) in Spain and Italy, aggregate euro area austerity is expected to slow in 2013. Over the course of the next year the zone as a whole will be better able to appreciate that the really harsh fiscal years are behind it.

For the time being, irrespective of the efforts made by the Eurozone countries, they are going to remain heterogeneous. Germany and Finland will be reducing public debt again in 2012 and will continue to in the next few years at least (see **Table 5.5**). Italy gets to the point of stability in 2013 and debt declines in 2014. Core and semi-core countries such as France, Belgium and Austria are close to stability in 2014. On average, the PIIGS must wait until 2015 before hitting debt stabilization.

*Table 5.5: Gross Public Debt Forecasts (% of GDP\*)*

	<b>2011</b>	<b>2012f</b>	<b>2013f</b>	<b>2014f</b>
<b>Germany</b>	79.8	82.0	81.2	79.4
<b>France</b>	86.0	91.5	95.4	95.8
<b>Italy</b>	120.7	128.8	130.8	129.6
<b>Spain</b>	68.5	85.3	91.0	93.0
<b>Netherlands</b>	65.2	71.7	73.2	74.3
<b>Belgium</b>	98.2	103.1	105.9	106.3
<b>Austria</b>	72.3	74.7	76.6	77.2
<b>Finland</b>	49.1	52.2	54.7	54.2
<b>Portugal</b>	107.8	115.8	119.0	120.2
<b>Greece</b>	165.3	170.8	184.8	188.2
<b>Ireland</b>	108.2	113.9	117.9	118.7
<b>Euro Area - 17</b>	<b>87.2</b>	<b>93.2</b>	<b>95.4</b>	<b>95.1</b>

\*Including the Greek Loan Facility (GLF) and EFSF loans

Source: European Central Bank, Deutsche Bank, 2012

Greece's debt remains uncomfortably high. At the time of the second loan programme agreement in March, it was assumed by the Troika that Greek public debt would be 160-170% of GDP over the next few years before falling to 116.5% in 2020, beneath the informal 120% of GDP threshold for sustainability. Both Ireland and Portugal are facing peak debt of around 120% of GDP within the next few years. Italy's vulnerability is highlighted by its debt rising to just above 130% of GDP.

The escalating Eurozone crisis has exposed the flaws in the design of the European monetary union. The path chosen so far by policymakers is neither toward significant additional integration (fiscal union) nor toward disintegration (break-up). As a result the current path of austerity appears to have exacerbated the challenges involved in an already painful deleveraging process in certain countries. At a minimum, the process has lost credibility that will be hard to regain, and this confidence crisis will add to the costs involved in the process overall, including significant loss of output and rising unemployment.

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## CHAPTER 6 – CONCLUSIONS AND DISCUSSION

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## **6. Conclusions and Discussion**

### **6.1 Introduction**

The main purpose of this chapter is to discuss the importance of the findings related to the situation discussed in the literature review. An objective of this study is to identify the background information about the current debt crisis and particularly in the Euro area in order to provide a comprehension of this crisis and how is closely related with the member states.

A further objective of the study is to highlight some of the major factors which have an effect of the policy measures adopted. In order to fill the gaps and the problems identified in the literature review, suggestions for more appropriate policies will be provided. The final section of this chapter will reveal further recommendations for research while conducting this study.

### **6.2 Discussion**

The global economy has entered a new and dangerous phase. On the heels of the 2008 – 2009 financial and economic turmoil the global economy is experiencing a sovereign debt crisis which is spreading across the EU region, weakening the moderate economic recovery in the developed world and raising fears of a double-dip recession. This poses important challenges for developing countries, which risk being affected by the euro zone crisis through transmission channels such as financial contagion, Europe's fiscal consolidation effects and exchange rate effects.

Eurozone crisis highlights the difficulties of so-called monetary union without fiscal union. Eurozone countries introduced the single currency, the euro, under the European Central Bank, while each member country maintains its own fiscal sovereignty. Thus, the issue of how to manage fiscal policies under a single currency regime is one of the most fundamental and most enduring challenges for the Eurozone.

The question of whether the euro will survive the followings years is extremely difficult to answer as there is immense uncertainty about timing and consequences of future developments.

At present, the periphery is struggling from a growth and competitiveness problem that it is unable to address using monetary policy or exchange rate adjustment. It also has a sovereign debt problem, which rules out fiscal policy. That leaves the slow, painful grind of a so-called internal devaluation, which seems to imply a prolonged period of weak growth at best, or on-going recession. This poor growth outlook is not good news for banks, as well as for political stability.

Likewise, slow growth, sickly banks and political unrest are all negatives for sovereign creditworthiness. Slow growth and indebted sovereigns are also bad signs for banking sector health. Unhealthy banks are not a good indicator for growth prospects. And in a currency union, spill over effects and contagion fears are both likely to be large, so once things go wrong in one country, the same set of weaknesses are likely to be triggered quite quickly in those members that share similar kinds of vulnerabilities.

Many difficult steps lie ahead such as:

- ✓ Change in the strategy of fiscal deficit reduction
- ✓ Structural improvement in the economies of the deficit countries
- ✓ Management of the irreducible heterogeneity via the implementation of a transfer union (i.e. federalism)
- ✓ Separation of the Eurozone institutions and the European Union institutions
- ✓ Scope for significant and rapid contagion

But there are many risks associated with these steps such as:

- ✓ Negative investor reaction to the persistent fiscal deficits
- ✓ Lack of structural improvement in some countries
- ✓ Rejection of a transfer union in the Northern Eurozone countries
- ✓ The separation of the Eurozone institutions being blocked by the other EU countries (United Kingdom, Central European countries)
- ✓ Adverse feedback loops between Eurozone banks and sovereigns
- ✓ Growing political strains triggered by austerity fatigue in the periphery and bailout fatigue in the core

The risk of economic and financial imbalances must be monitored closely. The Eurozone, especially the peripheral countries, enjoyed good economic performance after the introduction of the euro. That is because foreign exchange risks were eliminated within the Eurozone, expanding trade and investment in the area, and also because the long-term interest rates of these countries went down toward the level of German government bonds and converged at low levels, which also stimulated the economy in the peripheral countries. However, this convergence of long-term interest rates encouraged loose fiscal policies, or combined with overly optimistic economic projections, led to real estate bubbles in some countries.

Meanwhile, necessary structural reforms were stalled, including labour market reforms, and the competitiveness gaps within the region remained unsolved. Linked to this, there is little appetite among European voters for additional integration and for giving up sovereignty. This could prove a major obstacle to solve the Eurozone crisis.

In response to the questions raised in the introduction, the major findings of this study suggest that, in relation to the Eurozone crisis a slide back into recession would be a severe setback guaranteeing high unemployment rates for even longer and it would be particularly damaging to governmental efforts to retain a common currency.

The rising political uncertainty makes it hard for investors to regain confidence against Eurozone problems. Importantly, this uncertainty is feeding back into economic parameters, in the form of rising borrowing cost, poor confidence, and weak investment. From this perspective, the political uncertainty is an obstacle to growth and hence a major negative influence on debt dynamics. A general recession would undoubtedly change the calculations, extending the requirement for austerity into the indefinite future and if policy makers do not make progress rapidly, it will create a further rise in capital flight and additional risk of break-up.

Second, fiscal adjustment can reduce deficits and debt levels by decreasing government expenditure and/or increasing tax revenue. Such adjustments, however, can be very unpopular amongst those affected and difficult to implement. The key question is whether policy makers will be able to reduce political uncertainty in order to stimulate the economy, rather than run up against resistance from creditors who view the sovereign as already overly-indebted. A loss in the confidence of creditors over the sovereign's commitment and/or ability to service its debt could result in a sudden increase in debt expense, which would further exacerbate the debt sustainability challenge.

Third, since December 2011 the European Central Bank (ECB) has intensified efforts to pump liquidity into the financial sector. It is important to remember that the present crisis in the Eurozone banking system is almost exclusively caused by the sovereign debt crisis that emerged in early 2010. After the Greek debacle, exposing the insolvency of the Greek sovereign, investors started to sell the sovereign bonds of other 'peripheral' countries in the Eurozone. Thus, were caught in a liquidity crisis by the massive bond sales which led to a collapse of bond prices. Since most of the sovereign bonds were held by Eurozone banks, the sovereign debt crisis turned into a banking crisis.

In the event of a new recession and the threat of extreme disorder European governments would temporarily have to set aside their fiscal austerity plans to provide new stimulus to economies. Debt burdens would need to be reduced and although historically perhaps the most common means for reducing unsustainable levels of sovereign debt is default, however, is not without negative consequences for borrowers and lenders alike.

The highly indebted peripheral countries (Greece, Ireland, Italy, Portugal and Spain) already suffer from reduced access to capital markets, sudden forced fiscal retrenchment, higher rates of unemployment, and political turnover. A common alternative is the amendment of loan terms, as a form of financial aid. However, such 'restructurings' or 'partial' defaults could still constitute a technical default and will often result in more expensive and or restricted credit for countries in the future.



Finally, current approaches to deal with debt problems in peripheral European countries indicate that economic growth could still continue (despite the fact that spending cuts were limiting demand) by providing much greater fiscal stimulus to overcome its effects. However, nations which are unable to achieve sufficient growth must apply adequate reforms in the Euro area structures in order to enforce greater economic and political integration.

### **6.3 Further Research Recommendations**

But then again what can policy makers do to help developing countries to weather the euro zone crisis? Given the fact that there is a high degree of heterogeneity between Eurozone nations, some general policy recommendations could be provided. At the country level, it is important to maintain fiscal soundness and macroeconomic stability, whilst encouraging growth to compensate for falling external demand, and to take actions aimed at limiting financial contagion, encouraging alternative drivers of growth, and protecting the most vulnerable parts of the population.

Key steps should seek to reduce uncertainty around redenomination risk through open contingency planning in order firstly to stabilize banks (e.g. through deposit insurances and ECB liquidity provisions), secondly to stabilize the sovereign bond markets (over political solidarity and sustainable debt dynamics) and finally, introduce hedging tools to limit their exposure. Such preparedness will allow expedient resolution and stabilization immediately following exit and thereby serve to minimize transition cost in a break-up scenario. If contingency planning is done as a risk management exercise, it will not constitute a signal for the actual future outcome and it should have little impact on capital flight. Ultimately, capital flight could only be addressed through policies which effectively reduce underlying uncertainty. Pretending that a break-up is not a possible outcome cannot be an effective way to address capital flight.

Exiting the Eurozone is designed to be unthinkable painful and so far that has been enough to hold the whole thing together. Europe's current lack of preparedness reflects the fact that any imminent move to exit or redenominate would be foolhardy. The lack of adequate safeguards insures that any exit will likely presage multiple exits.

The necessary strengthening of Eurozone institutions to ensure longer-term stability only takes place when politicians are faced with imminent disaster, and any pre-emptive move by the ECB to ameliorate the situation could actually delay the ultimate resolution of the crisis rather than to resolve it outright.

At the international level, multilateral institutions should ensure that adequate funds and shock facilities are in place to provide assistance to crisis-affected countries. In January 2012 the IMF said it would need US\$ 600 billion in new resources to help ‘innocent bystanders’ who might be affected by economic and financial spill-overs from Europe. The agreement reached by the G20 in April 2012 to increase the funds available to the IMF by US\$ 430 billion is therefore welcome. Although the euro zone crisis seems to emphasise the vital role of the IMF as a global lender of last resort, the actions of other multilateral institutions remain key players for supporting poor economies in weathering its effects.

The market wants substantial and rapid integration, best exemplified by fiscal union and debt mutualisation. The set of plausible future scenarios for the world economy no longer includes a Eurozone that looks like the current set-up. It follows that the future of the European economic project will either involve a substantially more integrated Eurozone, as leaders persist with their long-running quest for currency stability and ever closer union, or it will involve a major shift in direction and a move to a much looser set of European economic arrangements than is currently the case. Either of these scenarios happens will of course imply quite profound different institutional framework relative to the current status quo.

## **6.4 Limitations of the Study**

A vast literature on sovereign debt sustainability has developed over the last several decades. The findings suggest that sovereign debt developments remain in a way vaguely defined but difficult to quantify. On the positive side, we indicated a fairly sensible estimate of the effect on credit ratings and bond spreads, and we call attention to the sharp increase in government turnovers following debt crises. On the negative side, the result regarding how core and peripheral countries policies affects the link between trade and default and the fact that there is still high exposure in sovereign debt which affect bank lending do not seem to be very plausible.

A relatively unexplored avenue is the decision-making process of policymakers concerning the timing of defaults. Defaults tend to be widely anticipated and happen at times when the domestic economy is quite weak. This may happen due to the fact that self-interested policymakers may try postponing defaults even at increasing economic cost, or that policymakers might postpone default to ensure that there is broad market consensus that the decision is unavoidable and not strategic. Hence, choosing the lesser of the two options, policymakers would postpone the inevitable default decision in order to avoid a higher reputational cost, even at a higher economic cost during the delay.

A perhaps more fundamental problem is posed by the lack of a generally agreed upon quantitative framework for assessing sovereign debt sustainability. This is due to the difficulty posed by understanding and modelling creditor perceptions, a sovereign's ability and or willingness to repay its debt, and other factors. This is not to say that there are no quantitative measures available for evaluating the safety of sovereign debt levels; a wide mix of ratios and figures are presently utilized to assess the debt position of nations. However, it is unclear how much importance or weight should be assigned to these measures. Finally, further, attempts to compare some measures across different countries and define consistent rules for debt sustainability have proven problematic.

## **6.5 Conclusion**

The present study was to identify the determinants based on developments and the policy announcements that currently take place in the Eurozone's sovereign debt crisis. Euro area sovereign debt markets are going through unprecedented challenges. However, the precise implications of this framework are sensitive to its underlying assumptions and there is no consensus about the correct scenario approach. The inherent pro-cyclicality and the exaggerations that at times characterize financial markets should be recognized and addressed. However, structural problems call for structural answers.

The major findings, conclusions and recommendations based on the results discussed in the previous sessions indicate that the government debt crisis has exposed the fragility of the Eurozone. Following the agreement to expand the Eurozone rescue fund, Eurozone leaders are working on a plan to recapitalize EU banks to protect them from the potential fallout of sovereign defaults in the highly-indebted euro-area countries (Greece, Ireland, Italy, Portugal and Spain). The PIIGS nations and others whose sovereign credit rating were downgraded, or going to be, have one thing in common: Deteriorating fiscal conditions and large current account deficits.

Fiscal strategy is coordinated at EU level, but without additional policy action, average debt in the EU is predicted to rise well above 100% of GDP by 2015 and could reach 130% of GDP by 2020. The findings also head to a number of policy implications such as the weakness of fiscal balance rather than the absolute level of debt. It is vital to control a nation's debt burden at a certain level however, what is more vital is securing the base for tax revenues and enhancing the efficiency of fiscal management.

Many EU banks remain highly exposed to sovereign debt, with France and Germany at the top of the list. However, there is a complex web of financial interactions among European banking systems, whereby government debt restructuring in the periphery could lead to losses for institutions in other European countries. Meanwhile, the ECB has intensified efforts to pump liquidity into the financial sector.

The current overhaul of fiscal, financial and economic governance in the euro area might help put the single currency on a sound and sustainable footing. However, there are still several question marks about the survival of the Eurozone. While overly indebted countries often have economic similarities, optimal debt sustainability solutions must be tailored to a nation's unique political and economic circumstances. In brief, there is no 'one-size-fits-all' solution to the challenge of debt sustainability.

The degree to which any one of the sovereign debt reduction options can be influenced by policy varies, and in some instances market-driven debt dynamics may outpace official action. In considering the different policy alternatives a country must balance what is economically achievable against what is politically viable considering the time available. Nobody could predict the future, so in a sense it is not possible to foresee which of the scenarios discussed will eventually govern the Eurozone. In deepening regional financial integration, we should always remember that the basic viewpoint, is achieving sustainable long-term growth in the region, and political actors should align their policies accordingly.

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