Advances in Economics and Business Management (AEBM)
p-ISSN: 2394-1545; e-ISSN: 2394-1553; Volume 3, Issue 9; October-December, 2016, pp.904-908
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http://www.krishisanskriti.org/Publication.html

Eurozone Crisis and its Impact on International Trade & an Econometric Analysis of FDI in India

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Abstract—*The right foundation towards economical development of a nation is determined by the ability to absorb the much needed factors for rise and sustainability. But instability in the economy brings in negative results towards the growth of nations when connected with certain trades. Worldwide economies are interrelated to each other, so as the repercussions. If we look at the history world has absorbed a major recession in 1933 followed by US financial crisis and off late Euro-zone economic setback. Started with the in-house issues of Portugal and Greece, it got spread to the whole Euro-zone. The risk factor has been diversified over the years. However, early measures by the European Authorities could have lowered the fall of economy with proper percussions. The fall in Keynsian demand and huge unemployment factors are viewed as to be reasons for this crisis by some of the economists.*
This paper studies downfall of European economy, root causes as well its impact on one of the major developing economies like India. Factors causing the huge debt to the European Union have been studied and suitable solutions have been recommended. Finally a case study related to FDI on India has been studied. Also the gravity model has been analyzed to identify the factors suitable for FDI in India by partner European countries.

Keywords: *Euro-zone, crisis, economies, model, debt, European Union*

1. INTRODUCTION

The whole European Union consists of member countries and they are rich in various resources. It is a conglomerate of diversified Nationals about 520 million in strength from around 28 member countries. Their economy is wide spread and it is the core strength of their formation. Managing such a large economy on a scale is cumbersome task for the union as there arises different opinions, cultures, background and economic values.

The start of the Euro-zone crisis is parallel to the US financial crisis. Since years 2008, it is hugely impacting the trade system with other partner countries. The monetary and fiscal and policies were not in sync with the views of the member countries. That made it difficult for the policy maker to take certain corrective decisions. There is always interdependence among the member countries for any critical decision. The crisis was severe and hugely impacted the Euro-zone. Five countries of the union such as Italy, Greece, Spain, Portugal and Ireland faced huge debt burden and they have been put under bailout by the European authority since end of 2008. This brought a lack of harmony in the union and questioned the long term sustenance of the EU. This has raised severe unemployment as well. In countries like Greece it has crossed 30%. Even it is far more problematic for the youths, as for them rate of unemployment has touched 24%. So the problems are known to all the members of EU, still there is lack of agreement to solve the ongoing issues. So it has become important to look into the factors of this crisis. The European Council is the most powerful body in the Union governing administration. It represents all the member countries and highly influences the European commission. In the meantime, the effect of ongoing political and economic changes has impacted the southern countries. During the same phase nearly 17 independent nations have come under the umbrella of European Central Bank. After losing their independence in terms of monetary value, the jobs have been tighten up specially in manufacturing sector, many found jobless in this sector and this adds pressure to the Northern Nations to provide financial as well as social assistance to the Southern nations. The Southern nations make their way to depend on tourism and other industrial services to narrow down the burden of debt. Therefore the common monetary policy has actually brought in growth for Northern nations while reliving the Southern Nations as they were reeling under massive financial crisis in the EU. Even if we see the worldwide market uncertainties and overall slowdown has exaggerated the European market. The demand for southern goods fell sharply and made consumers to purchase cheaper and lower quality products, lowering revenue generation from tourism. This brings in more pressure to Southern Nations. Overall the European financial crisis has shattered the stable market condition of Europe and added unemployment, poverty, debt burden, lifelessness in the life of citizens and their future growth.

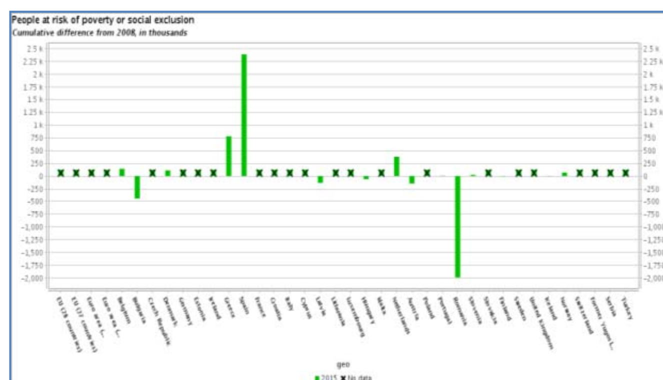
2. ROOT CAUSES AND INFUENCING FACTORS

1. Single monetary policy: Earlier to the adoption of euro, individual nations have their own respective currencies and monetary policies. In comparison to southern nations, northern nations have low inflation rate. In general southern countries make use of inflation factor or devalue their currencies to loosen the financial burden on them and make up for liabilities. After advent of euro, it called for common currency policy among the members and thus formation of European parliament came into picture. Decision making authorities merged the monetary policies of all the states under European Central Bank (ECB) in view of bringing down the inflation rate rather than focusing on uniting the fiscal and monetary policies in the interest of EU. Though inflation was lowered but difference in the implementation of fiscal and monetary policies has lead to severe imbalance in the system making way to economic setback.

   To ignite the growth in the system, interest rates were lowered according to the ECB standards. It was used significant measure to pay off debts in respect of loans and other liabilities. Low interest rates boosts the GDP by motivating citizens to spend more in short term investment than looking at long term investment and that would improve the EU system. Compared to Southern nations Northern countries are more focused on heavy engineering works, production houses and other financial and educational entities which makes them less penetrable to sudden economic downfall. On the other hand Southern nations have different sets of business focuses. They depend largely on tourism, agricultural activities, low skilled works and it is noticed that these set of industries are less resisting to any economic downturn.

2. Rolling same currency in common marketplace: When euro came into existence it reduced the roadblocks for the easy flow of trade mechanism within the territory of EU. Adding for the crisis this has actually lead to wealth creation for capitalistic nations retarding growth for Southern nations. The system became more closed and un-open after the formation of common monetary policy and making it harder to pay-off debts. So it started impacting the trade business of Northern nations due to economic slowdown of Southern countries. In the common marketplace the rolling of euro became a big factor for impacting the growth of EU nations and members were severely affected as the economic ties were interrelated to each other. After 2008 the revenue generation for parliament was low from taxes and financial debt starting soaring up putting in more pressure on the ECB. Consequently citizens started feeling insecure blaming the government for unfruitful decisions.

3. Socio Economic Factor: For any nation the thought process of its citizens play a vital role in shaping the economy and growth of the nation. Sometimes it may happen that people are not fully aware of the core financial system of a nation and macro- economic values it carries. In case of EU crisis decisions were taken at certain level without taking in views of citizen some of which may not fall in the interest of common people. There are differences how people of certain region think with respect to the other region in the same economy. This has what happened in Euro-zone where there is dissimilarity in thought process and cultural values in Northern and Southern region that resulted in increased unemployment, lack of resources for spending life and poverty. The life hood cannot be improved unless citizens of European Union come across with mutual set of interest if not very similar.



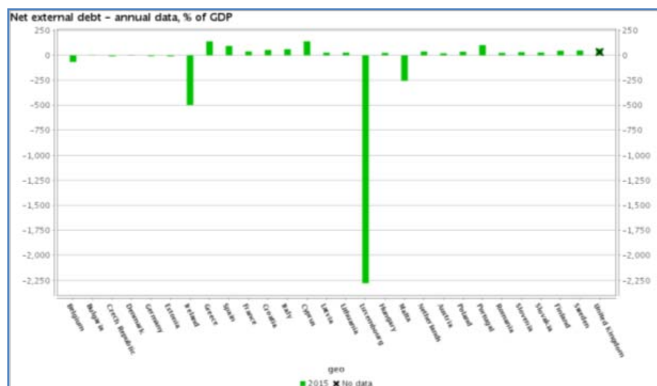
Source: Eurostat Database Figure 1

If we see Spain is at higher risk of poverty followed by Greece and Netherland. These are figures suggest that corrective measures should be taken by the EU.

A View On Public Debt

Following the Euro-zone crisis revenue generation was highly affected. Formally the government expenditure was as it is with no major changes. Consequently after the crisis, it took a toll on rise in public debt. The surplus or deficit depends highly on the macro-economic policies of the government. In any economy if there is high rise in unemployment, public spending increases and there are huge investments in various projects then balance of budget becomes an issue. The public debt rises years after years due to piled up budget deficits. Under such situations government has no better option than to ask for monetary help through various sources. In view of the above the consistency between demand and supply is

important for the government to take future decisions. This has not been judged properly by the EU government authorities that resulted in massive debt burden in the whole region.

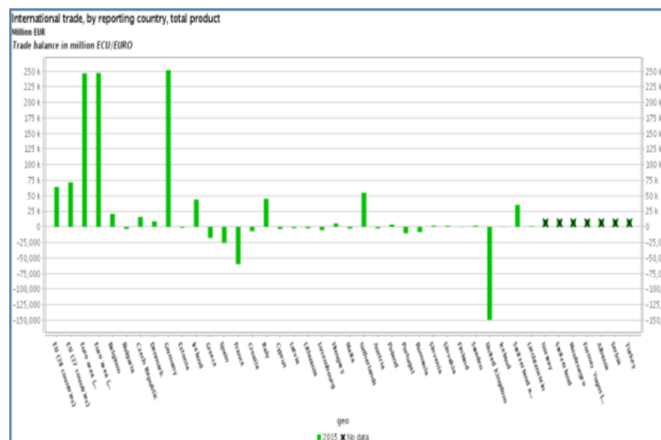


Source: Eurostat Database Figure 2

The Euro-zone borrowing remains high since 2008 putting a pressure on ECB. Among all the member states Greece is the most indebted nation. The launch of quantitative easing by the ECB has worked out a lot in easing interest rates. Along with Greece, Spain and Portugal also carry huge government debts. For Greece debt stands around 139% of GDP. For countries like Germany they are in the safe zone, with some added surplus. Since 2011 other Euro-zone countries based in Northern region has not been affected much by Greece financial setback.

3. EFFECT ON GLOBAL INTERNATIONAL TRADE

The European crisis has severely influenced the international global trade and economy with factors such as supply crunch, imbalance with consumer demand and lower production. The damage was shocking mostly during years 2010-12 and is still impacting the world trade till date. Though trade diversification was adopted as a tool to provide a viable solution but it cannot bear on the impact of Euro-zone crisis. The global economic scenario has been shaken deeply by Euro-zone crisis. There are certain norms for price constancy and government financial regulations within the macroeconomic management of worldwide trade. It depends on the governments and their requirement which model they should follow in order to enhance their trade balance. The US sub-prime crisis and Euro-zone crisis brought a major trade imbalance with respect to their trade flow. But in general northern European countries have been off late be able to come out trade imbalance and they are favorable for doing trade business rather than the Southern European countries. The changing rates of major global currencies has alleviated the pains of trade imbalance up to a certain extent but does not carry the whole rounded solution for a long term trade stability which will be fruitful to the global economy in the long run. It is because of the fact that European economy is narrowing down, it has brought a sharp concern for some domestic banks to make their way into robust markets based in western countries such as US. But again looking for a different source of funding can only adds up to the further rise in interest rates.



Source: Eurostat Database Figure 3

It is evident from the above graph that during last year Spain, Greece, and France has been on the lower side of trade balance followed by United Kingdom on the world international trade index.

4. WAY OUT TO EURO-ZONE CRISIS

- Political & Social Reforms- After such an impactful crisis it has become important for the authorities to rethink on the basic issues. Reforms related to product and social issues has already been addressed and been implemented in some members countries as well. But these reforms are not bringing in fruitful results as expected initially; the government needs to think in a different way. Countries must look at educating the youth. Proper job trainings should be provide to bring down the unemployment rate.
- Potential Investments- Sufficient investment is needed at this point, especially in the core sectors reeling under massive debt burden. The idea is to balance the demand and supply side which will provide new opportunities for jobs. To look for private investments the government should restructure the marketing services and come up with innovate ideas. It will be better if tax deductions are lowered to encourage corporate investments.
- Role Of ECB- In order to bring the economy in its normal form, the role of ECB is vital. The measure already taken by ECB is quantitative easing to accelerate the flow of money in economy and stabilize prices. What ECB thinks that certain asset purchase programs will enhance the economic disruption and control the inflation rate is definitely they are in the right path towards bringing the economy out of depression. So ECB taking certain steps

to revive the economy and it will grab in more government and corporate bonds in coming months.

5. FDI IN INDIA BY EU COUNTRIES – CASE STUDY

FDI is one of the major indicators of economic and financial growth of a nation. It provides new corridors of business opportunity to industries where they can channelize their marketing operations, set up manufacturing units and provide access to business entities of local technological inputs. Though Euro-zone crisis has severely affected their businesses with India, we will how FDI got impacted by distance and GDP of countries. In this section gravity model is analyzed that can result in better FDI and subsequently an econometric model is developed on this. Though similar models do exist in nature and has been previously developed but this model focuses entirely on the impact on India. A gravity model should provide a better picture of Euro-zone crisis and its impact on Indian trade balance.

The study of gravity model has been found quite effective for trade system in international economics. The model is similar to Newton's gravity law. Below is the basic form of the model.

$$T_{ij}=CY_i^{\alpha}Y_j^{\beta}/D_{ij}^{\gamma}$$

The above model is designed for trade flow between two countries (i and j) denoted by T, Y is economic size of the countries measured in GDP, D is the distance between them and C is gravitational constant. Here α,β,γ are the measure of elasticity. The above equation can be re-written in the logarithmic form to obtain a linear relationship as below:

$$\text{Ln } T_{ij} = \ln C + \alpha \ln Y_i + \beta \ln Y_j - \gamma \ln D_{ij}$$

Taking in view of the above, a model has been developed to find how FDI is getting affected according to the changes in the independent variables like GDP, political globalization, social globalization and distance. The data related to political globalization, social globalization is collected from http://globalization.kof.ethz.ch/. The dependent variable FDI data is taken from Department of industrial policy & promotion. Data for GDP is collected from official website of world bank. Here a logistic regression model has been considered for analysis for FDI between European Union countries and India.

$$\text{Ln FDI} = \alpha + \text{Ln } \beta_1 GDP_i + \text{Ln } \beta_2 GDP_k + \text{Ln } \beta_3 \text{Political Globalization} + \text{Ln } \beta_4 \text{Social Globalization} - \text{Ln } \beta_5 \text{Distance}$$

Here α is the intercept and $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the respective coefficients of independent variable.

GDP_i= GDP per capita of India

GDP_k= GDP per capita of partner country in European Union

Null Hypothesis H_0: FDI will happen when partners are geographically spread out and FDI depends on the investing potential of the country.

Alternate Hypothesis H_a: FDI will happen effectively when there are close ties between partners and geographically they are close to each other.

6. RESULT SET

FDI Analysis On India

The LOGISTIC Procedure\`

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr>ChiSq
Intercept	1	6.2296	4.6403	1.8023	0.0794
GDP_per_capita_growt	1	-0.00009	0.000026	11.9785	0.0005
Social_Globalization	1	-0.0680	0.0657	1.0716	0.0036
Political_Globalization	1	0.0558	0.0389	2.0537	0.0218
Distance_km_	1	0.000484	0.000330	2.1555	0.1021

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
GDP_per_capita_growt	1.000	1.000	1.000
Social_Globalization	0.934	0.821	1.063
Political_Globalizat	1.057	0.980	1.141
Distance_km_	1.000	1.000	1.001

Association of Predicted Probabilities and Observed Responses

Percent Concordant	77.2	Somers' D	0.547
Percent Discordant	22.5	Gamma	0.549
Percent Tied	0.3	Tau-a	0.547
Pairs	351	c	0.774

According to the above analysis the coefficient of GDP and social globalization are coming out to be negative while political globalization is on the positive side. So for 1% increase in political globalization of the EU countries there is around 6% increase in FDI. Here social globalization and GDP should be considered as positive and its estimates are more than 6% shows that it is a positive indication towards FDI. While it is found that increase in GDP doesn't have high value to the rise in FDI. Another thing is distance should be considered as a negative factor, and results shows that for every 1km increase in geographical distance between the partner countries the FDI is going to decrease by .05%.

Also concordant percentage is high 77.2% shows that with the increase in GDP, social globalization and political globalization have a positive effect on the FDI of partner country.

So it can be concluded that when are close ties between partners, it will result in flow of money and FDI will increase subsequently. Hence according to the p-value obtained, we accept the alternate hypothesis at 5% level of significance. It shows that when EU countries have close relations with India, it will result in better FDI and a good prospect for India to grow socially as well as economically. This is fruitful to European Union as well and a positive sign of growth for them.

7. CONCLUSION

The distress in the Euro-zone has not only impacted the political situations but also deeply hit the businesses it used to manage before the crisis. There are abundant resources in the Euro-zone. This crisis is nothing but lack of proper communication between the diversified social and political entities of member states. Failure to meet the balance between fiscal and monetary policy has only widened the gap over the years cutting down the economic activities. Now the need is to work mutually with each other to strengthen the roots of economic system in the interest of European Union which were not taken seriously by the member states. It is toward better utilization of resources, labor and infrastructure. Investing in youths and educating them to prosper the growth of European nations has become important factor to enhance the system. So, cultivating innovative thoughts and making common people aware of the economic gaps will make the nations enough strong to fight with any uncertain economic downturn in future.

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