CHAPTER 5

ASSESSMENT OF THE EUROPEAN UNION COUNTRIES' ECONOMIC GROWTH

Introduction

When the Second World War came to a halt in 1945, European economies observed much obliteration. Many countries were faced by huge wartime debts and post-war shortages; while, some of them had to face the widespread destruction and famine; including the return of the emigrant workers. By the end of World War II the economic future of Europe seemed austere. It was now the right time to revamp the economic situation in Europe, and government of each nation started taking revolutionary steps in this direction. The World War inculcated in the Europeans the significance of industrial investment. The result was observant in the second half of the twentieth century (1950 – 1970), which was a period of unparalleled growth in Europe – also known as the golden age of economic growth in Europe. The motives that stimulated this golden growth age were

i) The backlog of unexploited technological and organizational knowledge in the initial years and

ii) The Cold War which moved the western European nations towards market capitalism

These factors resulted into Europe's transition from extensive (1947-1960s) to intensive growth (1960s onwards) and regional integration. (Eichengreen in Fulbrook: 2001). Fulbrook (2001) in her book points to the four filaments

which dominated the European continent during 1945 and 1990. These four strands, according to her, are The Cold War, The European Integration, The Transatlantic Relation, and the Soviet Rule in Eastern Europe.

The Cold War began after the declaration of the anti-communist policy by the then US President Truman. The Cold War divided the European continent into two – the West and the East. It was a war between two different ideologies viz. communism and democracy. The West followed the American ideology of democracy while the East which was controlled by the Soviet Union followed the communist ideology. The war between the two ideologies was fought economically, politically, diplomatically and occasionally even militarily. With the collapse of the Cold War, economic integration had already triggered in a handful of West European countries. The economical and regional integration subsequently started spreading in the West, and after the collapse of the Iron Curtain, even the East showed its intentions in joining the integration. "This process of integration was multifaceted and never uncontested: the impulses behind it ranged from, on the one hand, a purely functional, pragmatic belief in the importance of a common market for goods and labor, to the quite different and more visionary ideals embodying commitment to closer political as well as economic union in what was held out as the promise of a post-nationalist era." (Fulbrook: 2001, p. 4). The Transatlantic Relationship shows the relationship between both sides of the Atlantic Ocean, mainly the US, Canada and the Europe, in terms of political, social, cultural and economical relations. The US and the EU are each other's most important trade and investment partners. The program on Transatlantic Relations promotes dialogue on major issues affecting the transatlantic

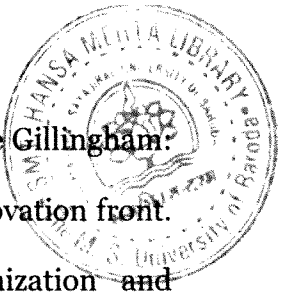
partnership and the ability of the US and the Europe to respond to global challenges. The Soviet rule in the eastern parts of Europe is a much told story. Its economic implications can be known from the communist political rule which was dissolved in 1991. Since then the European integration has expanded immensely from the east European nations.

The Marshall Aid from the US, after the Second World War, helped in revamping the European economies, especially the west. Nations accepting the Marshall Aid began to lift the import restrictions, which helped in exploiting the comparative advantage of a nation in the international market. This further led to regional integration among the nations. "The establishment of the EEC in 1958 and its creation of a free trade area encompassing France, Germany, Italy, and the Benelux countries in less than ten years was without question the most profound development affecting growth in the West in the 1960s." (Eichengreen in Fulbrook: 2001, p. 118). Many studies have proved that the formation of the EEC have been trade-creating rather than trade-diverting among the member countries. Since then, this regional integration's membership has been increasing and widening, developing a set of supranational European institutions.

It was only later since 1973 (especially the two oil shocks of 1973 and 1978 that led to economic difficulties in the European countries) that it became difficult for the European nations to sustain its unbelievable growth records. And since then, Europe has been facing economic problems like unemployment, inflation, and even financial and political stiff.

The two oil shocks and the economic downturn during the early 1980s caused major problems for the nations at large. Unemployment rates in the European nations soared high and showed no signs of sooner recovery. The problem of severe unemployment faced by the European economies was the result of inadequate flexible wages, overly rigid work rules and excessive non-wage labor costs (Fulbrook: 2001). The Single European Act (SEA) of the mid 1980s freed the institutional restraints to the effective operations of the market. It carved way for the market drivers (forces) over the governance model. This resulted into liberalization of the markets, thus, creating wealth as a result of increasing profits with the numerous individual market participants. "The Single European Act", however, "did not necessarily enshrine free trade. It had the more limited initial purpose of creating a single European Market for European producers in the face of global competition." (Gillingham: 2003, p. 450).

The European nations were just recovering from the downturn that they were again hit by the global crisis of the 1990s. The 1990s in Europe saw the dissolution of the Soviet rule and the reunification of Germany, the creation of the European Union, and the acceptance of the Euro as a common currency. The adoption of the Maastricht Treaty in the early 1990s involved the transfer of powers of policy making from the member states to the central bank directorate. Later, with the European Monetary Union (EMU) coming into force, the governments of the member states will have to adjust to the tight constraints of the EMU. Further, it is also felt among the economic thinkers, that the shift to the monetary union and the acceptance of the Euro would keep the economic growth rate of the participating member states low and



would increase the rate of unemployment in these economies (see Gillingham: 2003). Nonetheless, it depicted an impressive picture on the innovation front. The structural changes in the market along with modernization and liberalization of the business, reformations in the financial sector, increased the size and importance of the service sector whose contribution has increased over the period of time. However, the top-level policy making during the 1990s was concentrated on political issues rather than economic. On a whole, during the 1990s, the European Union missed on some of the opportunities of the decade.

With the advent of the 2000, the basic European institutions needed a refurbishment. The structural problems, rigid labor markets, stiffed long-term growth, the crisis of the 2000s and misleading policies of the earlier decade created cultures of dependence and frustrated innovation and creativity. Furthermore, the newer investments and increase in productivity are lagging behind mainly because of the global crisis of the early 2000.

With this overview in mind, I now move ahead with the assessment of economic status of the selected member countries of the EU taken for the research. What follows next is the economic changes that have taken place in these selected member states (Germany, Italy, The UK, Portugal, Spain & Finland) since Second World War. How has these countries evolved through the phases of economic ups and downs, and how have they managed to deal with these situations? As a result, the next part deals with the economic situation that has prevailed in Germany, Italy, The UK, Portugal, Spain & Finland since the Second World War.

GERMANY

Germany had to face defeat in the Second World War and with this defeat the future seemed bleak. Germany was divided among four allied powers after the war – the US, the UK, the Soviet Union and France. The economy almost came to a halt with widespread destruction and famine. Germany had to absorb around 8 million ethnic Germans coming from Eastern Europe. It was in 1949 when Germany was divided into East Germany and West Germany. East Germany was then known as the Deutsche Demokratische Republic (GDR – German Democratic Republic), while West Germany was called the Bundesrepublik Deutschland (FRG – Federal Republic of Germany). The reconstruction of West Germany was restored into the hands of private corporate, while the East Germany restored herself under the leadership of central government agencies. Despite of many difficulties, Germany was able to rebuild her economy from the rubbles of the war, thanks to the availability of large capital stock resulting from the investments made during the war. The available capital stock was then used in manufacturing goods, thus increasing manufacturing capacity of the economy.

After the division, West Germany strongly established herself in the export industry. The West German economy grew by leaps and bound since the Second World War mainly because of the high level engineering, low wages (*especially in the skilled trades*), well maintained public institutions and an excellent legal system (Sinn: 2007). These factors made West German products more competitive in the international market. In addition to this; hard working, well educated, highly motivated, and willing to save work force; and increasing population; widened and deepened West Germany's domestic

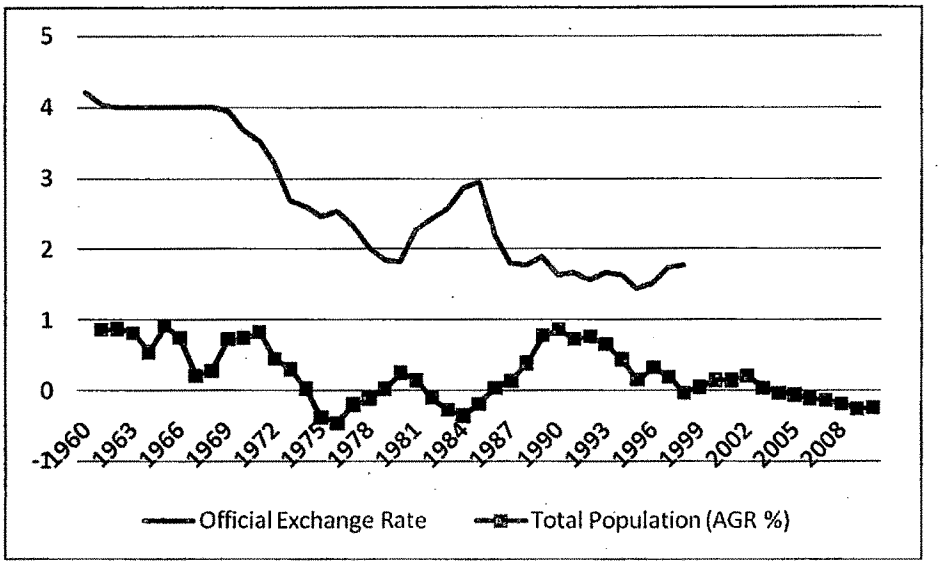
market which provided for further growth prospects. "Ironically, the Russian policy of pushing Germans out of Eastern Europe and encouraging them to leave even East German economy provided more assistance to the recovery of the West German economy than all the American aid." (Neal: 2007, p. 212). The materialization of Marshall Aid extensively benefitted the West German economy. "In a classic study published in 1955, Henry C. Wallich concluded that West German industry had 'pulled itself up by its tax-exempt bootstraps" (Grotewold: 1973, p. 55). The labor market too extended their cooperation in the growth process of the West German economy. The labor unions emphasized on the creation of employment opportunities and expansion of social services. As part of the currency reform in 1948, workers accepted large reductions in their real incomes, which ended the post-war inflation and channeled resources into capital formation. These factors led to resurgence of the West German economy and her speedy recovery. In 1951 West German industrial production was 50% higher than in 1936 (Grotewold: 1973). West Germany enjoyed this economic miracle till 1958 when it joined the Common Market, during which a brief slowdown was observed in the rate of expansion of the West German economy. However, Grotewold (1973) felt that unemployment in West Germany during the 1950s "...was not created by imports competing with domestic products, but by a variety of other causes, of which the most important was the large number of refugees from East Germany and areas beyond the Oder-Neisse line." (p. 361).

The economic miracle of the 1950s slowed down in the 1960s because of the decrease in the population growth rate and falling birth rate. It can be observed from Figure 1 that the population growth rate remained at less than

one percentage during the 1960s. Another major reason for the slowdown of the West German economy was the completion of Berlin wall in 1961 which stopped the flow of refugees from East Germany to West Germany. As a result, West German industries started facing shortage of docile labor. In order to respond to this situation, West German industries initiated the Gastarbeiter (guest worker) program which saw a huge success. These guest workers, from the Mezzogiorno, Spain, Yugoslavia, Greece and Turkey, occupied the least skilled positions in the firms and were paid lower wages. Meanwhile, foreign investment from the UK and the US increased which led the capital stock in West Germany to grow. The increasing capital stock combined with the lower average unit costs increased the competitiveness of the West German firms in the export market. The tight monetary policy of the Bundesbank combined with the fixed exchange rates of the deutsche mark in the international market[33] increased competitiveness of German exports in the international market. This fact is pertinent from Figure 1 where the official exchange rate of the German domestic currency to the US dollar remained fixed at 1 US$ = 4 duetsche mark from 1962 to 1968. West Germany's heavy dependence on guest workers, however, allowed the economy to grow but at a slower rate of growth and investment (Neal: 2007). Offsetting the problem of supply of labor by importing guest labor, however, discouraged the technical progress in West German industries (Neal: 2007).

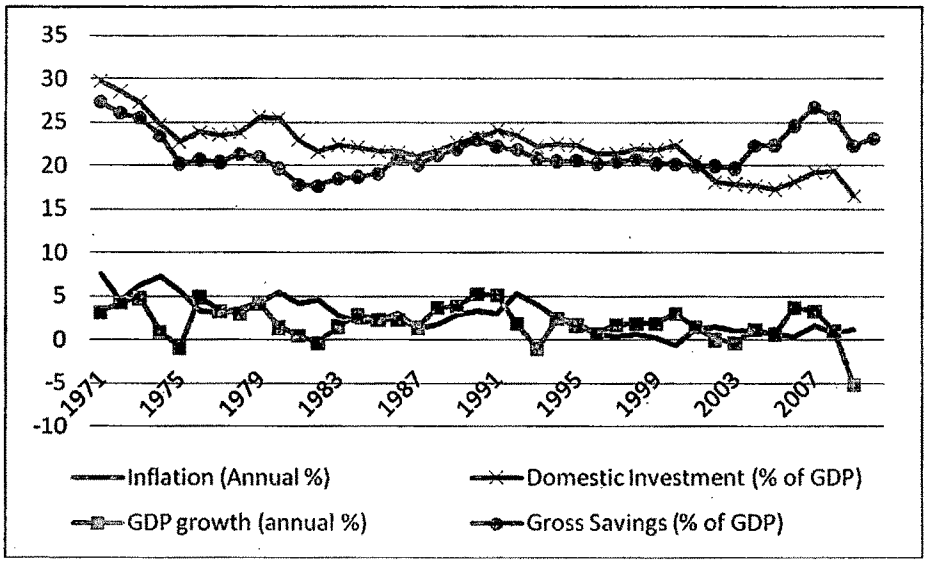
[33] The fixed exchange rate of the deutsche mark with other currencies especially of the trading partners in the West led to falling of the real exchange rate of the deutsche mark. Exchange rates of the deutsche mark in West Germany remained fixed from 1949 to 1970. It was only in 1971 that the exchange rates were made flexible in West Germany.

Figure: G-1



Source: Author's Calculation, Absolute figure from World Development Indicators, World Bank

Figure: G-2

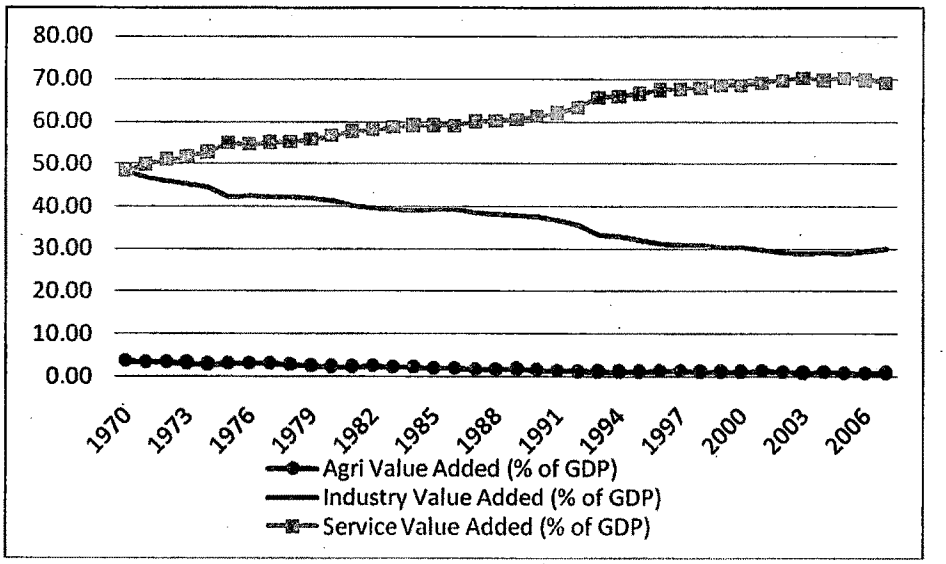


Source: World Development Indicators, World Bank

Figure: G-3

Source: OECD Factbook 2009 & 2011-112

Figure: G-4

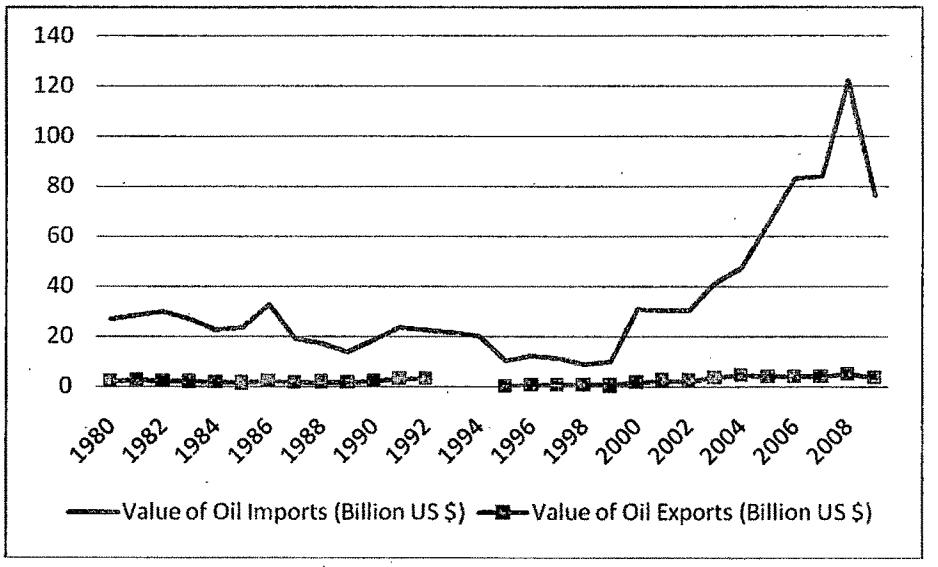


Source: World Development Indicators 2009, The World Bank

As a result, by the initial years of the 1970s i.e. by 1973 West Germany was facing the problems of outdated technology, almost stagnant and not expanding exports and slow rate of growth of human capital in the manufacturing sector. Europe was hit hard by the oil shock of 1973. Nonetheless, West Germany could weather the effects of this oil shock much better than her West European trading partners because of the continued appreciation of the deutsche mark relative to the dollar as a result of low inflation rate in the economy compared to the rest of the European nations (who were West Germany's trading partners) and her strong trading relationships with Iran. It is observant from Figures 1 and 2 that the inflation rate, as measured by GDP deflator, in Germany after 1974 till 1978 was low; while the official exchange rate fluctuated somewhere at more than 2 duetsche mark for 1 US$. Appreciation of the deutsche mark reduced the costs of imported raw materials and fuel which in turn helped in reducing the cost of production of exporting goods. As a result West Germany's exports gained competitiveness in the international market in comparison to the rest of the European Union. The annual growth in German exports, as depicted by Figure 7, was in double digits from 1973 to 1976, with only a sharp dip in 1975. This strong currency strategy assisted in withstanding the first oil shock. While on the other hand, most of the European countries which consisted of a major export market for West Germany's products felt the oil shock hard. As a result, the demand for German products from the European markets reduced resulting in a fall in German output, profit, investment and an increase in the rate of unemployment. Figure 2 shows a decline in the rate of domestic investment in Germany since 1971 only to recover in 1979. By 1975, West Germany's growth rate was upsettingly low (-0.87). Despite of its strong

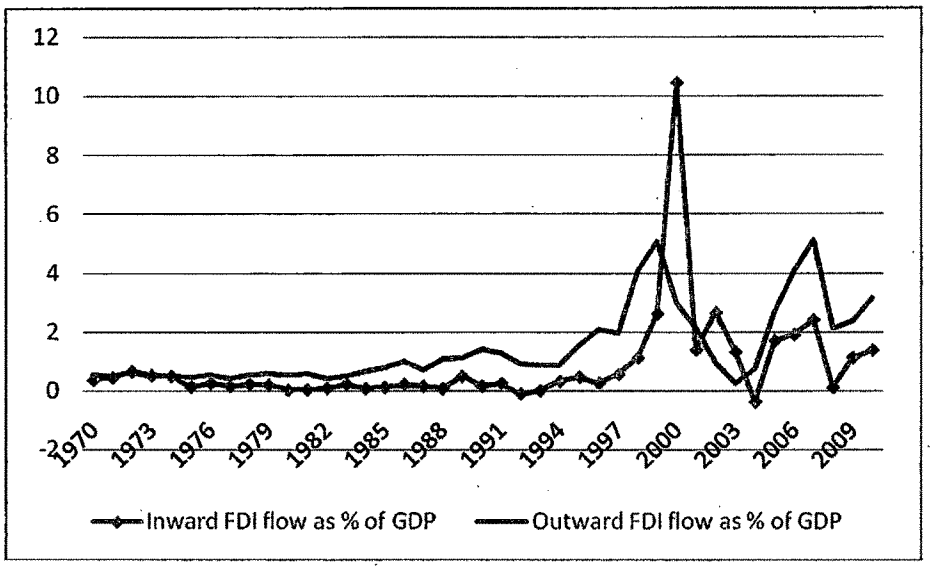
internal monetary policy, West Germany's heavy dependence on exports, led to worsening of her economic condition. The second oil shock of 1978 worsened the economic situation in West Germany ultimately putting an end to its golden growth age of 1950-1973. The second oil shock casted doubts on West Germany's restrictive monetary policy and disrupted the exchange rates agreed upon by the European Monetary System (EMS). Despite of controlled inflation rates, unemployment in the country rose permanently and the growth rates declined. It can be seen in Figure 1 that the official exchange rate of Germany against the US dollar is constantly declining from 1976 to 1980.

Figure: G-5



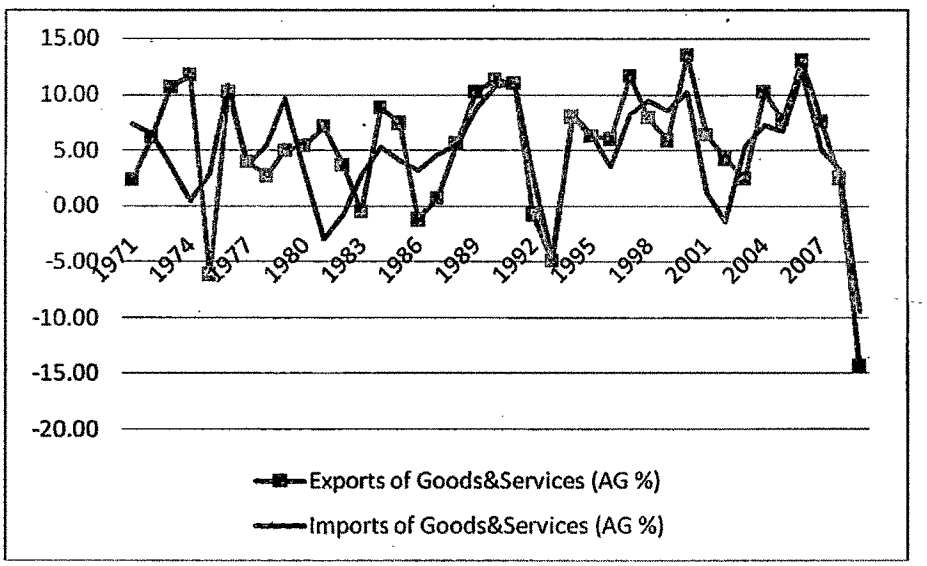
Source: World Economic Outlook Database, Sept 2011, IMF

Figure: G-6



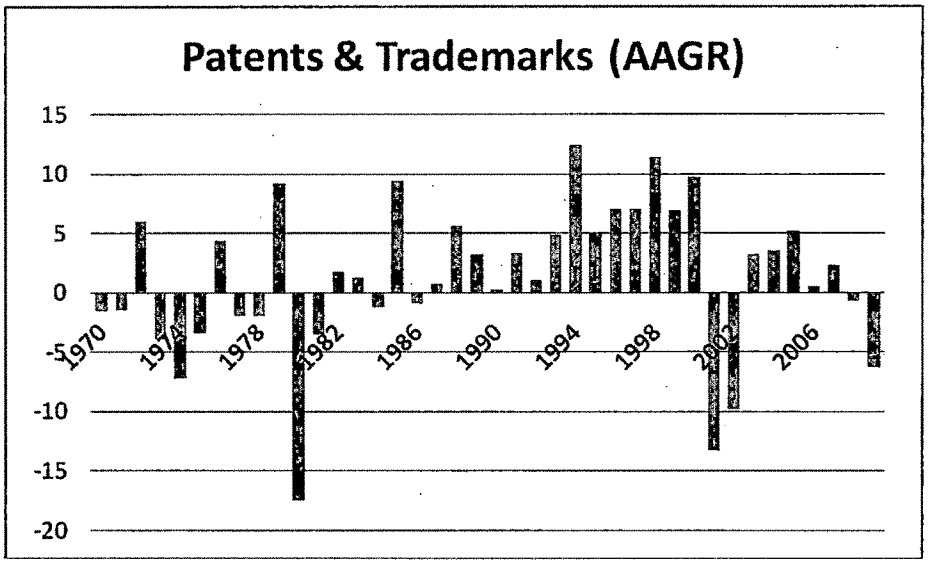
Source: UNCTAD

Figure: G-7



Source: Author's Calculations, Absolute figures from World Bank national accounts data, and OECD National Accounts data files.

Figure G-8



Source: WIPO

In 1980-81, the West German economy slipped into recession followed by periods of prolonged stagnation which ended only in 1986. It is evident from Figure 2 that the annual growth rate of Gross Domestic Product slipped from 4.15% in 1979 to 0.53% in 1981 only to become negative in 1983. Since then the annual growth rate of GDP in Germany has recovered and it stood at 2.29% in 1986. According to Herbert Giersch supply side constraints impaired the better performance of Germany. According to him, low levels of profitability and investment in German firms was due to a 'gap' in the tax reforms combined with high subsidies to ailing industries[34], excessive regulation, incentive dampening income-tax bracket creep, increasing cost of social security, health and unemployment benefits, and high wage rigidity. By this time, Japan rose as a major exporting economy in the international market. The competition in the export markets from Japan adversely affected

[34] Which misdirected the resource allocation

the export market for West German products. This fact is observant from Figure 7 which shows a declining trend in the German growth of exports in the initial years of the 1980s. Unemployment in West Germany after the second oil shock was recorded historically high. Labor market rigidity[35] led to high and persistent unemployment in the economy. The active labor market policy had little effect on reducing unemployment in Germany because the real obstacles to placement in new jobs were financial disincentives, lack of mobility, old age, ill health, and poor morale (Gillingham: 2003). Population growth in Germany observed a negative trend during the initial years of the 1980s; GDP growth and domestic investment in the economy also declined (see Figures 1 and 2). Moreover, the fast increasing wages in the manufacturing sector during the 1970s and 1980s, led the German firms to evade the high labor costs. In view of this, companies started investing abroad (the outflow of FDI started increasing since 1975, see Figure 6) and left the economy's labor-intensive sectors, thus, restoring to mechanized production processes. Nonetheless, on the one hand, the labor-saving process increased firm productivity, on the other; these structural changes lowered the aggregate productivity of the economy. The increase in the outward movement of the investment (thereby low domestic investment) led to a dramatic slowdown in the growth rate of the economy. Further, the inclusion of two low-wage economies namely Spain and Portugal into the EEC in 1986 surged West Germany's foreign investment to these countries. It is seen in Figure 6 that the outflow of foreign investment increased dramatically since 1987. Furthermore, the reduction in the price of imported oil in 1986 removed the

[35] Rigidity in the labor market meant that employees could be fired and all those who worked for eight hours a day were paid full benefits. As a result, no one was ever hired.

pressures in the currencies of the participants in the Exchange Rate Mechanism of the European Monetary System, so they were all allowed to appreciate in lock step with the deutsche mark (Neal: 2007). The value of oil imports fell during the early 1980s, while it shot up in 1986 from where there has been a continuous reduction until 1989. The depreciation of the US dollar during this time further proved beneficial for the West German economy. As a result, in the late 1980s, West Germany showed healthy trade surpluses. Despite of such expansion, high levels of unemployment still persisted.

East Germany, on the other hand, faced severe economic problems under the communist rule. The East German regime started to falter in 1989, when the Berlin wall fell and thousands of East German workers fled to West Germany[36]. To the people of Germany the only way out from these economic problems seemed in the process of unification with their western counterpart (West Germany). This East German economic problem was finally solved in 1990 with the reunification of East Germany and West Germany in October 1990. The next big challenge in front of West Germany now was to equalize the economic and social conditions in both parts (East and West) of Germany. East Germany, since the reunification, has been financially dependent on West Germany. In view of this the "institution transfer" model was created. As a part of this, loans or gifts were provided to the East Germans in the form of social transfers financed out of West German taxes and social security contributions. However, this model overstretched West Germany economically and financially. While in the East Germany it produced a heavily

[36] Mainly because of the removal of the border fence of Hungary which punctured the Iron Wall

subsidized, culturally colonized, resentful and stagnant society. The unified Germany was now more engrossed with tackling her internal situation. As a result the leadership position of Germany in the European market seemed to slip away. The cost of reunification kept the German budget under constant stress in the 1990s. National debt alleviated after the reunification. The German economy was weakening mainly because of excessive taxation, overregulation of labor markets, lack of innovation and institutional rigidity. After the reunification, East Germany was seen as a new large market segment for the West German firms, as a result of which they expected an escalation in the profits. However, pitfalls in the institutional factors led to the deficits in German trade pattern. "National and international firms that invest their funds in Germany know that they will be asked one day to help finance the unresolved problems of German reunification, which is one of the reasons why Germany's investment rate is so low... Germany was once Europe's growth engine, but since the mid 1990s it has brought up the rear on the European growth train." (Sinn: 2007, p. 8). By the end of the twentieth century Germany had the highest wage costs of manufacturing workers. This resulted into worsening of the international competitiveness of the German manufacturing workers. Faced with low-wage competition from within the European Union (low-wage East European nations) and outside Europe (rise of Japan, participation of the Asian tigers in the international market), labor intensive German firms found it difficult to strive in the international market. Since the creation of an integrated market for goods and services by the European Union, Germany is losing her former advantage of a large domestic market. Further, with the introduction of the Euro in 1999, German firms have lost their advantage of lower capital costs. On the domestic front, the

annual growth in GDP has remained low, along with high level of inflation rate during the initial years of the 1990s. Gross savings and domestic investment showed a declining trend all throughout the 1990s. The growth in population was also meager. However, the value added by the service sector in the economy increased, while that of the industrial sector started declining. The unemployment rate in the economy shot upwards; nonetheless, it remained much lower to the employment rates during the 1990s. On the international front, the exchange rate remained considerably stable, while the increasing rate of outflow of FDI out-shadowed the lower amounts of FDI inflow. The growth in exports which became negative in 1992-93 showed an improving tendency, while the growth in imports of goods and services has remained considerably low. The decade of the 1990s showed a positive growth on the technological front. European Union's eastern enlargement of 2004 worsened the economic situation of German firms. Faced with the low-wage competition from these countries, Germany has lost her allure as an investment location. As a result lion's share of domestic savings since 2005 has been invested abroad (see Figure 6).

After the attack on the World Trade Center, world economy faced a severe downturn. This downturn effect was observed even in the German economy which practically stagnated during the early 21st century. The GDP growth rate started declining at a faster rate since 2000 and in 2003 it stood at -0.38%. On the one hand gross savings in the economy dipped and remained almost stagnant at around 19% of GDP, while on the other hand, domestic investment dipped remaining less than the savings rate. Major portion of domestic savings was invested in the international market (see Figure 6) while inflow of

foreign investment dipped during the initial years of 2000. Negative inflation was observed in 2000 which turned positive but at a higher level during 2001-2004. The growth in exports of goods and services declined from 13.53% in 2000 to 2.46% in 2003, while the growth rate of imports dipped from 10.17% in 2000 to 5.36% in 2003. German economy showed signs of recovery only during 2004-05. However, the total unemployment rate in the economy remained very high (figure 3). Since then the growth rate of GDP has improved, however, it declined in 2008 and became-5.13% in 2009. High level of gross savings was matched by very low levels of domestic investment and a very high level of outflow foreign investment. The condition in the growth rates of exports and imports of goods and services improved only to be negative in 2009. Population growth is constantly showing negative trend throughout 2004-2010. Improvements on the technological front were observed during 2003-20007 (Figure 8). However, the value of oil imports increased drastically creating problems for the economy.

In view of the above discussion, let us analyze empirically the factors that have led to the changes in the level of income and the growth of the German economy since 1971.

Economic Growth in Germany – An Empirical Analysis

To analyze and understand which factors explain the economic growth in Germany for the period 1971-2009, the following linear regression model is estimated using the selected variables mentioned in the Chapter 1:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(Open) + B_3(PT) + B_4(Govt) + B_5(FDI) + e \quad \ldots\ldots (1)$$

The results of the regression estimation of the above equation are shown in table 1:

Table: G-1

Model with all variables(Except SSER) for 1971-2009

Variables	B	t-Stat	p-Value	Regression Statistics	
Constant	-21.489	-1.701	0.098	R	0.641
Invt	0.695	3.315	0.002	R Square	0.411
Open	0.082	1.812	0.079	Adjusted R Square	0.322
PT	0.097	2.195	0.035	Standard Error	1.618
Govt	0.178	0.502	0.619	F	4.603
FDI	-0.053	-0.312	0.757	Significance F	0.003

The above table 1 reveals the following:

1. Domestic investment has a positive and statistically significant effect on the growth of per capita GDP in Germany over the period 1971-2009. A one percent increase in domestic investment in the economy leads to 0.695 percentage points increase in growth of per capita GDP. This result is in accordance with the existing literature which depicts a positive impact of domestic investment on economic growth of a nation.
2. GDP per capita during 1971-2009 was positively affected by the total trade as percentage of GDP. A one percent increase in the economy's total trade as percentage of GDP improved the per capita GDP by 0.082

percentage points. However, it was found to be statistically insignificant.

3. Improvement in the growth rate of patents and trademarks showed positive and statistically significant effect on GDP per capita over the period 1971-2009. A one percent increase in the growth rate of patents and trademarks increased the per capita GDP by 0.097 percentage points.
4. Government consumption, as per the existing economic literature, tends to reduce the growth in an economy. The results in Table: 2 do not confirm this hypothesis when an increase in government consumption by one percent increases the per capita GDP by 0.178 percentage points. Moreover, this result is found to be statistically insignificant.
5. Inflow of foreign investment into the German economy from 1971-2009 has impaired the growth in GDP per capita in the economy by 0.053 percentage points. However, it is not found to be statistically significant.

In order to incorporate the human capital as a factor explaining the economic growth in Germany, the above equation (1) was modified as:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6(FDI) + e \quad \text{.....(1.1)}$$

The above equation was then estimated by a linear regression model for the period 1991-2009[37]. The results of the estimated equation 1.1 are presented below:

Table: G- 1.1

Variables	**B**	**t-Stat**	**p-Value**	Regression Statistics	
Constant	86.474	3.219	0.007	R	0.902
Invt	0.167	0.652	0.527	R Square	0.814
				Adjusted R	
SSER	-0.134	-1.181	0.260	Square	0.721
				Standard	
Open	-0.056	-1.067	0.307	Error	1.091
PT	0.038	0.789	0.446	F	8.735
Govt	-3.767	-4.001	0.002	Significance F	0.001
FDI	0.094	0.678	0.511		

The above table 1.1 shows that:

1. Upon the inclusion of SSER as a variable for human capital in the equation (1) and estimating it for 1991-2009, all the variables turned out to be statistically insignificant, except for government consumption.

[37] The time frame of 1991-2009 is selected because the data for Secondary School Enrolment Rate are available for this period only.

2. Domestic investment showed a positive effect on growth of GDP per capita; however, it turned out to be statistically insignificant.
3. SSER displayed a negative impact upon the growth of per capita GDP for 1991-2009; however, it was not statistically significant. An improvement in human capital would decrease the per capita GDP by a 0.134 percentage points. However, theoretically this estimation seems to raise doubts.
4. The impact of openness on economic growth in Germany for 1991-2009 is negative and statistically insignificant. An improvement in total trade as percentage of GDP in Germany would impair the economic growth of the economy by 0.056 percentage points. It may thus be inferred that openness of the German economy since its reunification has not benefitted in improving the economic growth of the economy.
5. In equation (1) patents and trademarks recorded a positive and statistically significant effect upon GDP per capita. However, upon inclusion of SSER and estimating the equation for 1991-2009, the effect of patents and trademarks on economic growth of Germany still remained positive but statistically insignificant.
6. Government consumption shows a negative and statistically significant effect upon the rate of economic growth in the economy. This would mean that increase in government consumption in the economy by 1% would reduce the growth in per capita GDP by more than 3.767 percentage points.
7. Inflow of FDI now shows a positive but statistically insignificant effect on the growth rate of GDP per capita.

Further, in order to analyze which factor/s among the other selected ones have acted as driver/s of economic growth in Germany, for the periods 1971-2009 and 1991-2009, the above equations (1) and (1.1) were estimated using stepwise regression. This regression technique would facilitate in removing the unnecessary variables creating traffic and would highlight only those factors that have worked upon to improve the economic growth of the German economy. The results are depicted in tables 2 and 2.1

Table: G - 2

Stepwise Regression on Per Capita GDP for 1971-2009

Regression Model	Variables	R2	Adj R2	F-Value	p-Value
1	Invt	0.259	0.239	12.935	0.001

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	-5.77	-2.69	0.011
Invt	0.346	3.596	0.001

Table: G – 2.1

Stepwise Regression on Per Capita GDP for 1991-2009

Regression Model	Variables	R2	Adj R2	F-Value	p-Value
1	Govt	0.466	0.434	14.825	0.001
2	Govt, Invt	0.748	0.716	23.715	0.000

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	50.448	5.1	0.000
Govt	-3.100	-5.954	0.000
Invt	0.482	4.229	0.001

Table 2 reveals the following:

1. The stepwise regression analysis for the period 1971-2009 resulted into only one statistically significant model with only one statistically significant variable – domestic investment.
2. It shows that domestic investment is the only statistically significant variable, which explains the growth of per capita GDP in Germany for 1971-2009. All other factors are discarded during estimating the equation (2) by stepwise regression.
3. A 1% increase in domestic investment escalates the growth of per capita GDP in the economy by 0.346 percentage points. It may, thus, be inferred that domestic investment has played a significant role in economic growth of the German economy for 1971-2009.

Table: 2.1 reveal the following:

1. The stepwise regression analysis for the period 1991-2009 resulted into two statistically significant models. The first model considered government consumption as a factor explaining economic growth in Germany, while the second model included domestic investment along with government consumption.

2. It shows that after 1991 (especially after the reunification of Germany), government consumption and domestic investment are the only factors, statistically significant, which explain the growth of per capita GDP in Germany. All other factors have been discarded during estimating the equation (1.1) by stepwise regression.
3. Government consumption was found to have a negative impact upon the economic growth of the German economy. Moreover, this result is statistically significant and is in accordance with the existing literature which states that an increase in the government consumption would lead to reduction in the rate of growth of an economy. An increase in government consumption would reduce the growth rate of the German economy by 3.1 percentage points.
4. The existing literature on economic growth observes a positive and significant relationship between domestic investment and economic growth of an economy. This relationship is established in case of Germany where a 1% increase in domestic investment increases the growth of per capita GDP by 0.482 percentage points. This result, moreover, is statistically significant.

However, due to lack of availability of data, empirical comparison between the economic growth conditions in Germany pre-EU membership and post-EU membership could not be established.

ITALY

Since the formation of the European Coal and Steel Community i.e. the inception of the European Union as a Customs Union, Italy has been actively involved in all its major decision making process. Italy is one of the founding members of the European Union and one of the largest countries in Europe. Italy has been a dual economy, over a very long period of time now, with divisions in terms of structure and economic performance between the industrially developed North and the Mezzogiorno South.

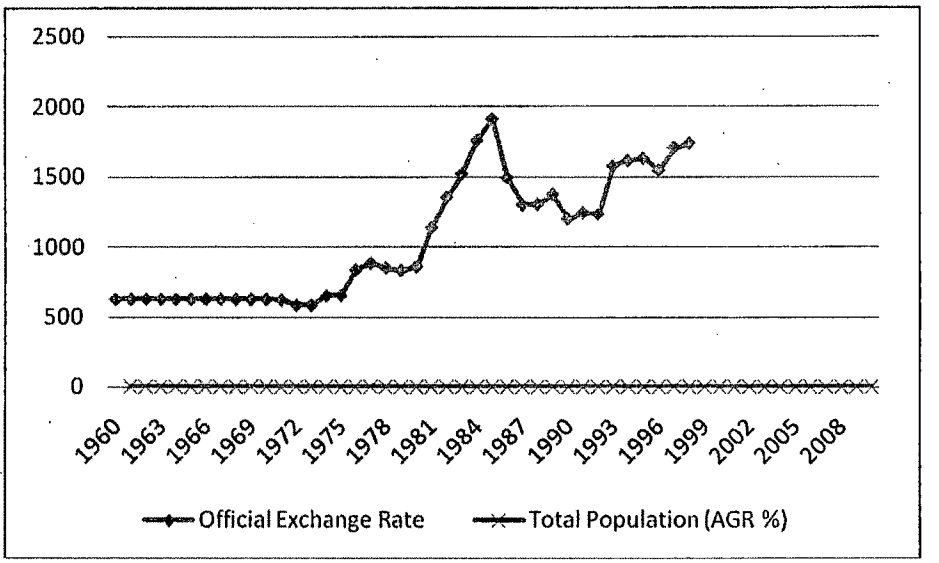
From the twelfth to the fifteenth century, Italy was a forerunner in economic development, technological progress and international trade. However, this allure subsided by the end of the seventeenth century when Italy along with other Mediterranean countries had become underdeveloped area. Among the European nations, as many economic historian feel, Italy started-off as an underdeveloped area. Industrialization and modernization processes in the economy started comparatively late to other (West) European nations. Nonetheless, Italy was able to fall in line with the rest of the West European nations soon. Italy became predominantly an industrialized nation only after the Second World War. Since then, Italy has been internally divided into – North-West or the industrial triangle, the South or the Mezzigiorno, and the North-East and Centre (A. Bagnasco: 1977, as in Zamagni: 1997). Zamagni (1997) observes that the Italian industrialization moved from textile and primary need towards engineering and metallurgy industries.

Italy was in shatters by the end of the Second World War, overburdened by the returning refugees and lower levels of per capita income. Despite of such

depressing conditions, Italy still had the necessary capital stock with which post-war industrial expansion could be undertaken. The post-war Italian economy saw the reunification (of the nation), devaluation of the domestic currency at different intervals up till 1949, sharp increase in the money supply in the economy, inflation and government deficits. Italy was a recipient of the Marshall aid. The funds from the aid directly went to finance the capital projects of huge state holding companies, thereby intending to compete effectively in the world market. Italy joined the International Monetary Fund (IMF) in 1947, which led to stabilizing the exchange rate of the lira and making it fully convertible to trade with Europe. Then, in 1953, Italy joined the European Coal and Steel Community (ECSC) and later was one of the founding members of the European Economic Community (EEC) – which was set up by signing the Treaty of Rome in 1957. The membership to these institutions combined with the favorable domestic environment like 'a liberal economic environment, an elastic labor supply, and high rates of saving and investment' (Neal: 2007) – led to the Italian miracle of 1947-1963. Bank of Italy's restrictive monetary policies helped in controlling the labor market thereby permitting the Italian firms to grow impressively both in the domestic as well as international markets. It can be observed from Figure 1 that the official exchange rate of the lira against the US dollar remained constant throughout the decade 1961-1970. The impressive growth rate of the Italian economy during the 1950s and early 1960s was also the result of large public sector companies which provided the necessary inputs and the basic infrastructural facilities like transportation and communication to the Italian manufacturing firms. Since 1963, the Italian economy became vulnerable to the shocks coming from changing political sphere, increasing labor costs,

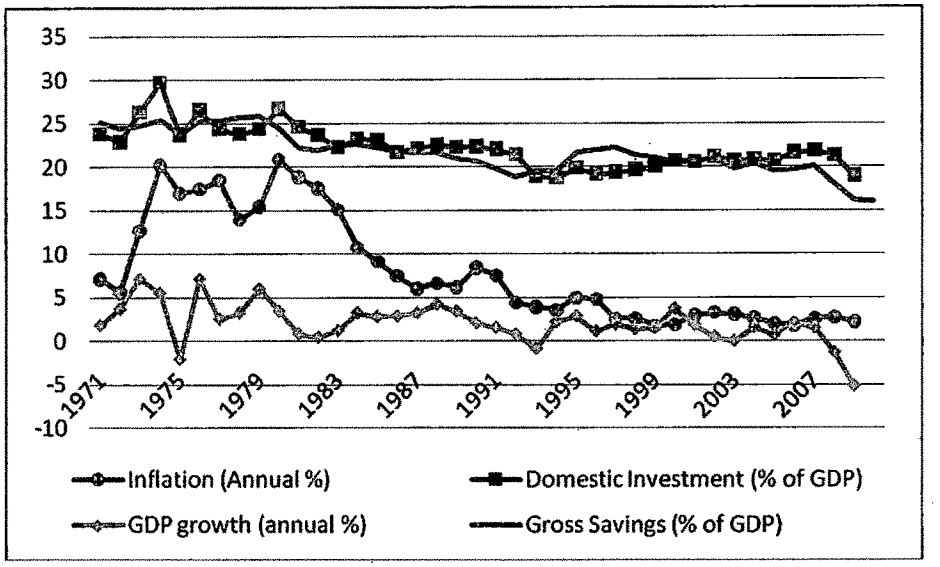
increasing unemployment and government spending. By the end of the 1960s (1969-1973), wages and the unit labor costs increased in double digits. Inflation rate increased, while productivity growth reduced. Employment, on the contrary, increased because of the policy of *Statuto dei Lavoratore* which made firing of any employee almost impossible. As a result, most sectors of the industry faced losses. On the one hand, investment in private sectors stagnated, while on the other, public sector investment increased. All these factors led to a rigid economic structure of the economy, which could not bear up to the oil shocks of the 1970s.

Figure: I-1



Source: Author's Calculation, Absolute figure from World Development Indicators, World Bank

Figure: I-2

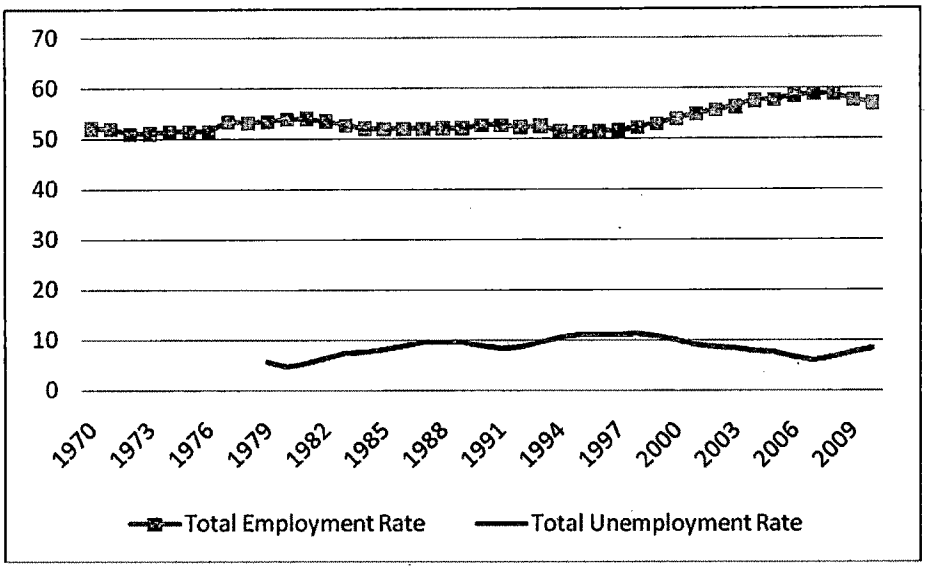


Source: World Development Indicators, World Bank

The first oil shock of 1973 hit the Italian economy hard. The inflation rate in the economy soared at the highest levels. It can be seen from Figure 2 that the inflation rate in Italy in 1971 was 7.18% which shot up to 20.25% in 1974. Neal (2007) observes that "Italy suffered the highest and the most persistent rates of inflation of any western European country through the two oil shocks of the 1970s." (p. 306). Recessionary situation and unemployment in other west European nations because of the oil shocks brought the immigrant Italian workers back to their homeland. This resulted in an increase in the "informal economy" leading to huge government deficits. Rigidities in the labor market, strikes and worker militancy created problems in the domestic markets. During the first half of the 1970s (1970-1974), unit labor cost increased. Trade unions were given legitimate powers. As a result, the trade unions used their powers to eliminate overtime, regulate lay-offs, restrict internal mobility, and slowdown the pace of work (Locke: 1995). As a consequence, number of hours

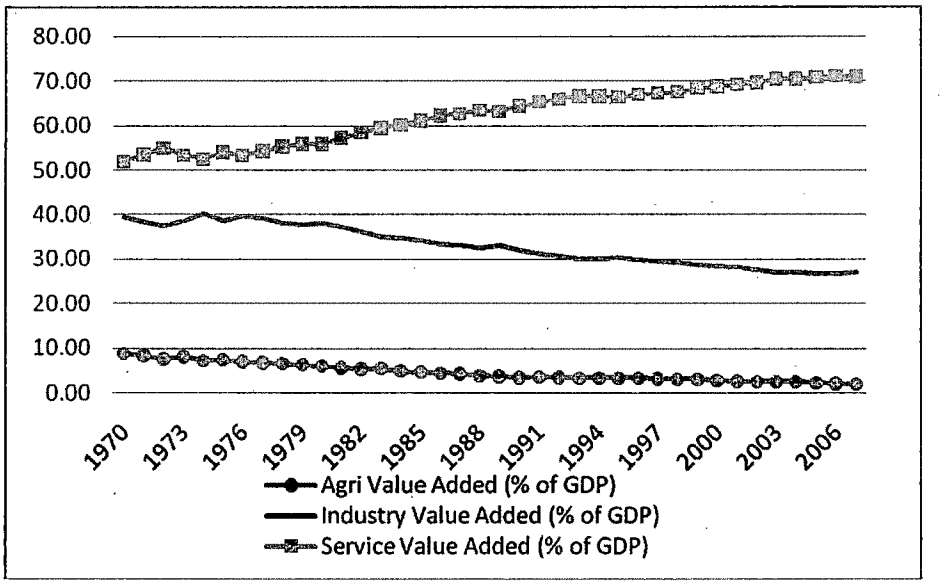
worked per employee reduced, thus, lowering the productivity growth. Stubbornness from the labor market led to distortions and increasing costs of the industrial units. As a result, the industrial value added in the economy declined during the first half of the 1970s (Figure. 4) and industrial investment stagnated during the 1970s. Distortions in the domestic industries lowered Italy's competitiveness in the international market. The result of which was high import penetration and loss in the share of Italian exports on the European markets. The collapse of the international monetary system was another external shock that hit the Italian economy during the 1970s. Lately, the second oil shock of 1978 aggravated the disparities in the economy. The GDP growth rate which was -2.09% in 1975 showed a positive trend, however, during the 1980 the Italian economy grew only at 3.24% p.a. Gross savings and domestic investment too remained at lower levels. Italy's terms of trade deteriorated because of her heavy dependence on imported raw material especially oil (OECD Economic Survey: 1984). Devaluation of the domestic currency fuelled inflation further. Inflation, which remained at relatively lower rates after 1974, increased dramatically to more than 20% in 1980. Restrictive policies to counter external imbalances followed by expansionary measures to stimulate growth provoked external imbalances. Both the internal and external disturbing factors rendered the traditional strategies of the Bank of Italy and the state holding companies ineffective thereby increasing distortions in the economy. The Italian economy, thus, had to face stagflation because of the weak government and its policies. The service sector, however, contributed significantly, all through the 1970s (see Figure. 4), in generating income in the economy. Italy joined the European Monetary System (EMS) in 1979.

Figure: I-3



Source: OECD Factbook 2009 & 2011-112

Figure: I-4



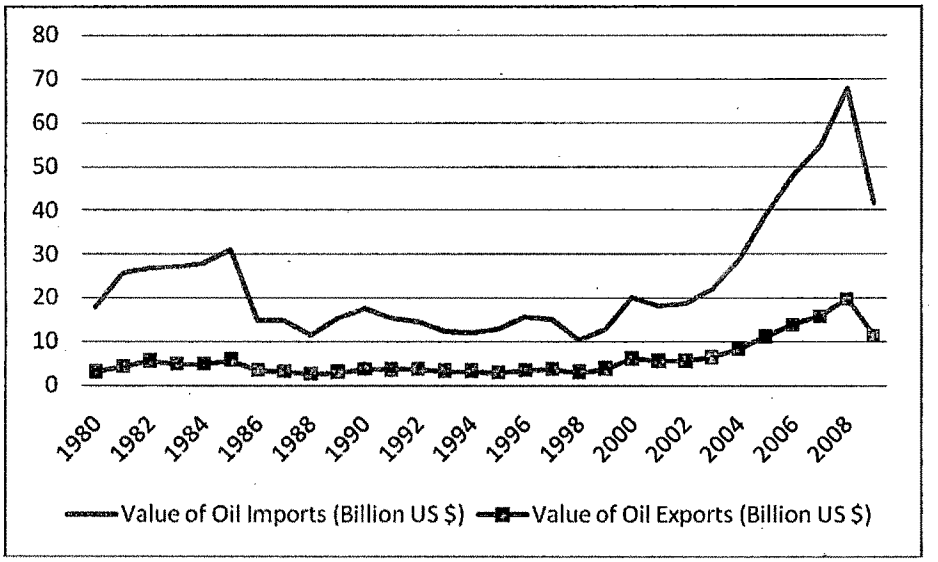
Source: World Development Indicators 2009, The World Bank

By the early 1980s, Italy's GDP growth was at its lowest rates since 1947 (Neal: 2007). It is observant from Figure. 2, that, the Italian GDP growth was 0.84% and 0.41% in 1981 and 1982 respectively. However, after devaluating the

currency within the EMS, it was possible for Italy to renew the GDP growth rate in the mid 1980s (Figure. 2) and reduce inflation rate. The inflation rate which was more than 18% in 1981 was reduced to almost 6% during the late 1980s. The devaluation of the domestic currency made the Italian goods cheaper in the international market. Figure 1 shows a continuous devaluation of Italian lira during the 1980s against the US dollar. As a consequence, Italian exports to the world market increased (see Figure. 7). Notable performance of the export sector enabled to maintain the growth rate of the economy even in the time of turmoil. Unemployment levels, however, remained high all through the 1980s (see Figure. 3) because of the supply-side weakness, rigid labor markets and oversized public sector units. Clientelism damaged the economic (and political) system(s). Many are of the opinion that Italy lacked the basic infrastructure needed for proper operation of market institutions. Interest rates and inflation level remained high. Despite of the non-accommodating monetary policy, prices in the country kept on rising. Extensive government intervention, a weak public sector, corruption, ill-functioning of the institutions ('welfare state') led to the market distortion of the 1980s. Economic advisers and policy-makers of Italy suggested for improvements in the Italian institutions if the economy had to be raised from the problems that prevailed in the 1980s. Kostiris (1993) in her study pointed that 'the market-distorting incentives caused net wages to rise faster in the south than in the north, outran gains in productivity and created a situation that could only be remedied by infrastructural improvement.' (Gillingham: 2003). Higher tax rates reduced the saving rates in the economy. Figure 2 observes that the gross savings in the Italian economy kept on declining throughout the 1980s – from 24.48% in 1980 to 20.98% in 1989. Despite of

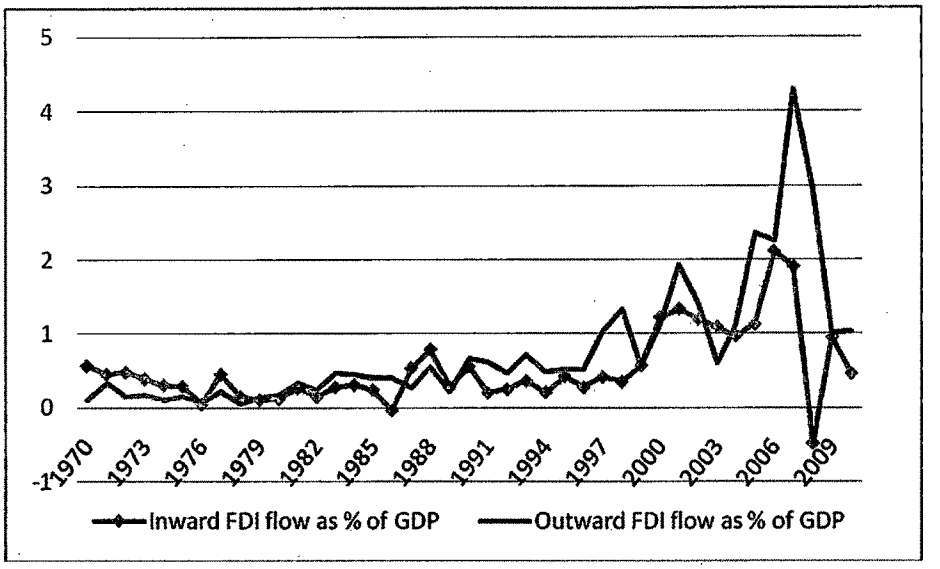
such difficult times, Italy, during the 1980s surpassed many of the European nations in terms of growth of exports and GDP, labor productivity, firm profitability, investment in new machinery and equipment and accumulation of personal savings (Locke:1995). Restructuring of the Italian firms and the technological innovation (see Figure. 8) also aided in increasing the labor productivity which in turn reduced labor cost. Nonetheless, it was observed that, the 1970s and the 1980s, despite being difficult years, showed better results compared to the pre-World War II period (Zamagni: 1997).

Figure: I-5



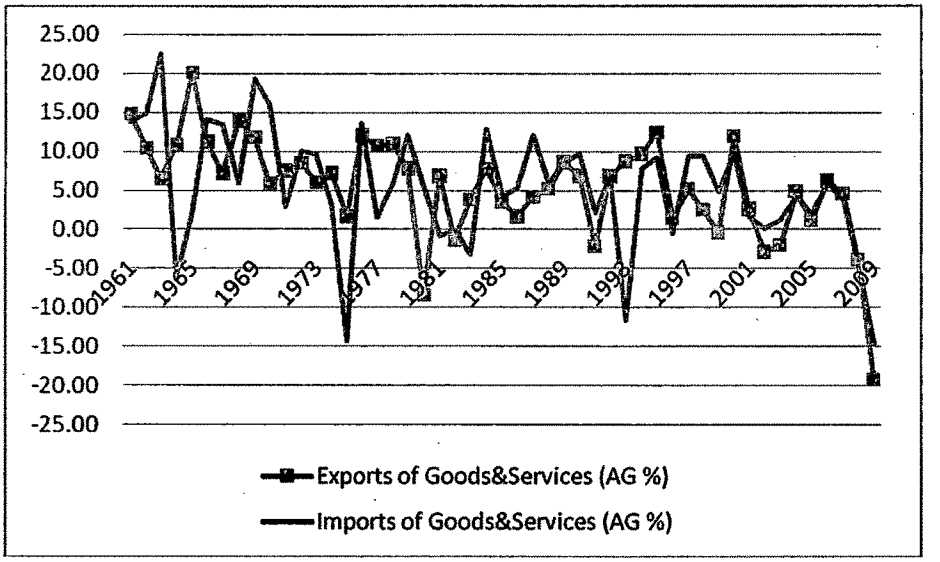
Source: World Economic Outlook Database, Sept 2011, IMF

Figure: I-6



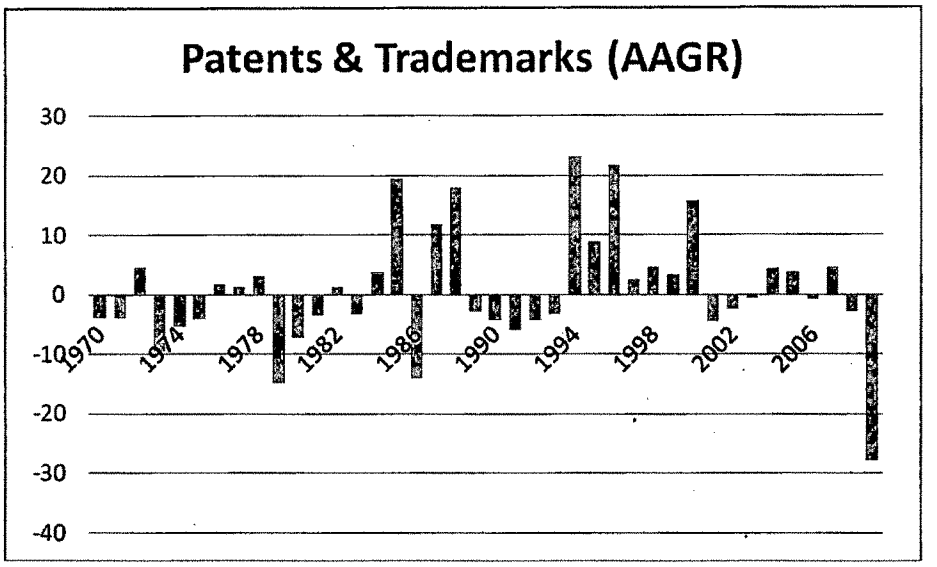
Source: UNCTAD

Figure: I-7



Source: Author's Calculations, Absolute figures from World Bank national accounts data, and OECD National Accounts data files.

Figure: I-8



Source: WIPO

The growth rate of Italian GDP during the initial years of the 1990s was quite anemic and the employment level was stagnant (see Figure. 3). Figure 2 show that the GDP growth rate in the economy during the initial years of the 1990s was declining and in 1993 the Italian economy grew at -0.89%. By 1992 the economy had entered in to a recessionary phase. The recession in Italy began in the last quarters of 1992 and remained till the last quarters of 1993 (Scobie, et.al: 1996). The decline in the economic performance during the early 1990s can be traced to the global recession of that time, domestic difficulties and the industrial restructuring of the earlier decade. The most important factor that led to the recession of 1992-93, as per many authors, was the reduction in the disposable income of the people. Decline in the employment rates, higher taxes accompanied by the wage reforms of the early 1990s led to reduction in the household's disposable income. As Scobie. et.al. (1996) have observed in their book,

'The unusually severe effect this fall in income had on demand can be attributed perhaps to the extreme pessimism of the time. That is, the lower income levels were expected to last for a long-time, whereas in the past income decreases had been seen as temporary situations. Perhaps this difference of attitude was also due to growing political instability, falling employment and the general economic uncertainty preceding and following on from the currency crisis.'

As a result of the domestic and international recession, Italy observed a downward trend in her investments (see Figure. 2). Other factors that hindered investment in the economy were the low capacity utilization rates, the high debt of many firms, and high real interest rates (Scobie et.al: 1996). Italian imports increased during the initial years of the 1990s (see Figure. 7). However, this increase in imports was not countered by an increase in exports which resulted in current account deficits. Italy had to face the consequences of such distortions by moving out of the EMS and letting the lira float freely in the international market. One again the lira was devalued in September 1992. The resultant fact was that Italian exports became cheaper in the international markets, hence increasing the competitiveness of Italian firms. Furthermore, major restructuring of the economy took place in the 1990s. A wave of privatizing the state holding enterprises began in 1993. Labor market reforms were also undertaken which helped in reducing labor cost and improving the productivity growth. Italy, thus, recovered from the recession soon and by 1994, the economy started showing signs of improvement. Nevertheless, the economy moved at nearly a constant rate during 1995-1999. The rates of GDP growth, gross savings and domestic investment remained almost the same

(see Figure. 2). Annual inflation was controlled while the lira was still devalued against the US dollar. Employment rates stagnated, while the unemployment rate in the economy showed an all time high values during 1994-1998. The unemployment rate dipped in 1999, still remaining at a very high rate (Figure. 3). Figure 4 shows that during the decade of 1990s, contribution of the industrial sector declined while the service sector contributed significantly in terms of value added. In case of foreign investment, the outflow remained slightly higher to inflow of FDI all throughout the 1990s. The exports of goods and services, however, did not improve in comparison to the increase in imports of goods and services (see Figure 7). The value of oil imports remained above the value of oil exports, nonetheless, the gap between the two was not found to be significantly higher (Figure 5). On the technological front, as measured by growth in number of patents and trademarks, Italy displayed signs of improvement after 1993 (see Figure 8). However, Scobie et.al. (1996) feel that Italy in many respects was a late-comer in the privatization process. Nevertheless, "many of the measures taken in the first half of the 1990s will be working their way through the economy in the second half." (Scobie. et.al: 1996, p. 99).

The Italian economy was just recovering from the recession of the initial years of the 1990s that once again it had to face the consequences of the depression that hit the internationally during the 2000s. The effects of this depression can be observed on Italy if we look at Figure 2. It shows that the growth rate of GDP declined since 2000 and stood at -0.017% in 2003. However, the Italian economy was able to recover in 2004. But by the end of the decade once again the economy was bit able to hold to its positive growth rate of GDP. Gross

savings in the economy reduced, while domestic investment was kept high in comparison to savings. The inflow f FDI remained much higher during the initial years of the 21st century but sharply declined after 2007; while the outflow of investment increased during 2005-2008 and reduced only during 200-2010 (see Figure 6). The unemployment rates in the economy remained at more than 6% throughout 2000-2010 (Figure 3). The value of oil imports (Figure 5) dramatically increased since 1999 till 2008, while the growth in exports and imports of goods and services turned negative during 2008-2009 after being positive during the earlier years (Figure 7). Figure 8 depicts that the performance of the Italian economy was not at all impressive on the technological front during the first decade of the 21st century.

In view of the above discussion, let us analyze empirically the factors that have led to the growth of the Italian economy since 1971.

Economic Growth in Italy – An Empirical Analysis

To analyze and understand which factors explain the economic growth in Italy for the period 1971-2009, the following linear regression model is estimated using the selected variables mentioned in the Chapter 1:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6(FDI) + e \quad \text{.....(1)}$$

The results of the regression estimation of the above equation is shown in table 1

Table: I-1

Model with all variables for 1971-2009

Variables	B	t-Stat	p-Value
Constant	0.302	0.031	0.976
Invt	0.525	2.249	0.032
SSER	0.055	0.711	0.482
Open	-0.124	-1.343	0.189
PT	0.088	2.840	0.008
Govt	-0.510	-1.607	0.118
FDI	0.329	0.456	0.651

Regression Statistics	
R	0.724
R Square	0.524
Adjusted R Square	0.435
Standard Error	1.78
F	5.880
Significance F	0.000

The above table 1 observes that:

1. Domestic investment has a positive and statistically significant effect on the growth of per capita GDP in Italy over the period 1971-2009. A one percent increase in domestic investment in the economy leads to 0.525 percentage points increase in the growth of per capita GDP. Moreover, this result is in agreement with the existing economic literature on economic growth.
2. SSER has positive and statistically insignificant impact upon the growth of per capita GDP in Italy for 1971-2009. A one percent improvement in the human capital in Italy would increase the rate of economic growth of the economy by 0.055 percentage points. This result is consistent with the existing literature on economic growth that considers human capital as one of the most important factors contributing to economic growth of an economy.

3. GDP per capita during 1971-2009 was negatively affected by the total trade as percentage of GDP. A one percent increase in the economy's total trade as percentage of GDP would reduce the per capita GDP by 0.124 percentage points. However, this result was found as statistically insignificant.
4. Improvement in the growth rate of numbers of patents and trademarks showed positive and statistically significant effect on GDP per capita over the period 1971-2009 for the Italian economy. A one percent increase in the growth rate of number of patents and trademarks would increase the growth of per capita GDP by 0.088 percentage points.
5. Government consumption, as per the existing economic literature, tends to reduce the growth in an economy. The results in Table: 1 affirms this hypothesis because an increase in government consumption by one percent reduces the growth of per capita GDP by 0.510 percentage points. Moreover, this result is found to be statistically insignificant.
6. Inflow of foreign investment into the Italian economy from 1971-2009 has improved the rate of growth in GDP per capita in the economy by 0.329 percentage points. However, it is not found to be statistically significant.

Furthermore, in order to analyze which factor/s among the other selected ones have acted as driver/s of economic growth in Italy, for the periods 1971-2009, the above equation (1) is estimated using stepwise regression. This regression technique would facilitate in removing the unnecessary variables creating traffic and would emphasize only those factors that have

worked upon to improve the economic growth of the Italian economy. The results are depicted in table 1.1

Table: I- 1.1

Stepwise Regressions on Per Capita GDP for 1971-2009

Regression

Model	Variables	R2	Adj R2	F-Value	p-Value
1	Govt	0.330	0.312	18.246	0.000

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	19.267	4.689	0.000
Govt	-0.944	-4.272	0.000

Table 1.1 reveals the following:

1. The stepwise regression resulted into only one statistically significant model with only one statistically significant factor – government consumption.
2. Government consumption show a result which is in accordance with the economic literature which states that government consumption has a negative impact on the economic growth of an economy. An increase of 1% in government consumption in Italy would increase GDP per capita by 0.944 percentage points.

However, due to lack of availability of data, empirical comparison between the economic growth conditions in Italy pre-EU membership and post-EU membership could not be established.

UNITED KINGDOM

The United Kingdom fought the Second World War till the victory. But it had little to celebrate as the price the British paid for the victory was very high in the form of wartime debts and post-war shortages. Even higher was the price that the Britain had to pay to sustain a large military force during the peacetime. Because of the extreme dependence on imported food and material during World War II, the value of British imports rose while the value of British exports declined. This created financial problems for the British economy by the end of the war. Britain's debts increased enormously to over three billion pounds against the available reserves of gold and dollar amounting to 0.5 billion pounds. Domestically, financial problems were created by the deferred payments made to the British labor for their wartime sacrifices. The United Kingdom, however, was able to recover the import deficits and improve its financial position by increasing the exports to the sterling area, the dollar area, and from the huge sums of money received under the United Nations Relief and Rehabilitation Agency, the Anglo-American Loan, and the Marshall aid[38]. Further, large sums were recovered by the increase in the Britain's capital exports. However, rather than reinvesting this money in increasing export capacity of its exporting industries, the United Kingdom utilized these funds to make the process of transition toward peacetime more gradual and less disruptive to the British people (Neal: 2007). At this same time the United Kingdom maintained a distance from the US plan of liberalizing trade and reintroduction of multilateral settlements of financial imbalances, and the Europeans' Schuman Plan.

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[38] The United Kingdom was a recipient of large sums of money under the Marshall aid.

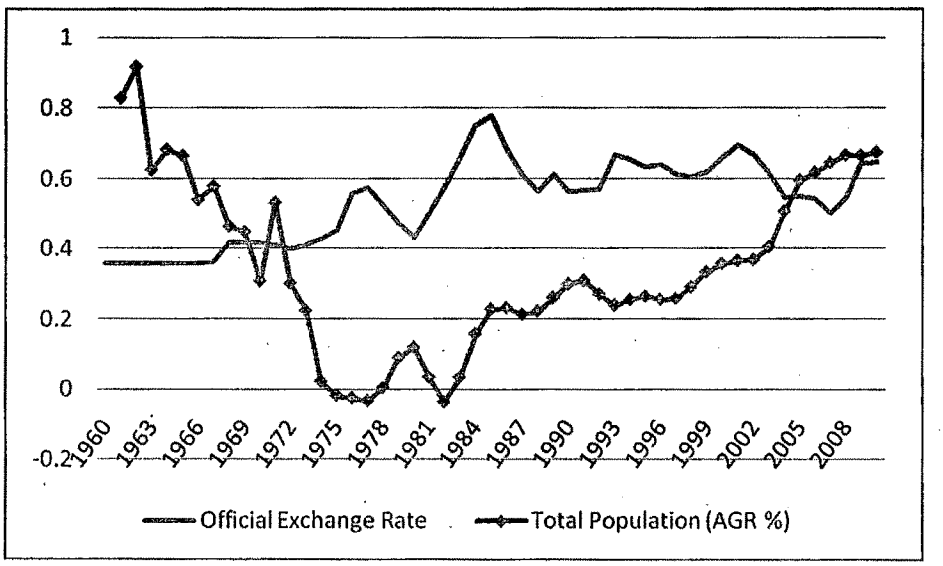
At the first post-war elections, the Labor party was elected to form a government. The elected government immediately implemented their strategy of a welfare state and nationalized the economy's basic industries. The Labor government nationalized the basic industries like coal, gas, electricity, rail and canal transportation, telecommunications, civil aviation and steel along with the Bank of England. Under the welfare state, the Labor government followed the recommendation of the Beveridge Report of "cradle to grave" policy. As part of this policy, a national health system access (based on needs rather than the ability to pay), free universal education, benefits for unemployment, retirement and death were provided. The government's objective behind the implementation of these policies was to provide with ample employment opportunities, control the output prices and to avoid inflation. This, however, was achieved by controlling the consumption level. This further led to increase in investment as well as in exports, thereby, overcoming the balance of payments problem. Unemployment dipped to the lowest point. However, these reforms brought in by the Labor government proved to be a failure. The actions of nationalization and welfare state did not bring any economic structural changes, while the nationalization strategy rendered the British industries uncompetitive[39].

Meanwhile, the other European countries sought to strengthen their connections with each other forming the European Coal and Steel Community and advancing it to the EEC. The United Kingdom, however, remained aloof from this process of integration, maintaining its relations with the earlier

[39] The British firms and labor unions used the traditional work practice and plant organization to increase output.

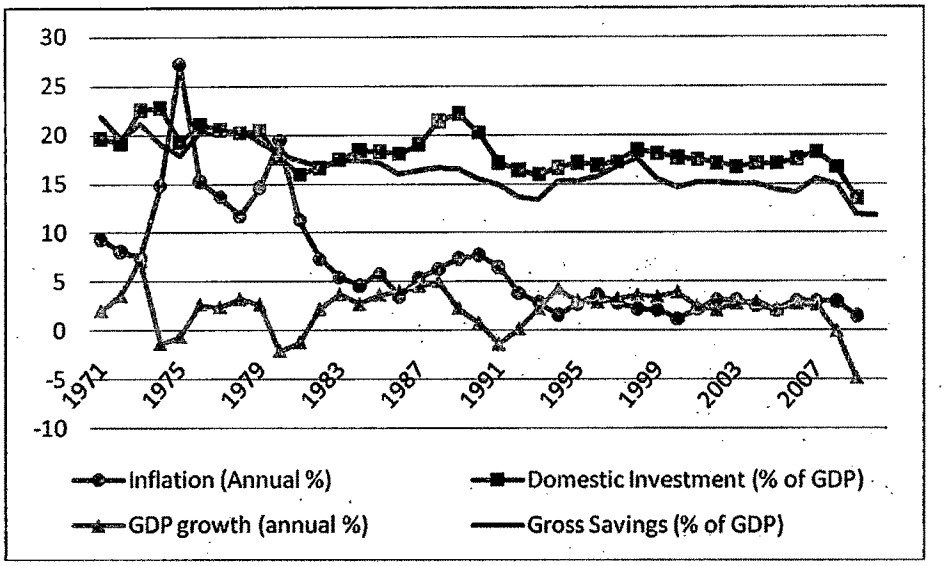
trading partners from the sterling and dollar areas. The rate of economic growth was favorable and low levels of unemployment were maintained. Nonetheless, by the end of the 1950s, the other Continental countries started growing rapidly. From the 1960s till 1973, the EEC member countries enjoyed the golden period of rapid economic growth, whilst the British economy still depicted the growth rates of the 1950s.

Figure: U-1



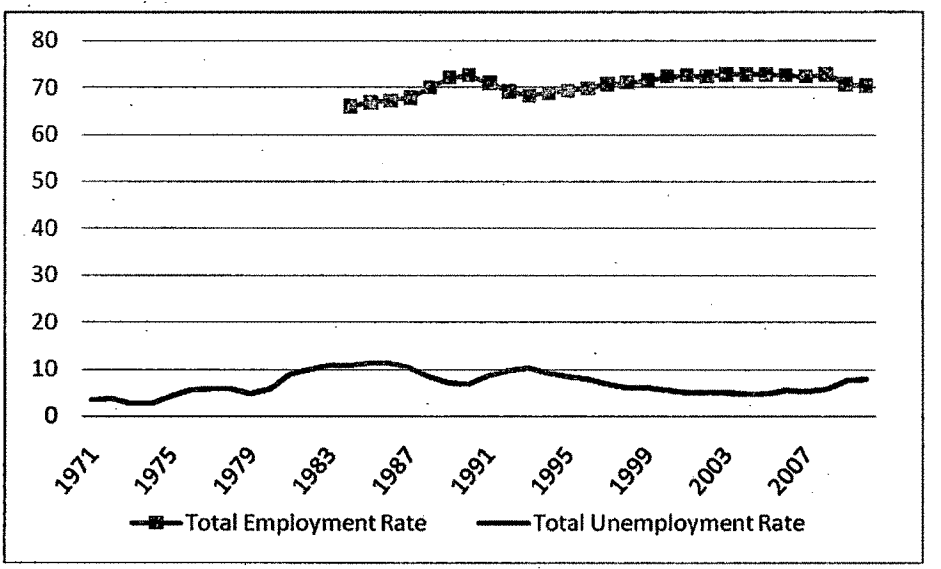
Source: Author's Calculation, Absolute figure from World Development Indicators, World Bank

Figure: U-2



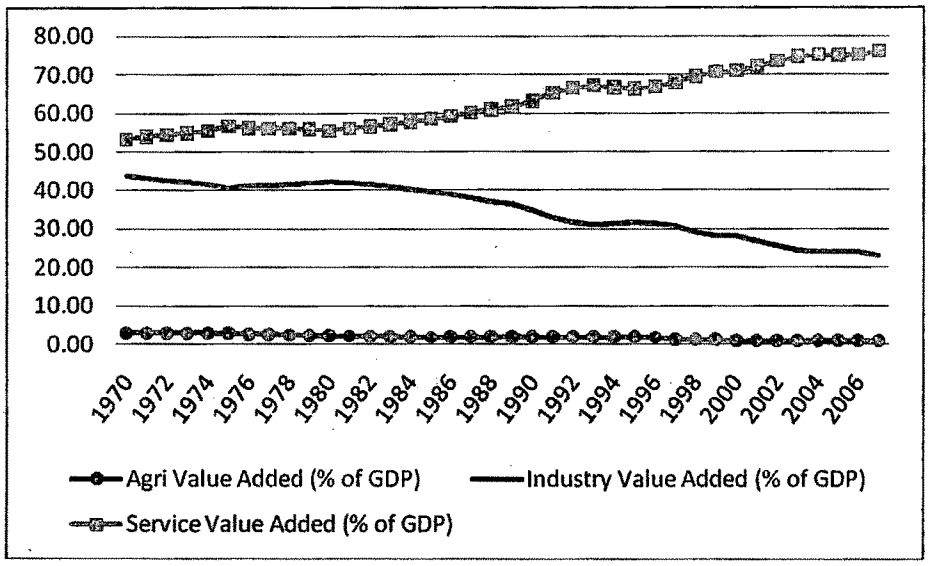
Source: World Development Indicators, World Bank

Figure: U-3



Source: OECD Factbook 2009 & 2011-112

Figure: U-4



Source: World Development Indicators 2009, The World Bank

The United Kingdom lagged behind many of the other large countries of Europe. Much research has been undertaken in order to understand the reasons for the British economy to lag behind the other economies. One such factor that led to the relatively slow growth of the United Kingdom's economy was lower rates of investment to total output or low rate of investment-output ratio. However, many believe that the reason for the decline in the growth rate of the United Kingdom's economy was the low levels of productivity of capital, especially in public sector and to some extent in the private sector. "The conjecture here is that the fragmented structure of British labor unions and the ability of each small craft union to protect the jobs of its members by preserving out-of-date work rules prevented the new equipment from being used most efficiently." (Neal: 2007, p. 274). Broadberry (1994) was of the opinion that misdirection of the investment in human capital was one among the many reasons for the decline in the growth rates in the United Kingdom.

Outrageous taxes on "unearned" capital income and protection against dismissal of the workers made the British economy inflexible. By the mid 1960s, Britain had become the sick man of Europe (Sinn: 2007). The Conservative government and later the Labor governments of the 1950s and 1960s did no good in improving the growth rate of the UK economy. By the mid 1960s, growth rates fell, unemployment increased, inflation rates soared and there were severe balance of payments problems because of the declining exports and increasing imports. It can be observed from Figure 7 that the growth rate of exports of goods and services remained lower to the growth in imports of goods and services until 1968. Figure 1 depicts that the exchange rate of pound sterling against US dollar remained constant throughout the period 1960-1966. In 1967-1968, the pound was devalued against dollar.

Meanwhile negotiations were initiated by the UK to pursue membership in the EEC. However, these negotiations did not materialize and were rejected twice by the French mainly because of the differences in the economic strategy between the UK and the member European nations of the EEC[40]. It was only in 1973 that the negotiations turned out to be fruitful and the UK joined the EEC or the Common Market. From 1971 to 1973, growth rate of GDP in the UK increased dramatically from 2.02% to 7.13%. Meanwhile, the inflation rate was kept under control and the rate of domestic investment in the economy exceeded the savings rate (Figure 2) and the pound sterling was appreciated against the US dollar in the international market (see Figure 1). Unemployment rates reduced from 1971 to 1973 (Figure 3) and exports of goods and services exceeded the imports (Figure 7).

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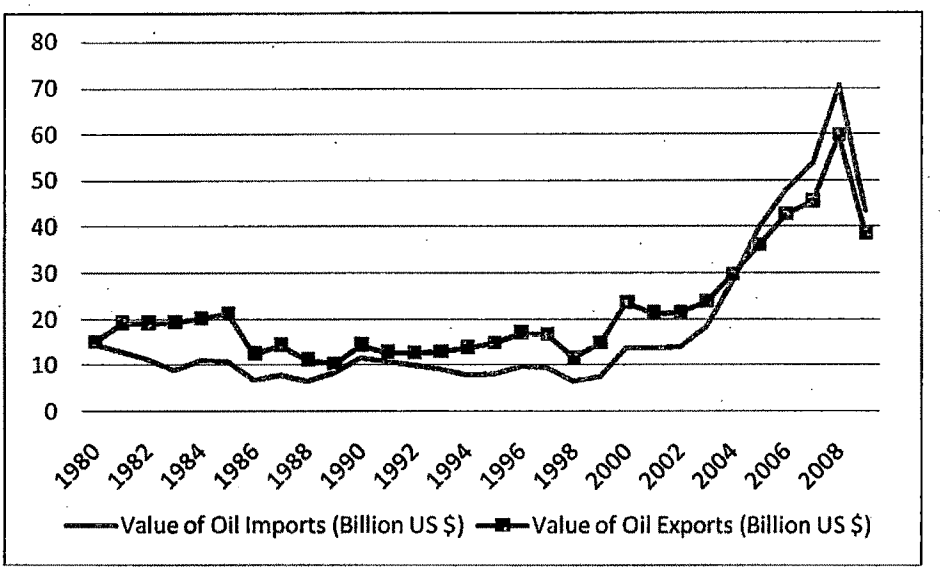
[40] However, the political differences here should also not be neglected.

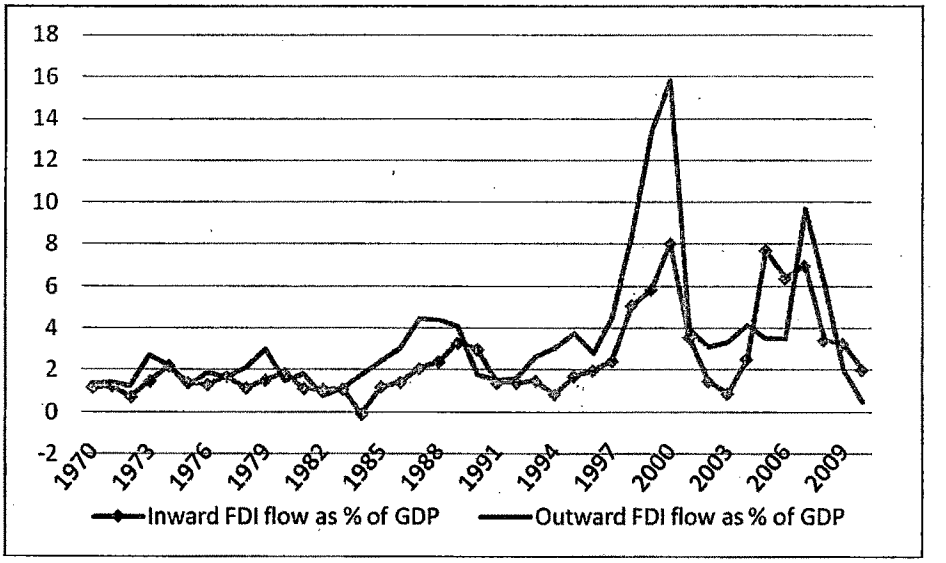
The same year i.e. 1973 saw the first oil shock. Increasing price levels and nominal wages in the domestic economy made the UK weak to face the first oil shock. Unemployment increased from 2.6% in 1974 to 5.8% in 1977 and inflation soared high (see Figure 2) as a result of the oil shock as well as domestic government policy – both monetary and fiscal. As a result of this, the value of pound – which was allowed to float in 1972 – slipped against the dollar as well as the other European currencies. It is observant from the Figure: 1 that the pound sterling was continuously devalued from 1973 to 1977 against the US dollar. Moreover, the growth rate of GDP in the British economy became negative during 1974-1975. At the same time, the UK was facing difficulties with the transition into the EEC and the first oil shock only made the conditions worse. While other European countries were busy formulating strategies to tackle with the oil shock, the UK went ahead with developing the potential oil-reserves from the stormy North Sea. Keeping the oil prices high, the UK started investing heavily in the North Sea. This can be seen in Figure: 2 where the domestic investment in the UK during 1976 to 1979 was more than 20%. As a result, by 1976, the cost of drilling in the form of imported construction material started putting pressure on the balance of payments. The pound, once again, weakened against the dollar; escalating the cost of imported oil. Inflation (see Figure 2) and unemployment (see Figure 3) observed increasing trend. By 1977-78 exports of gas and oil from the North Sea facilitated in improving the current account deficits and strengthen the pound.

Figure: U-5



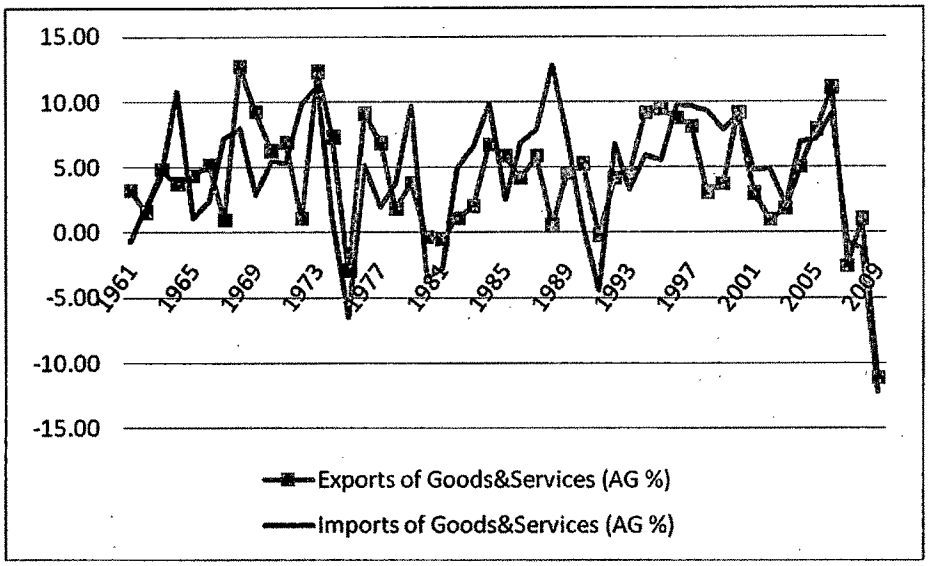
Source: World Economic Outlook Database, Sept 2011, IMF

Figure: U-6



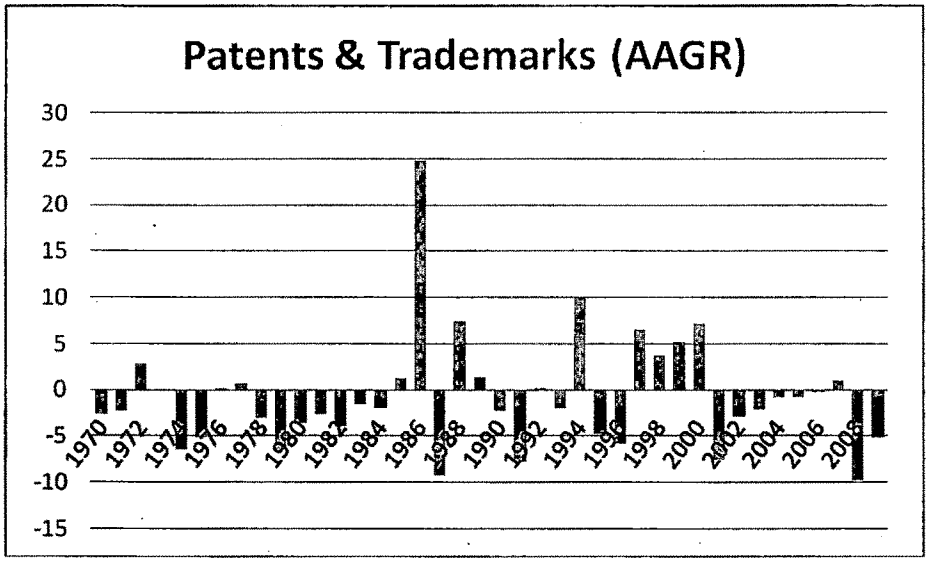
Source: UNCTAD

Figure: U-7



Source: Author's Calculations, Absolute figures from World Bank national accounts data, and OECD National Accounts data files.

Figure U-8



Source: WIPO

By the end of the 1970s, the UK economy was once again hit by the wrath of labor unions who demanded for an increase in their pay. However, resistance

to these demands from the labor party led to the fall of the labor government in 1979; and the rise of the Conservative government headed by Margaret Thatcher.

The period during the tenure of Margaret Thatcher saw profound changes in the United Kingdom economy. She was determined to reduce, to the extent possible, government regulations and interferences from the market. During the subsequent years (1980-81), however, the UK economy observed the deepest recession in the whole of the post-war period. The major impact of this recession was observed in the export-oriented industries, mainly manufacturing (Gillingham: 2003). Unemployment increased sharply from 5.8% in 1980 to 8.8% in 1981, value of pound declined against dollar (see Figure 1) and the growth rate factually turned negative. The growth rate of GDP stood at -2.09% in 1980 and -1.22% in 1981. Rates of savings and domestic investment too declined (see Figure 2). Inflation increased and exports and imports of goods and services showed negative trends during 1980-1981 (Figure 7). As a result it became essential to curb the ever increasing inflation rate. This was done by restricting the money supply in the economy. By 1982, the UK economy started showing signs of recovery in the form of improved growth rates and reduction in inflation rates (see Figure 2). Further structural changes were brought in the form of liberalization, privatization and limiting the powers with the labor unions. Reforms in the financial sector through liberalization, denationalizing the nationalized industries and the introduction of privatization led to an increase in the investment rates from 16.63% in 1982 to 22.11% in 1989, labor productivity and total factor productivity of manufacturing in the economy. Technical

advances in the manufacturing were now taking place. On her way to privatization, Margaret Thatcher reduced (a) the top personal income tax rate, (b) the role of state pension system (c) social benefits (d) housing allowances and (e) social assistance (Sinn:2007). The service sector played an important role in the improvement of the growth rate of the British economy (see Button and Pentescost: 1993). The Figure 4 shows that the contribution of the services sector in the economy, in the form of value added, is continuously increasing during 1981-1989. Once again, by the mid 1980s, the British balance of trade weakened on account of a sharp fall in the prices of oil (see Figure 5). However, it was recovered by the early 1990s by increasing in the exports and devaluation of pound. The UK economy was enjoying the growth rates during the 1990s, only to know that the economy would again be hit from the external shock of German reunification. However, the UK was in a position to avoid the economic cost resulting out of the German reunification.

During the initial years of the 1990s, GDP growth in the British economy tumbled and stood at -1.39% in 1991. Gross savings and domestic investment too recorded a down turn (see Figure 2). Figure 3 shows that during the initial years of the 1990s, employment rates in the economy declined while the unemployment rates remained very high. Industrial value added almost remained the same while the value added from the services sector improved (Figure 4). The growth rates of imports as well as exports of goods and services declined (Figure 7). In the international market, the value of oil exports exceeded the value of oil imports (Figure 5). It is evident from Figure 6 that the outflow of FDI remained higher than the inflow of FDI; while Figure 8 shows that the technological development was not at all impressive in the

UK economy. It may thus be said that the British economy felt the shock of the international recession of the 1990s. However, the UK recovered from the shock by the mid 1990s and showed signs of improvement thereafter. "The UK's economic success, starting in the 1980s and interrupted only by the brief experience with the European Monetary System at the beginning of the 1990s, did not depend on export-led growth. Indeed, as the importance of foreign trade has leveled off for the UK since 2000, it has begun to run larger import deficits – which would be anathema to France and Germany. Thanks to a flexible exchange rate with the eurozone, the UK can now adjust to these trade deficits with a depreciation of the pound, if the deficits cannot be financed otherwise."

The GDP growth rate in the 21st century demonstrated a declining trend. Domestic investment stayed at higher levels in comparison to savings rate (Figure 2). The Figure 1 depicts that the total population growth in the economy improved during the decade 2000-2010. Employment rates in the economy declined, while the unemployment rates in the economy remained at a considerable higher rates as can be seen from Figure 3. Contribution of the services sector in the economy increased while that of the industrial sector declined (Figure 4). As Figure 5 depicts, the value of oil imports dramatically increased after 2004, while the outflow of investment maintained its high rates until 2008 and then declined drastically. AS Figure 8 shows the decade of 2008 was very depressing on the technological front.

In view of the above discussion, let us analyze empirically the factors that have led to the growth of the UK economy since 1971.

Economic Growth in The UK – An Empirical Analysis

To analyze and understand which factors explain the economic growth in the UK for the period 1971-2009, the following linear regression model is estimated using the selected variables mentioned in chapter 1:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6(FDI) + e \quad \text{.....(1)}$$

The results of the regression estimation of the above equation is shown in table 1

Table: U-1

Model with all variables for 1971-2009

Variables	B	t-Stat	p-Value	Regression Statistics	
Constant	2.915	0.232	0.818	R	0.692
Invt	0.412	1.518	0.139	R Square	0.479
SSER	0.045	0.655	0.517	Adjusted R Square	0.382
Open	0.008	0.074	0.941	Standard Error	1.768
PT	0.124	2.558	0.015	F	4.907
Govt	-0.604	-1.960	0.059	Significance F	0.001
FDI	-0.216	-1.191	0.242		

The above table 1 shows that:

1. Domestic investment has a positive and statistically insignificant effect on growth rate of per capita GDP in the UK over the period 1971-2009. A one

percent increase in domestic investment in the economy leads to a 0.412 percentage points increase in the per capita GDP.

2. SSER has positive and statistically insignificant impact upon the growth of per capita GDP in the UK for 1971-2009. A one percent improvement in the human capital in the UK would increase the rate of economic growth of the economy by 0.045 percentage points. This result is consistent with the existing literature on economic growth that considers human capital as one of the most important factor contributing to economic growth of an economy.
3. GDP per capita during 1971-2009 was positively affected by the openness of the economy. A one percent increase in the economy's total trade as percentage of GDP would increase the growth rate of per capita GDP by 0.008 percentage points. However, this result was found statistically insignificant.
4. Improvement in the growth rate of numbers of patents and trademarks showed positive and statistically significant effect on the rate of growth of GDP per capita over the period 1971-2009 for the British economy. A one percent increase in the growth rate number of patents and trademarks would increase the growth rate of per capita GDP by 0.124 percentage points.
5. Government consumption, as per the existing economic literature, tends to reduce the growth in an economy. The results in Table: 1 affirms this hypothesis when an increase in government consumption by one percent reduces the growth of per capita GDP by 0.604 percentage points. However, this result is found statistically insignificant.

6. Inflow of foreign investment into the British economy from 1971-2009 has impaired the growth in GDP per capita in the economy by 0.216 percentage points. However, it is found to be statistically insignificant.

Furthermore, in order to analyze which factor/s among the other selected ones have acted as drivers of economic growth in the UK, for the periods 1971-2009, the above equation (1) is estimated using stepwise regression. This regression technique would facilitate in removing the unnecessary variables creating traffic and would accentuate only those factors that have worked upon to improve the economic growth of the British economy. The results are depicted in table 1.1

Table: U-1.1

Stepwise Regression on Per Capita GDP for 1971-2009

Regression

Model	Variables	R2	Adj R2	F-Value	p-Value
1	Govt	0.305	0.287	16.265	0.000
2	Govt, PT	0.398	0.364	11.888	0.000

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	17.964	3.972	0.000
Govt	-0.781	-3.527	0.001
PT	0.114	2.350	0.024

Table 1.1 reveals the following:

1. The stepwise regression resulted into two different statistically significant models. The first model considered government consumption as a factor explaining economic growth in the UK over the period 1971-2009. The second equation considered the growth in number of total residential and non-residential patents and trademarks along with government consumption in explaining the economic growth in the British economy.
2. Government consumption is showing a negative and statistically significant effect upon the rate of growth of GDP per capita for the period 1971-2009. It may thus be inferred that an increase in government consumption has impaired the process of economic growth in the British economy. In fact an increase in government consumption by 1% reduces the growth of per capita GDP by 0.781 percentage points. This result falls in line with the existing economic literature that states a negative relation between government consumption and growth in GDP per capita.
3. Growth in number of total residential and non-residential patents and trademarks, in case of the British economy, shows a positive effect on the growth rate of per capita GDP. A one percent increase in growth in number of total residential and non-residential patents and trademarks increases GDP per capita by 0.114 percentage points. Moreover, this result is observed as statistically significant.

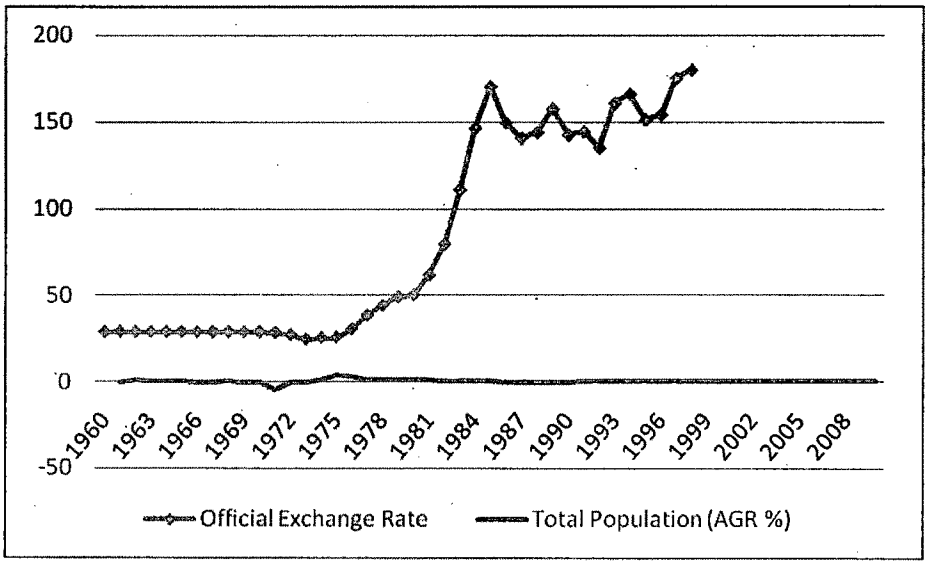
However, due to lack of availability of data, empirical comparison between the economic growth conditions in the UK pre-EU membership and post-EU membership could not be established.

PORTUGAL

Portugal, cousin of Spain, is a small, compact and relatively homogeneous country. The republic regime of Portugal, by its end in 1926, left the economy in an unstable financial situation. The republic government was taken over by the military government in 1926 headed by President Óscar Fragoso Carmona. In order to restore the financial situation of the nation, the then Minister of Finance, António de Oliveira Salazar, considered the principles of a balanced budget and monetary stability thereby restoring the equilibrium in fiscal budget and balance of payments. His success led to the forty years of authoritarian rule in Portugal i.e. from 1928 to 1968. Salazar laid the foundations of Estado Nova, the "New State". This New State was characterized as "neither capitalist nor communist, Portugal's economy was cast into a quasi-traditional mold." (Solsten: 1993). The economy was extensively regulated by the state and maintained an autarkic economic policy. These policies worked well in Portugal all through the 1930s and the 1940s. From 1930s till the end of 1950s, Portuguese industries were strictly regulated under the system of industrial licensing – *condicionamento industrial.* As per Solsten (1993), during this time, 'the state exercised extensive de facto authority regarding private investment decisions and the level of wages'. Under such industrial licensing policy, approval of the government was needed for expanding, diversifying, relocating, or setting up of a new establishment. Such protectionist and state regulated industrial policy facilitated the growth of the industrial sector, but severely restricted its development process. As Corkill (1993) observes, until the 1950s, industrial portfolio was limited only to industries such as textiles, cork, beverages,

metallurgy, mining, and chemicals. Studies reveal that Portugal enjoyed highest rates of economic growth under the "New State". It was during the 1950s, however, that these autarkic policies did not fare well, and Portugal had to open its economy to a more outward looking economic policy and international integration – especially with the industrial Northern Europe.

Figure: P-1



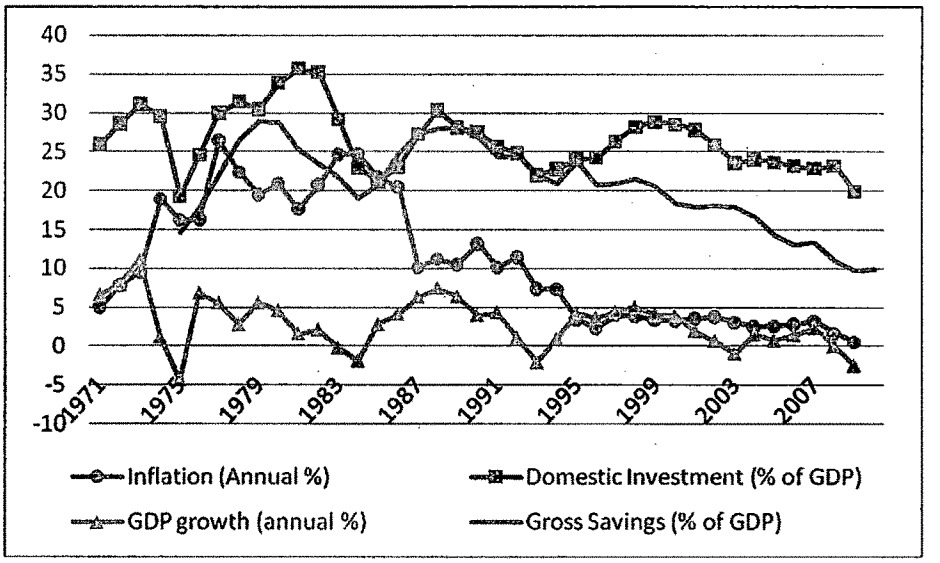
Source: Author's Calculation, Absolute figure from World Development Indicators, World Bank

In order to have closer relations with Europe, Portugal became a charter member of the UK-initiated European Free Trade Association (EFTA) and later it joined the GATT (General Agreement on Tariffs and Trade), IMF (International Monetary Fund) and the World Bank. The membership in EFTA and GATT, in particular, led to the reduction in tariff rates. As a result, Portugal's trade with EFTA-member nations saw an upward trend.

The slow liberalization process, during Salazar's regime, gained momentum since 1968 under Prime Minister Marcello Josè das Neves Caetano. This

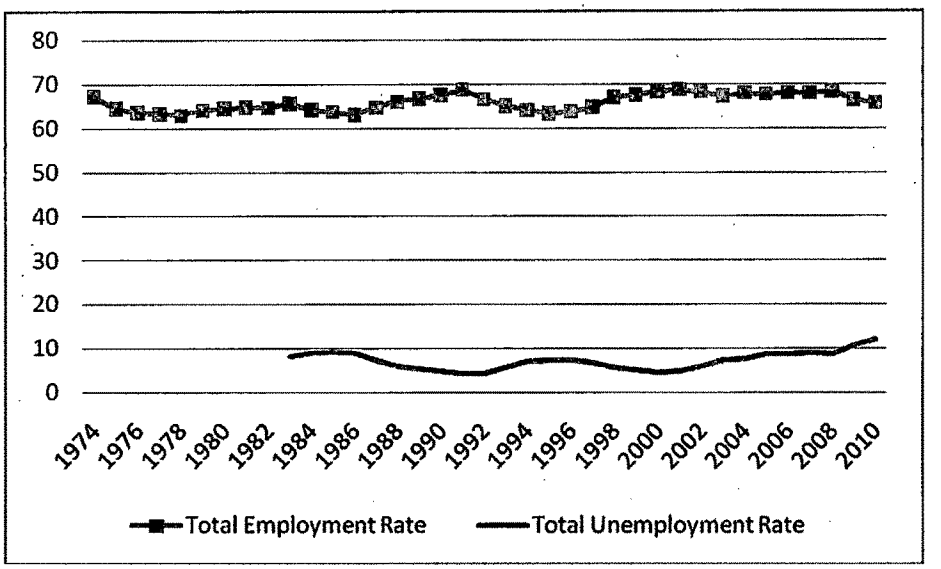
liberalization process witnessed the signing of an agreement in 1972 between Portugal and the European Commission upon improving trade relations and other contacts. EFTA membership and signing of the free trade agreement with the EC geared the modernization process of Portugal's industries from 1960 to 1973. However, by the early 1970s when the economic crisis hit the international markets, even the new industrial policy became defensive and was driven largely by social rather than economic goals (Corkill: 1993). It prioritised job protection, which required ever increasing subsidies, and generated a serious problem of low profitability in the industry (Martins: 1987, as cited in Corkill: 1993, p. 65). The industrial expansion was concentrated in large-scale enterprises using modern technology (Solsten: 1993). Hence, the industrial structure in Portugal suffered severe distortions for a decade following 1974.

Figure: P-2



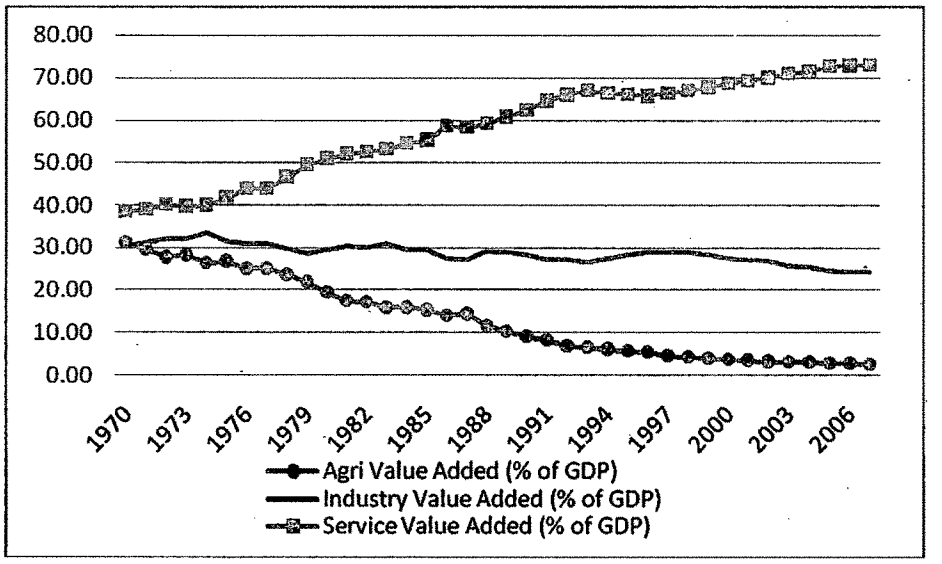
Source: World Development Indicators, World Bank

Figure: P-3



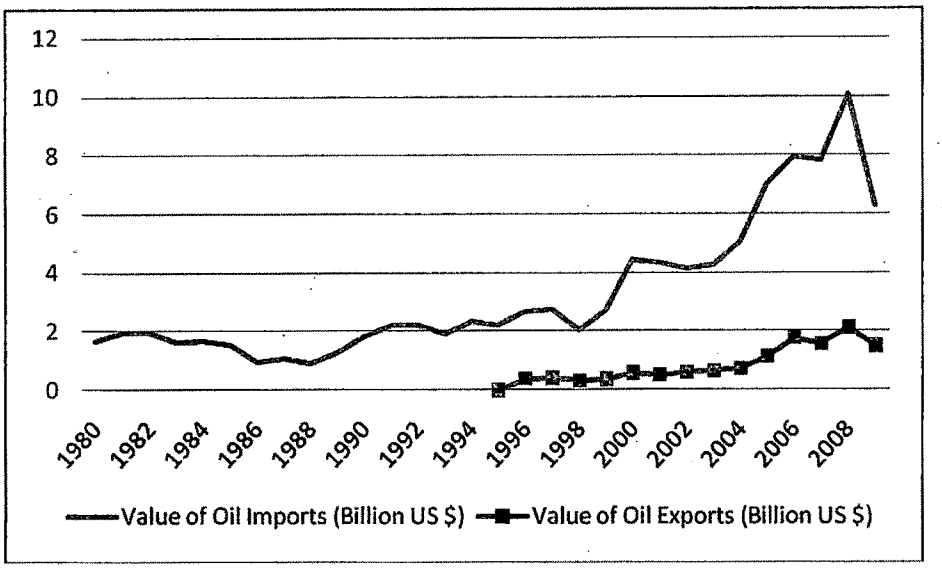
Source: OECD Factbook 2009 & 2011-112

Figure: P-4



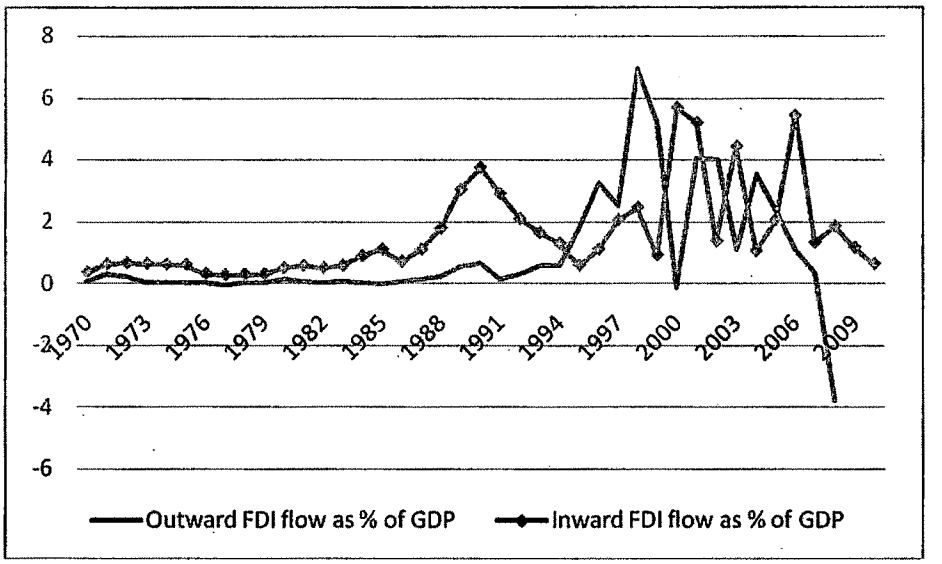
Source: World Development Indicators 2009, The World Bank

Figure: P-5



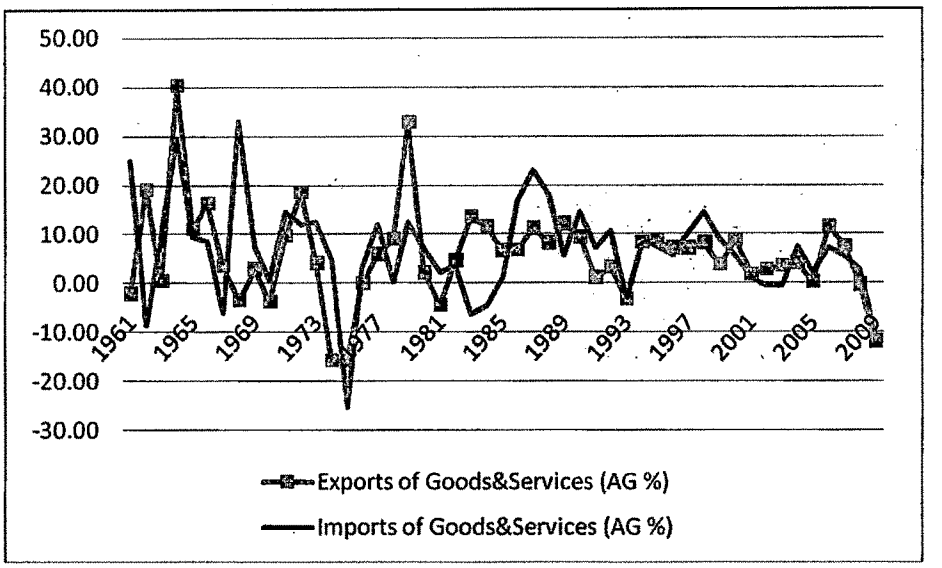
Source: World Economic Outlook Database, Sept 2011, IMF

Figure: P-6



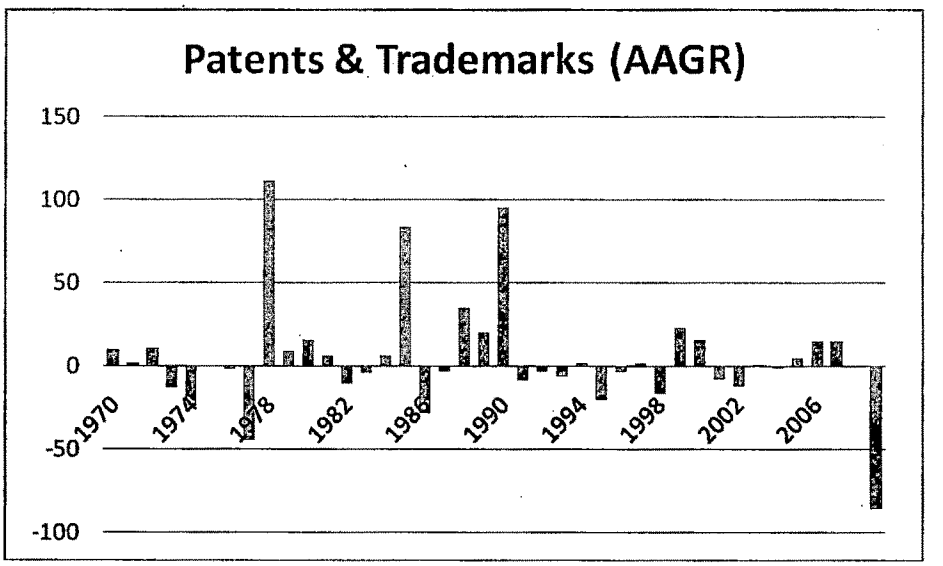
Source: UNCTAD

Figure: P-7



Source: Author's Calculations, Absolute figures from World Bank national accounts data, and OECD National Accounts data files.

Figure: P-8



Source: WIPO

The Portuguese economy, as a result of liberalization, grew at a rapid rate until 1974. It can be observed from Figure 2 that the GDP growth rate in the

economy increased from 6.63% in 1971 to 11.2% in 1973. Economists considered the period 1950-73 as the 'golden age' of Portuguese economic growth (Neves: 1996b and Corkill: 1999). This process of liberalization, however, started facing challenges in the form of 'political resistance and sharply divided opinion within the ruling class over the appropriate change of strategy for the country' (Neal: 2007, p. 359).

Structural change in the Portuguese economy occurred by 1973. Majority of the industrial firms were nationalized during this time leading to huge losses. Private and public consumption in the domestic market accelerated drastically between 1973 and 1975. This led to decline in the savings, fixed capital formation (see Figure 2) and a huge deficit in the balance of payments. Unit labor cost during this time increased leading to increase in the production costs. These factors together contributed to the decline in Portugal's ability to compete in the international market. The result of which was a fall in the exports of goods and services between 1973 and 1976. It is prominent from Figure 7 that the growth of exports of goods and services in 1973 was 4.18% which became negative during 1974-1975 and no growth was seen in the exports of goods and services in 1976. All these factors left the economy in a desperate state and the growth rate of the economy started dipping – it declined from 11.2% in 1973 to 4.35% in 1975. In 1974, Caetano was ousted by a military coup led by younger officers, who initiated attempts to integrate the Portuguese economy more closely with the Western Europe.

In 1974 and 1975, Portugal had to face the loss of her African colonies. This loss of colonial nations brought back the ex-colonials to Portugal. The recessionary situation that was felt largely in Europe during the twin oil

shocks of 1970s, too, brought back the emigrant Portuguese workers to their home land. This inflow of workers from colonies and other nations, inflexed the Portuguese economy with human and financial capitals (financial capital was brought back in the form of savings). This is evident from Figure 2 which shows a continuous increase in the rate of savings during 1975-1979. As a result of these increased savings, domestic investment in the economy increased and GDP started growing (see Figure 2). Employment rates remained stable (Figure 3) while the growth in exports of goods and services was recovered back during the later years of 1970s. "These capital infusions, plus the advantage of no longer spending large sums abroad to maintain military control of the colonies, helped Portugal weather the oil shocks better than would have been possible otherwise." (Neal: 2007, p.359). Nonetheless, it should be remembered that the domestic currency was being continuously devalued against the US dollar during 1975-1979. Since the late 1970s, Portugal has been trying to integrate the economy with rest of the developed Europe. Integrating into a larger and competitive market meant that the economy had to considerably change the industrial structure thus making it more competitive. Before entering into the EC, a survey among 40,000 industrial houses was conducted by the Confederation of Portuguese Industries, concerning the consequences from the accession. The results of the survey were mixed. On the one hand, some industrial houses feared that accession into EC would confiscate the protection that the government had been providing until now. In view of this they apprehended the fierce competition in the more competent international market – both EC and non-EC areas like the US, Japan, the NICs, and the EFTA group; termination of small and ineffective firms; and the fear that the domestic market would be

flooded by the much stronger Spanish industrial goods. As such, Portuguese products were considered inferior in comparison to many other European products. Corkill (1993), citing Hudson (1989), pointed that Portuguese producers faced handicaps such as high transportation and distribution costs, and technological, educational and infrastructural deficiencies; as a result of which 'the country was regarded as a dumping ground for cheap goods by many European companies' (p. 93). Further, there was a dire need to rationalize and restructure the traditional industries like steel and shipbuilding in order for them to compete in an open market. On the other hand, there were producers who looked forward to work in a free market compared to the earlier market restricted by quotas and voluntary restriction; a market which exerted a discipline and downward pressure on the high interest rates – thereby providing a conducive environment for investment.

The Portuguese economy faced a slowdown in the rate of economic growth during 1980s, as compared to the robust growth of the earlier decade. The Figure 2 shows a decline in the growth rate of GDP in Portugal during the initial years of the 1980s; it then turned negative during 1981-1984. The Portuguese economy faced a slowdown in the rate of economic growth during 1980s, as compared to the robust growth of the earlier decade. However, employment remained almost the same during the initial years of the 1980s because of worker emigration and military draft (Solsten: 1993). Inflation rates soared high (above 20%) and the financial conditions of the industries worsened which lowered the real earnings of the workers. The economy, however, started to grow in the second half of the 1980s (see Figure 2)

harvesting the benefits from lower oil prices (see Figure 5), declining interest rates and the pre-accession aid from Brussels.

Finally, in 1986, Portugal became fully integrated with the European countries through the membership in the European Community (EC). As a result, the industrial licensing policy was entirely abolished in 1986 and a new improved industrial policy was formulated which aimed at enhancing the country's international specialization and boost exports. Furthermore, care was taken in formulating this policy on the basis of Portugal's comparative advantage in the European markets. The results of this new liberalized industrial policy were impressive.

At the time of her entry into the EC, Portugal was a poor country dependent on the large agricultural sector[41]. It can be observed from Figure 4 that the contribution of the agricultural sector in the Portuguese economy remained higher during the 1970s and the 1980s. As a member of the EC, Portugal had to dismantle tariffs and trade restrictions as per the EC norms. This led to the expansion in trade with the EC member nations (see Figure 7) – and especially Portugal's trade with Spain expanded by leaps and bounds. The openness of the economy with the rest of the world grew faster as a member of the EC. Imports in the form of machinery, equipment and raw materials increased which facilitated in modernizing the industries in the economy. However, with the accession in the EC in 1986, there was intense pressure on Portuguese industries to restructure and upgrade its products. Only this would aid in surviving the more competitive international market. Entering

[41] Portugal has large number of small farms, the productivity of which was observed to be less in comparison to the EU average.

the EC, however, was not considered as the best alternative for Portuguese enhanced economic growth. An austere growth was predicted for Portugal as a member of the EC (see Ashoff: 1980, Marques Mendes and Thirwall: 1989). It was feared that the low tariff barriers against the non-EC and especially the Third World imports would increase the production cost of the Portuguese firms[42]. Cravinho (1984) supported this view providing justifications that Portuguese exporters depended on low-technology and cheap labor which deteriorated their competitive position in the international market. It was further felt that membership in the EC would marginally boost the export position of the nation as it already enjoyed the advantage of a Common Market (EFTA). Pitta e Cunha (1983) and Braga de Macedo (1984) doubted whether Portugal's institutional structure was ready to face changes that would be brought in by the contrasting institutional structure of the EC.

Solsten (1993) believes that Portugal's accession to the EC has been beneficial to the economy in a way that the aids provided by the EC helped in improving the backward infrastructure in the economy. Foreign investment started flowing into the economy (see Figure 6) to benefit from the low wages and privatization of state owned enterprises on a large scale. Neal (2007), however, points out the major reasons that could not hold the increasing FDI in Portuguese economy. Firstly, "the continued protection of workers from dismissal...", secondly, "the relative backwardness of the education level of the Portuguese population..." and the third, "the geographical location of the country made the markets of the EU less accessible..." (Neal: 2007, p. 361).

[42] It was observed that between 1985 and 1990, Portuguese firms experienced an increase of between 20% and 25% in their cost of production.

Nonetheless, Portugal as a low-wage economy, benefitted from falling trade barriers, bigger market, and greater competition.

Corkill (1999) observed that Portugal's accession to the EC acted as a 'catalyst and dynamic force across industry, finance...' (p. 111). This process also provided a short-term boost to the economy. He pointed out four factors conducive to the growth of the economy as a member of the EC:

1. The long transition period (extended to 10 years) and extensions granted for modernizing the economy
2. The prompt changes taking place within the EC itself provided a sanguine attitude to Portugal for faster economic union
3. The increasing demand in the international market and the favorable terms of trade encouraged Portuguese exports, output and employment, thereby, raising domestic consumption without aggravating the balance of payments situation and
4. The psychological impact of joining the EC created new and improved opportunities.

Stephen (2002) feels that the exceptional growth of Portugal during the 1980s and 1990s was mainly because of the internationalization of Portugal with the rest of the Europe.

At the beginning of the 1990s, Portugal was classified as an upper-middle-income economy by the World Bank. However, Portugal saw threat in the process of German reunification of 1991. Eastern Germany (along with other expanding EU members from east Europe) became an alternate to southern

Europe (especially Spain, Portugal, and Greece) because of the low wage costs, skilled labor force and the investment (capital) flow of West Germany into East Germany. This led to diversion of funds from South Europe to East Europe. Thus, Portugal suffered a reduction in economic growth after 1993. Europe has now become the dominant focus for international trade and a major source of foreign capital for Portugal.

Portugal depicted a murky picture during the 21st century. The growth rate of GDP in the economy kept declining in the initial years of the 2000s and it turned out to be -0.93% in 2003. Portugal, thus, was affected by the recession that prevailed in the international market during the 2000s. It recovered during the mid-2000s and once again it depicted a negative rate of growth during 2008-2009. Inflation, however, was kept under control throughout the decade. The rates of savings as well as domestic investment declined (Figure 2). Employment rates remained almost the same all through the decade while unemployment soared high (Figure 3). Inward flow of foreign investment dramatically increased during the period 2000-2006 and since then it is observed to be continuously declining (Figure 6). The growth in exports as well as imports of goods and services declined (Figure 7) while the cost of importing oil increased dramatically (Figure 5). The economy of Portugal is now being driven by the services' sector whose contribution in the economy during the 2000s increased only to some extent, while the value added by the industry and agriculture sectors is showing a declining trend. Thus, the economic performance of Portugal during the 2000s is found squatty in comparison to the earlier decade.

Economic Growth in Portugal – An Empirical Analysis

To analyze and understand which factors explain the economic growth in Portugal for the period 1971-2009, the following linear regression model was estimated using the selected variables mentioned in Chapter 1:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6(FDI) + e \quad \text{.....(1)}$$

The results of the regression estimation of the above equation is shown in table 1

Table: P-1

Model with all variables for 1971-2009

Variables	B	t-Stat	p-Value	Regression Statistics	
Constant	-0.298	-0.401	0.968	R	0.531
Invt	0.253	1.561	0.128	R Square	0.282
				Adjusted R Square	0.147
SSER	0.045	0.772	0.446	Standard Error	3.231
Open	0.081	0.866	0.393	F	2.095
PT	-0.002	-0.106	0.916	Significance F	0.081
Govt	-0.808	-1.454	0.156		
FDI	0.357	0.754	0.457		

The above table 1 shows that:

1. Statistically, the model is not significant, as a result we cannot reject the null hypothesis H_0: $B_1 = B_2 = ... = B_6 = 0$

2. Domestic investment, human capital openness and inflow of foreign investment have a positive and statistically insignificant effect on per capita GDP in Portugal over the period 1971-2009.

3. While, the growth rate in numbers of patents and trademarks and government consumption showed negative and statistically insignificant effect on GDP per capita over the period 1971-2009 for the Portuguese economy.

As a result of the above model which is statistically insignificant, the equation (1) is estimated using stepwise regression. This regression technique would facilitate in removing the unnecessary variables creating traffic and would emphasize only those factors that have worked upon to improve the economic growth of the Italian economy. The results are depicted in table 1.1

Table: P- 1.1

Stepwise Regressions on Per Capita GDP for 1971-2009

Regression Model	Variables	R2	Adj R2	F-Value	p-Value
1	Invt	0.212	0.190	9.931	0.003

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	-8.352	-2.412	0.021
Invt	0.407	3.151	0.003

Table 1.1 reveals the following:

1. The stepwise regression resulted into only one statistically significant model. The model considered domestic investment as a factor explaining economic growth in Portugal over the period 1971-2009.
2. Domestic investment, according to the economic literature, has a positive effect on the economic growth rate of an economy. Higher and more productive the domestic investment, higher would be the economic rate of growth of a country. This depiction is seen in the results from table 2 where a one percent increase in domestic investment in Portugal enhances the per capita GDP by 0.407 percentage points.

Further, in order to analyze the impact from the membership of European Union on the Portuguese economy, equation (1) is now estimated with the introduction of a dummy (EU2). This dummy variable is intended to explain the impact from integration into the EU on the economic growth of Portuguese economy. In view of this, equation (1) can now be written as:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6 (FDI) + B_7(EU2) + e \quad \text{.....(2)}$$

The estimates of the above regression equation are presented in Table 2

Table: P - 2

Variables	B	t-Stat	p-Value	Regression Statistics	
Constant	3.982	0.604	0.55	R	0.681
Invt	0.334	2.311	0.028	R Square	0.464
SSER	0.003	0.052	0.959	Adjusted R Square	0.343
Open	0.002	0.026	0.979	Standard Error	2.837
PT	0	0.033	0.974	F	3.831
Govt	-0.908	-1.859	0.073	Significance F	0.004
FDI	0.028	0.065	0.948		
EU2	5.675	3.242	0.003		

Table 2 reveals the following:

1. The model turns out to be significant with the introduction of EU2 as a variable explaining the economic growth in the Portuguese economy.
2. Increase in the level of domestic investment leads to higher economic rate of growth in an economy. This depiction is seen in the results from table 2 where a one percent increase in domestic investment in Portugal enhances the growth rate of per capita GDP by 0.334 percentage points. This would mean that the membership of EU has elevated the productive capacity of its domestic investment. Moreover, this result is found as statistically significant.
3. A positive and statistically insignificant causality was found among human capital improvement and the rate of growth of per capita GDP during 1971-2009 in Portugal.

4. Openness of the Portuguese economy and the inflow of foreign direct investment in the country have positively affected the rate of growth of per capita GDP. However, the estimates demonstrated in table 2 are statistically not significant.
5. Government consumption, in accordance with the economic literature, depicts a negative impact upon the rate of growth of GDP per capita. The result, however, is not statistically significant.
6. The impact of growth in number of patents and trademarks is showing the least impact upon the rate of growth of per capita GDP in Portugal for 1971-2009.

The equation (2) is then estimated through stepwise regression for 1971-2009. This would demonstrate the factors that have acted as drivers of economic growth in the economy over the period 1971-2009, especially after entering into the European Union. Moreover, this would aid in comparing the economic performance of the Portuguese economy pre-EU and post-EU membership. The results of regression equation (2) are shown in table 2.1

Table: P-2.1

Stepwise Regression on Per Capita GDP for 1971-2009 with Dummy

Regression Model	Variables	R2	Adj R2	F-Value	p-Value
1	Invt	0.212	0.190	9.931	0.003

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	-8.352	-2.412	0.021
Invt	0.407	3.151	0.003

Table 2.1 reveals the following:

1. The stepwise regression resulted into only one statistically significant model with only one significant factor acting as agent of economic growth in the economy. The model considered domestic investment as a factor explaining the growth in per capita GDP in Portugal over the period 1971-2009.
2. Higher and more productive domestic investment would lead to higher economic rate of growth in an economy. This depiction is seen in the results from table 2.1 where a one percent increase in domestic investment in Portugal enhances the per capita GDP by 0.407 percentage points. This would mean that the membership of EU has elevated the productive capacity of its domestic investment.
3. However, the results of the stepwise regression do not show EU2 as a factor explaining the rate of growth in the Portuguese economy. The earlier positive and statistically significant effect of EU membership is wiped out during the process of stepwise regression analysis. This may mean that the membership of EU, indeed, has helped the Portuguese economy to growth during 1971-2009; but has not acted as a driver of economic growth in the country.

SPAIN

The three years of the First World War saw the Spanish economy in shatters. The problem of reconstruction was alarming when the hostilities ceased in 1939. Only a few months had gone by when the Second World War broke out and by the end of World War II in 1945, Spanish economy showed no optimism in an early return to normality or any easy solutions for its problems. World War as well as the Spanish Civil War (1936 - 1939) disturbed the early industrialization process in Spain. The period from 1939 – 1958 in Spain was characterized by the principles of autarky where self-sufficiency, great degree of state intervention and protection were called for.

This kind of economically closed policy was initially adopted by the government of Spain as a result of the isolation in which it found itself during the Second World War. Such autarkic policies were implemented even after 1945, because of the political and economic boycott of Spain by the countries of United Nations. Such protectionist policies, adopted by the then government, had adverse impact on the process of industrialization in Spain. When, after the Second World War, the Western European nations were seeking aid from the United States through the Marshall Plan, the Spanish government perceived its own plans of autarky and did not participate in the Marshall Plan. This non-participation, once again, led to isolation of the Spanish economy from other West European nations. This self-sufficiency generated a policy of import substitution which required heavy state subsidies for certain industries. At the same time imports were discouraged by heavy duties (Lawlor & Rigby et.al.: 1998, pp. 99-100) and complicated sets of multiple exchange rates were imposed. As a result, contrary to sustainable

economic growth, the economy witnessed very slow rate of growth from 1940 to 1950 (Report on The Economic Development of Spain: 1963; and Neal: 2007, p. 363). In order to improve the situation of the economy, economic loan and aid was received from the United States in 1951[43] and subsequently aid followed in 1953 from the Pact of Madrid. During this same time, the government started the process of industrialization. However, this industrialization process was highly controlled and regulated by the government which led to escalation of foreign trade deficits. The growing trade deficits, in turn, pressurized the reserves with the Central Bank; constraining the country's economic strategy (Neal: 2007). Hence, by the end of 1958, it was evident that drastic measures were needed to raise the Spanish economy from rubbles.

The most important step towards economic growth and integration in Spain was in the form of the Stabilization program of 1959 in cooperation with the OEEC and the IMF. The *Plan de Estabilización y Liberalización* or the Stabilization Plan was the basis for developing the Spanish economy. The objective of this Plan was to prepare the Spanish economy for subsequent development by stabilizing the prices and opening up the economy to foreign trade, migration, and capital movement (Lawlor, et.al.: 1998). Under this Plan, the local currency (peseta) was devalued, restrictions were imposed on both public and private spending, and a program of trade liberalization was adopted, according to the standards set by the OEEC (Report on The

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[43] This resulted in the bilateral economic and defense agreements signed between Spain and the United States in 1953, providing aid in exchange for the establishment of the US military base in Spain (Lawlor & Rigby et.al. : 1998).

Economic Development of Spain: 1963). Spain became a member of the OEEC on 20th July 1959 and this marked the end of Spanish isolation from other European countries and opened the gate for a free economy based on international trade and economic cooperation. This liberalization process helped Spain in importing plant and machinery and thereby boosting the modernization of its industries. Spain's growth was now directed towards manufacturing (which was soon taken over by services) sector. With the expansion in trade, investment increased especially in the ever expanding exports sector. Modern industries of Spain during 1960s acted as the engines of early economic progress of the economy. A shift in the labor force from agriculture to industry was observed over a decade from 1961 to 1970; with improvement in the productivity levels. However, 'relatively little of the labor went into manufacturing, due to the regime's maintenance of restrictive controls on the industrial labor force' (Neal: 2007, p. 367). It can, therefore, be said that the increased output in the industrial sector, then, was mainly because of the increase in capital and productivity. Technology, too, played a crucial role in transiting the Spanish economy from autarky to expanded reproduction (Roman: 1997). "As a technologically backward country bent on modernization, imports of capital goods from industrially advanced countries allowed Spanish industry to raise the average level of labor productivity in order to improve its international competitiveness" (Roman: 1997, p. 116). "From 1960 on Spain shared in the general 'golden age' of economic growth experienced by the OECD countries generally..." (Neal: 2007, p. 364-365).

This Stabilization Plan was followed by a series of Development Plans (1964-67, 1968-71, and 1972-75) which were based on the French model[44].

The period between 1961 and 1973 in Spain is often referred to as the *despegue economic* or economic take-off when the economy grew at an average real growth of 7% per year (Lawlor, et.al.: 1998) and vigorous industrialization started taking place. Such spectacular growth was made possible only by opening the Spanish economy under the Stabilization Plan – which resulted in the growth of Spanish exports. During this period, in 1970, Spain signed the preferential trade agreement with the then European Economic Community. This resulted in closer association with other European countries and alleviating the Spanish economy to the levels of these European countries. Industrial development is essentially, not only for the rapid growth of the economy, but also for significant progress toward increasing employment. In a report presented on the Economic Development of Spain to the IBRD in 1963 stated:

The closer association of Spain with the economies of Western Europe and other areas that has been taking place since 1959, and Spain's recent decision to seek association with the Common Market, present industry with a new opportunity and a new challenge: the opportunity, to gain access to vast new markets on which a broader expansion can be based; the challenge, to meet

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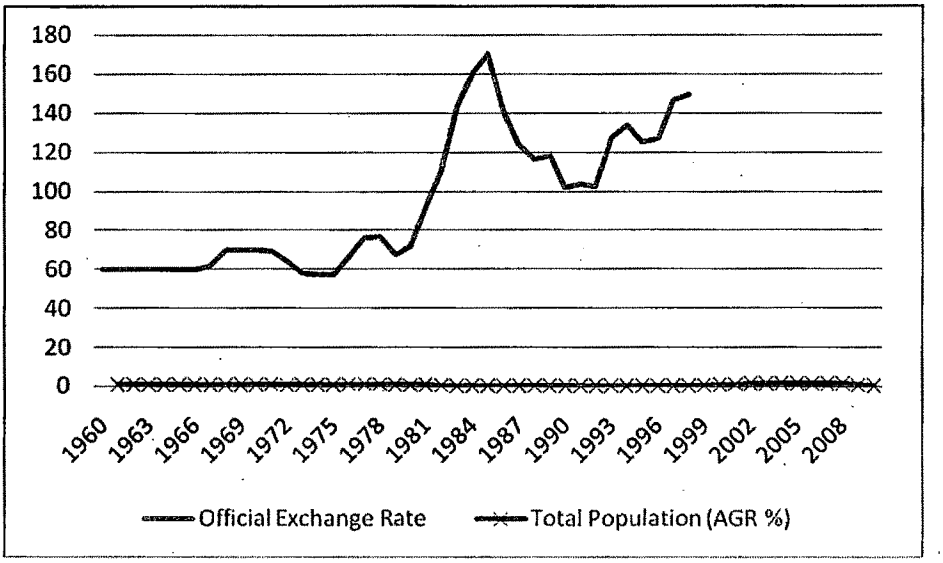
[44] The main focus of these plans was to correct regional imbalance by relocating the industry outside the industrialized areas of Madrid, Barcelona, and Bilbao. The success of these plans, however, was only limited because of the short term time frame for implementation, insufficient finance to fund all the measures, among other political reasons.

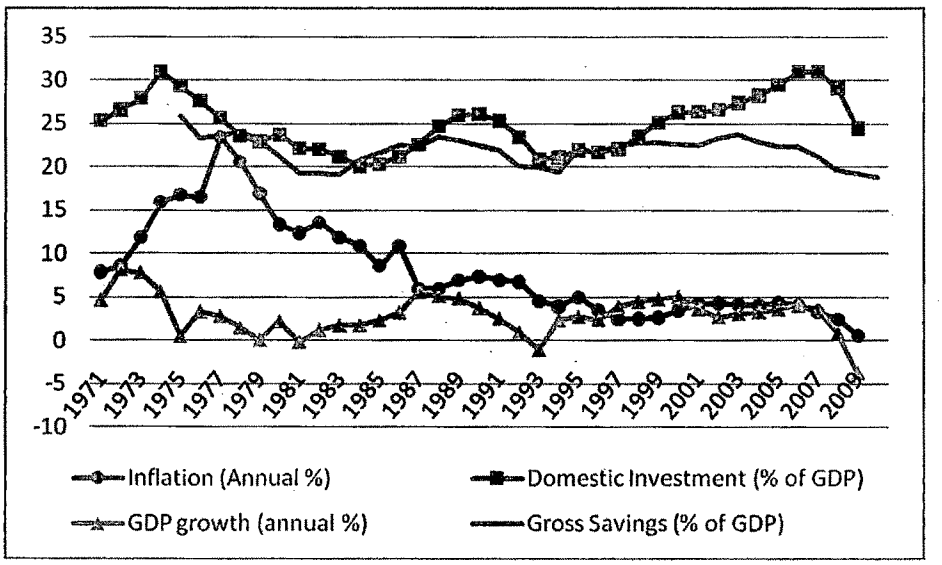
the competition, both in these markets and within Spain itself, of European industries which are more advanced technically than those of Spain.

Figure: S-1



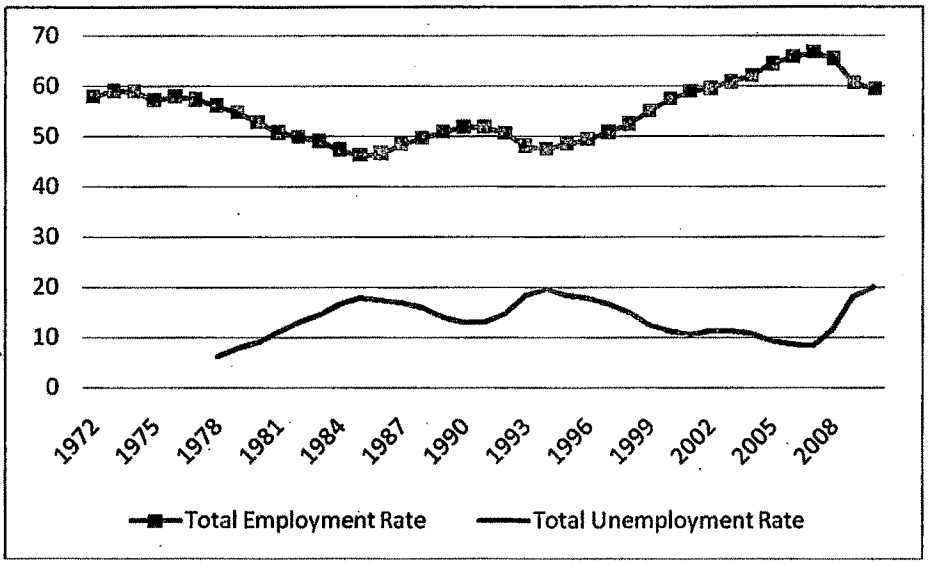
Source: Author's Calculation, Absolute figure from World Development Indicators, World Bank

Figure: S-2



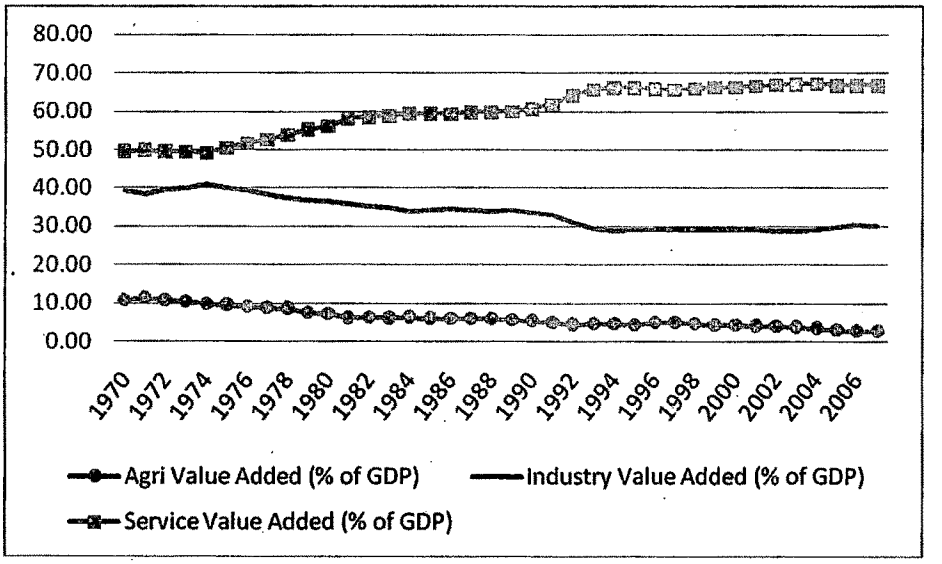
Source: World Development Indicators, World Bank

Figure: S-3



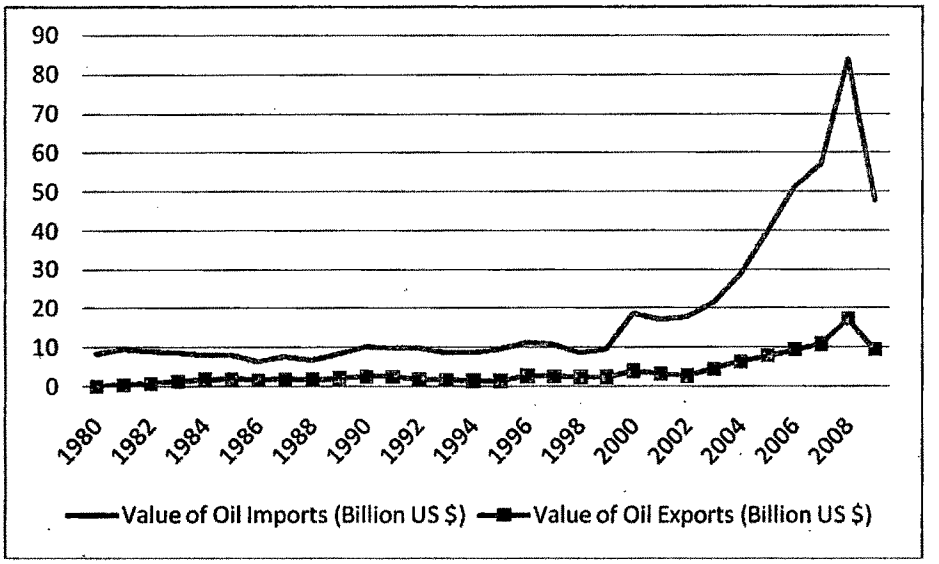
Source: OECD Factbook 2009 & 2011-112

Figure: S-4



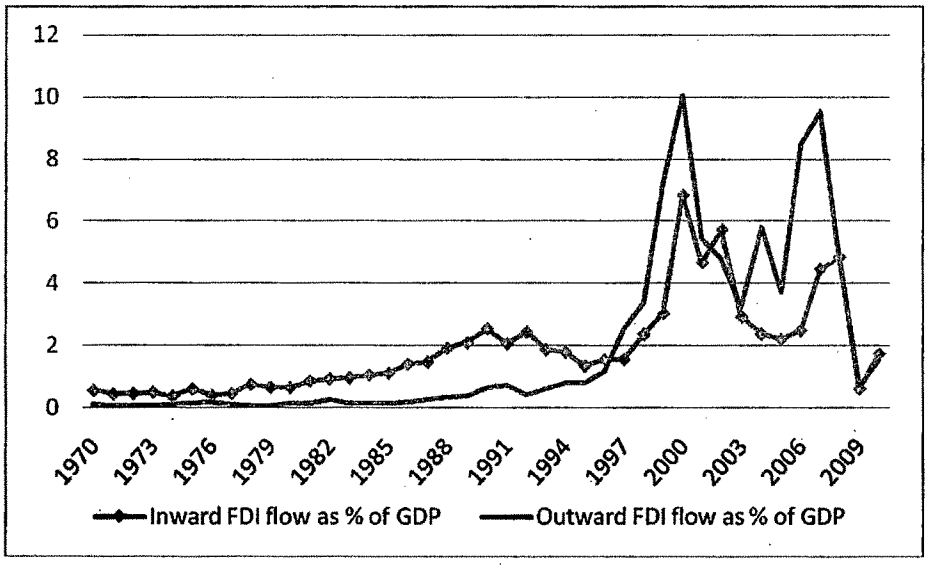
Source: World Development Indicators 2009, The World Bank

Figure: S-5



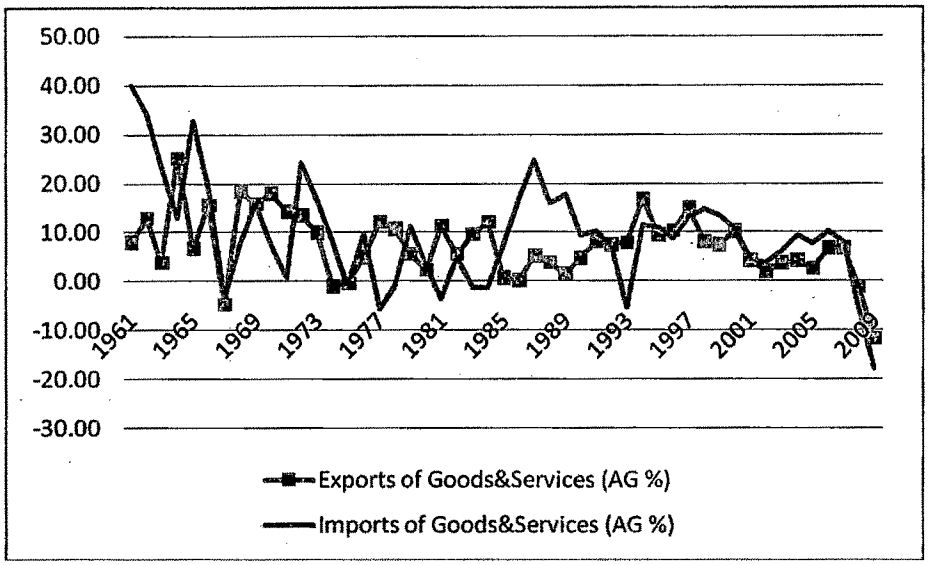
Source: World Economic Outlook Database, Sept 2011, IMF

Figure: S-6



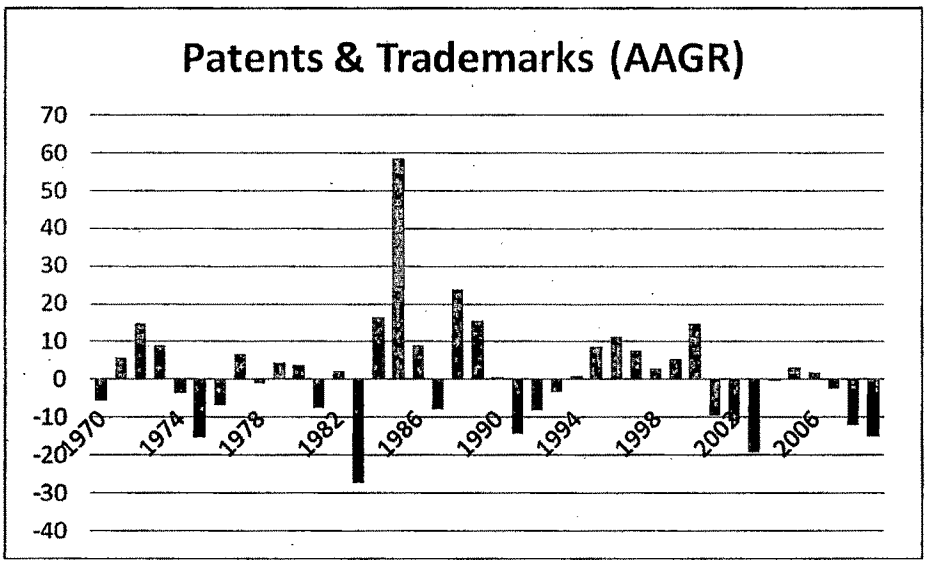
Source: UNCTAD

Figure: S-7



Source: Author's Calculations, Absolute figures from World Bank national accounts data, and OECD National Accounts data files.

Figure: S-8



Source: WIPO

The year 1973 came with a disheartening recession in many of the European countries because of the oil shock. After a decade of such impressive growth, the Spanish economy was hit hard by the oil crisis of 1973. This fact is observant from Figure 2 where the 7.79% growth in GDP during 1973 declined to 0.54% in 1975. For an economy which was excessively dependent on oil for energy, the impact of the 1973 oil crisis was severe. Lawlor, et.al. (1998) pointed that the impact of oil crisis was observed in the fact that external revenue of Spain dropped as a result of the recession in Europe and the balance of payments went into deficit; tourism – the most important sector of the country - was adversely affected; inward foreign investment slowed; and job cuts forced many emigrant workers to return to Spain. Recession in the industry during 1975 to 1985 was mainly because of the oil crisis and Spain's heavy dependence on the imported energy resources for her industries. Thus, before entering the EC in 1986, major restructuring of the economy had already taken place, despite of the authoritarian political regime of Franco. Spain, however, did not react promptly to this crisis because of an underestimation of the level of impact which the oil crisis would have and the crisis coincided with the last days of Franco and the disintegration of the political regime (Lawlor, et.al.:1998). And this led to an ever-increasing external deficit and reduction in the foreign inward investments (see Figure 6).

The decade between 1975 and 1985, following the death of Franco in 1975, was a period of political and social changes in Spain. The restructuring of the Spanish economy in the post-Franco period observed an erratic economic growth paths accompanied by short recessionary period during 1981. After

Franco's death in 1975, Spain's constitution was revised, yet, it lacked many of the strong institutions needed to govern the country effectively. In terms of policy making, Spain was 'a market taker rather than a market maker' (Gillingham: 2003). Labor costs increased during 1974-78, leading to a rise in the inflation rate in the country during 1977. It can be seen in Figure 2 that the inflation rate in Spain stayed at more than 20% during 1977-1978. However, Roman (1997) believes that the root cause of the rising real unit labor costs in industry is found in the declining productivity after 1973 and the stronger than average increases in wages. The Moncloa Pact was introduced by the democratic government in 1977. It was intended to bring down the high inflation rates and produce labor and political stability. According to the European Union historian, Gillingham, the so called Moncloa Pact provided "rituals of concentration to the process of democratic consolidation", making it possible to attain labor peace by preventing strikes and imposing wage reductions. This tunneled the way in reducing the high rates of inflation. The success of the Moncloa Pact can be observed in Figure 2 which shows the fall in the inflation rate after 1978. By 1985, the 23.38% inflation of 1977 was reduced to 8.59%. This Pact, according to Gillingham, however, was a bad bargain from the economic view point as it overpaid few of the workers at the expense of the many resulting in high levels of official unemployment in the economy. As a result the Pact had to be descended in 1986[45].

Spain still was excessively dependent on oil imports, and the second oil crisis of 1978 hit the Spanish economy hard. Its key industries – iron and steel, ship-building, and cement – were affected the most as they were all energy-

[45] For details on Moncloa Pact see Gilliangham: 2003.

intensive industries. Structural problems of earlier decades were yet not addressed and hence recovery from such crisis took a very long time. In 1982, economy's growth rate trimmed and inflation and unemployment rate increased to 13%. By 1983 growth in the economy regained its pace. This was because of the implementation of the Medium-term Economic program by the Spanish government from 1984 to 1988. From 1984-1988 the Spanish economy's GDP grew from 1.78% to 5.09%. Savings as well as domestic investment rates showed an increase (see Figure 2). However, the high rate of unemployment was the only macroeconomic problem which still remained to be tackled (see Figure 3). Gillingham (2003), however, feels that the high inflation rates were brought down by the Spanish government at the cost of crippling unemployment. The government policy of mid-1980s kept the interest rates extraordinarily high, overvaluing the peseta. This forced shutting down of the uncompetitive industries thereby channeling the investment into new sectors and increasing the value of financial assets. The European Union economic historian Gillingham, called this policy '...a daring, even ruthless policy of induced creative destruction." (p. 211). However, the policy showed devastating results – high unemployment and devaluation of local currency (see Figure 1). Unemployment rates remained as high as more than 13% and even 17% during 1985-1986.

By 1986 Spain became a full-fledged member of the European Community, which opened the doors for foreign inward investment in the economy, thereby recovering the economy from the melancholy of the early 1980s. Spain would have entered the EC before 1986, 'had the Mitterand not blocked' it in order to 'prevent dilution of French power' (Gillingham: 2003). Membership

into the European Community marked the beginning of a period of harmonization and adaptations (Lawlor et.al.: 1998) through which major restructuring process was undertaken. However, the highly protected Spanish industry was now facing the challenges of an open, competitive market since its accession in the EC in 1986. The high tariff rates and quotas which were protecting the domestic industry of Spain were now dismantled. With an overall improvement in the economy and the flow of foreign investment in the economy, industrial production grew during 1985-1990.

By the end of the seven year transition period in 1992, the Spanish economy showed signs of growth. By this time the Single European Act was enacted directing the removal of non-tariff barriers, thus, moving the Spanish economy from one phase to another in the process of liberalization. Nevertheless, towards the end of 1992, the economy again entered a recession phase – which lasted till the end of 1993. As a result, GDP growth in 1993 was -1.03% and savings and domestic investment rates declined (see Figure 2). Furthermore, German reunification and the opening of the Eastern Europe diverted much of foreign investment to these newly developing areas. This led to further worsening of the recession in Spain – because of shrinking inward foreign investment (see Figure 6). Following three years (i.e. from 1990 to 1993) the industrial output in Spain declined as a result of increasing real unit labor costs, reduced competitiveness and declining exports (as a result of appreciation of peseta in the international sphere) (Lawlor et.al.: 1998). Industrial growth rate, however, started to grow from 1994. Nonetheless, by 1995, this gloomy picture of the economy was showing some signs of

sanguinity. Once again the growth rate of GDP picked up its pace and stood at 5.05% in 2000.

Since then the GDP growth in Spain dipped only to recover back in 2003. Since then the growth rate in terms of GDP has been increasing till 2007. Gross savings in the Spanish economy remained almost stable while the rate of domestic investment escalated. Inflation rate, however, remained above 4% level from 2001-2006. The Spanish economy once again entered into a recessionary phase during 2009 (see Figure 2). Employment rates in the economy increased along with very high levels of unemployment rates. It can be observed from Figure 3 that the unemployment rates in Spain remained as high as more than 10% during 2000-2004. During 2005-2007, unemployment rates dipped still remaining high and it again soared and stood at 20.1% at the end of the decade (see Figure 3). Agriculture value added in the economy declined while contribution from the services' sector remained almost stable. Industrial value added declined in comparison to the pre-EU accession period because of the existence of large numbers of small and medium sized firms in the economy. Other reasons for declining value added by the industrial sector are the rigid labor market and increased labor costs, low levels of domestic investment in research and development, and high dependence on foreign investment in technology. Yet, the value added by the industrial sector remained at more than 30% by the end of the decade (see Figure 4). Inflow of foreign investment declined till 2006 and almost doubled during the next two years. However, 2009 showed a steep decline in FDI inflows (see Figure 6). Growth in exports and imports of goods and services declined and became negative during 2008-2009 (see Figure 7). Moreover,

balance of payments problem was aggravated by the steep rise in the value of oil imports (Figure 5). Hence, the impressive economic performance of the early years of the 2000s turned depressing by the end of the decade.

Economic Growth in Spain – An Empirical Analysis

To analyze and understand which factors explain the economic growth in Spain for the period 1971-2009, the following linear regression model is estimated using the selected variables mentioned in chapter 1:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6(FDI) + e \quad \text{.....(1)}$$

The results of the regression estimation of the above equation is shown in table 1

Table: S-1

Model with all variables for 1971-2009

Variables	B	t-Stat	p-Value	Regression Statistics	
Constant	8.164	1.842	0.075	R	0.664
Invt	0.017	0.133	0.895	R Square	0.440
				Adjusted R Square	0.336
SSER	0.137	1.894	0.067	Standard Error	1.880
Open	0.003	0.044	0.965	F	4.198
PT	0.050	2.128	0.041	Significance F	0.003
Govt	-1.306	-2.734	0.010		
FDI	0.299	0.925	0.362		

It can be observed from table 1 that:

1. Domestic investment has a positive and statistically insignificant effect on the rate of growth of per capita GDP in Spain over the period 1971-2009. A one percent increase in domestic investment in the economy leads to 0.017 percentage points increase in the growth rate of per capita GDP.
2. SSER has positive and statistically insignificant impact upon the growth of per capita GDP in Spain for 1971-2009. A one percent improvement in the human capital in Spain would increase the rate of economic growth of the economy by 0.137 percentage points.
3. The growth in GDP per capita during 1971-2009 was positively affected by the openness of the economy. A one percent increase in the economy's total trade as percentage of GDP would improve the growth of per capita GDP by 0.003 percentage points. However, this result was found to be statistically insignificant.
4. Improvement in the growth rate of numbers of patents and trademarks showed positive and statistically significant effect on growth of GDP per capita over the period 1971-2009 for the Spanish economy. A one percent increase in the growth of number of patents and trademarks would increase the growth rate of per capita GDP by 0.50 percentage points.
5. Government consumption, as per the existing economic literature, tends to reduce the growth in an economy. The results in Table: 1 affirms this hypothesis as an increase in government consumption by one percent reduces the growth of per capita GDP by 1.306 percentage points. Moreover, this result is found to be statistically significant.

6. Inflow of foreign investment into the Spanish economy from 1971-2009 has assisted the growth of GDP per capita in the economy by 0.299 percentage points. However, it is found to be statistically insignificant.

Furthermore, in order to analyze which factor/s among the other selected ones have acted as drivers of economic growth in Spain, during the period 1971-2009, the above equation (1) is estimated using stepwise regression. This regression technique would facilitate in removing the unnecessary variables creating traffic and would emphasize only those factors that have worked upon to improve the economic growth of the Spanish economy. The results are depicted in table 2

Table: S- 1.1

Stepwise Regressions on Per Capita GDP for 1971-2009

Regression Model	Variables	R2	Adj R2	F-Value	p-Value
1	Govt	0.158	0.135	6.926	0.012
2	Govt, SSER	0.334	0.297	9.030	0.001
3	Govt, SSER, PT	0.414	0.363	8.229	0.000

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	8.122	4.497	0.000
Govt	-1.476	-3.504	0.001
SSER	0.177	2.929	0.006
PT	0.046	2.179	0.036

Table 1.1 reveals the following:

1. The stepwise regression resulted into three different statistically significant models. The first model considered government consumption as a factor explaining economic growth in Spain over the period 1971-2009. The second equation considered SSER along with government consumption, while the third equation included the growth in number of total patents and trademarks in model two as factors explaining economic growth in Spain over the period 1971-2009.
2. Government consumption depicts a result which is in accordance with the existing economic literature which states that government consumption has a negative impact on the rate of economic growth of a nation. An increase of 1% in government consumption in the Spanish economy during 1971-2009 would deteriorate the rate of growth of GDP per capita by 1.476 percentage points. Moreover, this result is found statistically significant.
3. SSER is showing a positive and statistically significant effect upon the rate of growth of GDP per capita for the period 1971-2009. It may thus be inferred that improvement in human capital is indeed improving the process of economic growth in the Spanish economy. In fact an increase in SSER by 1% increases the growth of per capita GDP by 0.177 percentage points. This result falls in line with the existing economic literature that states a positive relation between SSER and growth rate of GDP per capita.
4. Growth in total patents and trademarks, according to the economic literature, has a positive effect on the economic growth rate of an

economy. Improved technology would aid in the process of economic growth of an economy. This depiction is seen in the results from table 1.1 where a one percent increase in the growth rate of total patents and trademarks in Spain elevates the per capita GDP by 0.046 percentage points.

Further, in order to analyze the impact from the membership of European Union on the Spanish economy, equation (1) is now estimated with the introduction of a dummy (EU2). This dummy variable is intended to explain the impact from integration into the EU in the Spanish economy. In view of this, the equation (1) can now be written as:

$$\text{Ln (GDPpc)} = B_0 + B_1(\text{Invt}) + B_2(\text{SSER}) + B_3(\text{Open}) + B_4(\text{PT}) + B_5(\text{Govt}) + B_6(\text{FDI}) + B_7(\text{EU2}) + e \quad \text{.....(2)}$$

Equation (2) is then estimated through stepwise regression. This would demonstrate the factors that have acted as drivers of economic growth in the Spanish economy during 1971-2009, especially after entering into the European Union. Moreover, this would aid in comparing the economic performance of the Spanish economy pre-EU and post-EU membership. The results of regression equation (2) are shown in table 2 and table 2.1.

Table: S- 2

Model with all variables including dummy (EU2) for 1971-2009

Variables	B	t-Stat	p-Value	Regression Statistics	
Constant	21.456	5.502	0.000	R	0.854
Invt	-0.163	-1.684	0102	R Square	0.728
				Adjusted R	
SSER	-0.081	-1.275	0.212	Square	0.667
Open	0.121	2.516	0.017	Standard Error	1.33
PT	0.047	2.834	0.008	F	11.881
Govt	-10.17	-2.977	0.006	Significance F	0.000
FDI	-0.129	-0.538	0.594		
EU2	6.368	5.734	0.000		

Table: S- 2.1

Stepwise Regressions on Per Capita GDP for 1971-2009 with Dummy

Regression Model	Variables	R2	Adj R2	F-Value	p-Value
1	Govt	0.158	0.135	6.926	0.012
2	Govt, EU2	0.546	0.521	21.678	0.000
3	Govt, EU2, PT	0.664	0.635	23.034	0.000

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	15.219	8.096	0.000
Govt	-1.034	-7.247	0.000
EU2	5.199	6.403	0.000
PT	0.056	3.497	0.001

Table 2 reveals the following:

1. Domestic investment has a negative and statistically insignificant effect on the rate of growth of per capita GDP in Spain over the period 1971-2009. A one percent increase in domestic investment in the economy leads to 0.163 percentage points reduction in the growth rate of per capita GDP. This result is in sharp contrast to the economic literature on economic growth.
2. SSER has negative and statistically insignificant impact upon the growth of per capita GDP in Spain for 1971-2009. A one percent improvement in the human capital in Spain would impair the rate of economic growth of the economy by 0.081 percentage points. This result, however, casts doubts from the theoretical view point.
3. The growth in GDP per capita during 1971-2009 was positively affected by the openness of the economy. A one percent increase in the economy's total trade as percentage of GDP would improve the growth of per capita GDP by 0.121 percentage points. Moreover, this result was found to be statistically significant.
4. Increment in the growth rate of numbers of patents and trademarks showed positive and statistically significant effect on growth of GDP per capita over the period 1971-2009 for the Spanish economy. A one percent increase in the growth of number of patents and trademarks would increase the growth rate of per capita GDP by 0.047 percentage points.
5. Government consumption, as per the existing economic literature, tends to reduce the growth in an economy. The results in Table: 2 affirm this hypothesis as an increase in government consumption by one percent

reduces the growth of per capita GDP by 1.017 percentage points. Moreover, this result is found to be statistically significant.

6. Inflow of foreign investment into the Spanish economy from 1971-2009 has impaired the growth of GDP per capita in the economy by 0.129 percentage points. However, it is found to be statistically insignificant.
7. The membership of the European Union is a significant factor in explaining the economic growth in the Spanish economy since 1971. It can be seen from table 2 that the membership of the EU (the coefficient of EU2) is statistically highly significant. Spanish's membership in the EU raises the economic rate of growth of the economy by 6.368 percentage points.

Table 2.1 depicts the following:

1. The stepwise regression resulted into three different statistically significant models. The first model considered government consumption as a factor explaining economic growth in Spain over the period 1971-2009. The second equation considered government consumption and EU2 as drivers of economic growth in Spain. While, the third equation considered government consumption, EU2 and growth in total number of patents and trademarks as factors explaining economic growth in Spain during the period 1971-2009. However, SSER is no more considered as a driving force to economic growth after the membership in the EU.
2. Government consumption depicts a result which asserts with the economic literature which states that government consumption has a negative impact on the economic growth of an economy. An increase of 1% in government consumption in Spain would decrease the growth rate of GDP per capita by 1.034 percentage points. Moreover, this result is found to be

statistically significant. Nonetheless, the negative impact of government consumption in Spain after its membership in the EU has trimmed.

3. European Union plays a vital role in elevating the economic growth of Spain. The membership of the EU has had a positive effect on the growth rate of the Spanish economy. This can be seen from table 2.1, since its membership in the EU in 1986, the Spanish economy has grown by 5.199 percentage points.
4. Technological advancements, according to the literature on economic growth, have a positive impact on the rate of economic growth of any economy. The results of the regression in table 2.1 affirm the theory of economic growth which establishes a positive relation between the rate of economic growth and technological advancements. It can be observed from table 2.1 that 0.056 percentage points of growth in per capita GDP over 1971-2009 in Spain is the result of technological advancements. The significance of technology as a driver of economic growth in Spain, after its membership in the EU, has enhanced.

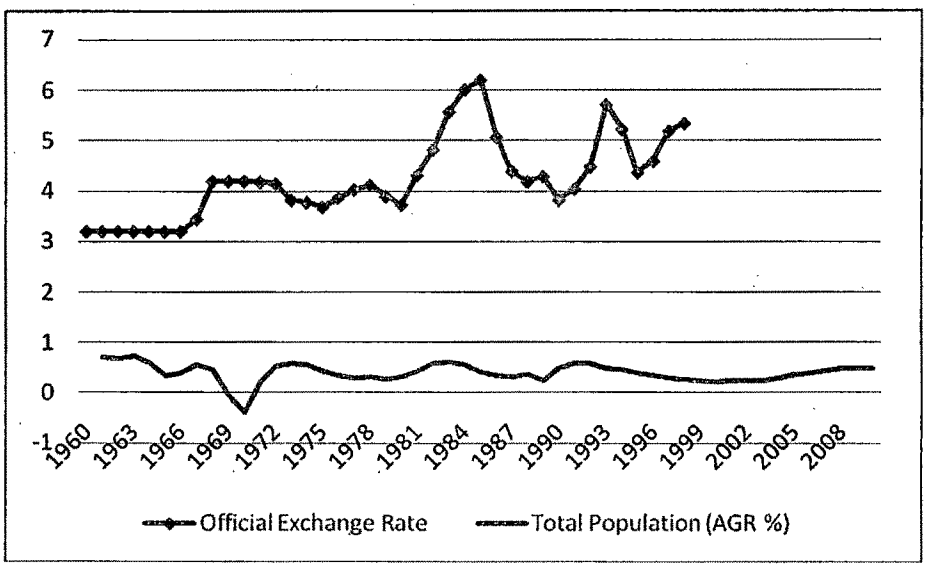
FINLAND

By the end of the Second World War, Finland's productive units were in great despair with poor availability of raw material. Finland was crippled by the loss caused due to World War II. Despite of the crisis caused by the war, Finland progressively reformed her domestic industries. Since then, Finland has been enjoying a steady growth path.

The Finnish government eschewed from the Marshall aid (predominantly because of the then prevalent political situation). On the contrary, the Finns opted for a bilateral trade agreement with the Soviet Union in 1947 (which ended in 1991 with the fall of the Soviet Union). In 1948, Finland became a member of the World Bank and the International Monetary Fund (IMF), and in 1950 a member of the General Agreement on Tariffs and Trade (GATT). Membership of these international institutions led to the liberalization of the Finnish economy. By the end of the 1950s, many of the tariff barriers and import restrictions were eased. Governmental policies provided for a favorable ground for investment which led to the high rates of domestic investment in the economy (investment rates in the economy remained high until the end of the 1980s). It can be observed from Figure 2 that the rates of domestic investment in the economy fluctuated somewhere between more than 22% to more than 30% during 1971-1989. Finland signed an agreement with the European Free Trade Agreement (EFTA) area in 1961 – which popularly came to be known as the *Finnefta*. Finland's liberalization provided her with a vast Soviet as well as the West European markets. Figure 7 shows considerable high rates of growth in terms of exports of goods and services in Finland during the 1960s. The trading patterns with these nations acted as a major

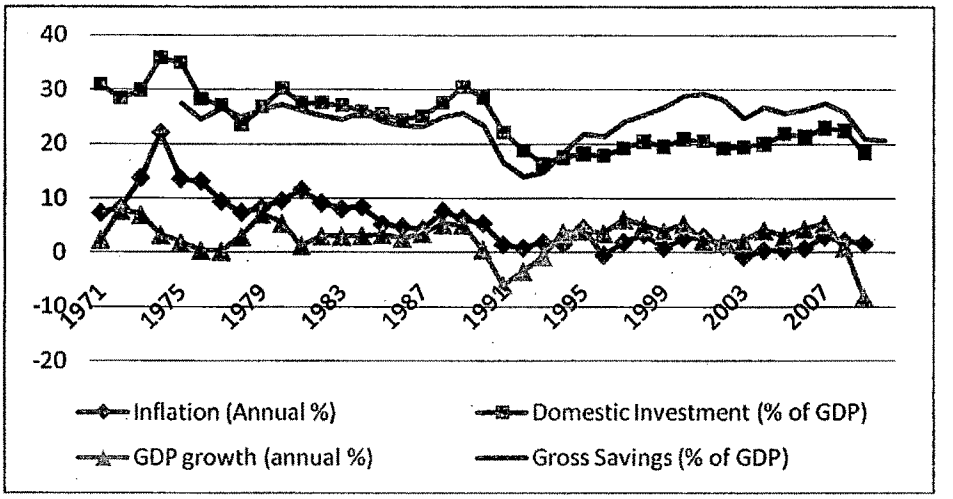
reason in diversifying the industrial structure (especially manufacturing) of the economy. The 1960s economic growth was mainly led by increased labour productivity rather than increased labour inputs. (Hjerpee: 2008).

Figure: F-1



Source: Author's Calculation, Absolute figure from World Development Indicators, World Bank

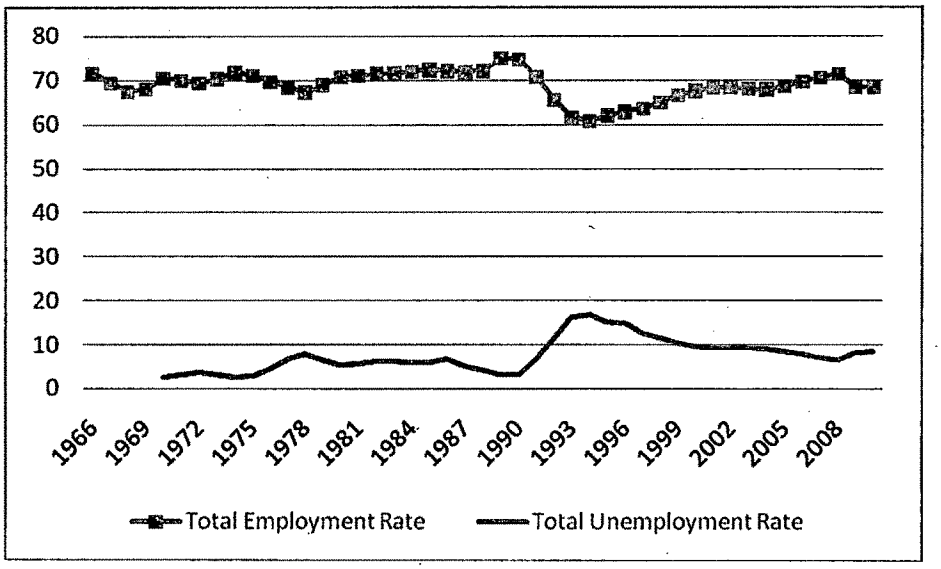
Figure: F-2



Source: World Development Indicators, World Bank

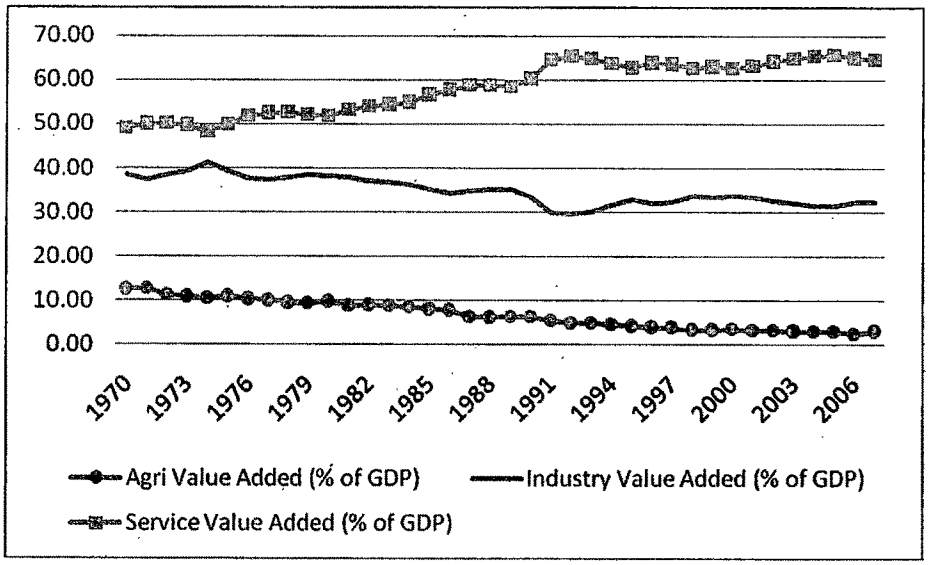
Finland's dependency on the oil imports from the Soviet Union was much high. This meant that the oil crisis of the 1970s would pressurize the economy through increase in the inflation rate coupled with high unemployment rates (as the case with many of the European nations). Nonetheless, the inflation rates especially during the first half of the 1970s remained very high but reduced by the end of the 1970s (see Figure 2). On the other hand, Figure 3 shows that the unemployment rates in the economy stayed low till 1977 and increased only during 1978-1979. Domestic investment and savings remained at higher levels, however, the growth rate of GDP declined till 1977 and recovered soon to be at 7.12% in 1979. Exports of goods and services grew at significant rates during the latter half of the 1970s (see Figure 7) and the domestic currency was continuously appreciated against the US dollar during the decade with a short period of devaluation from 1975-1978 (see Figure 1). This aided in maintaining the balance of payments situation in the economy. However, the energy crisis did not affect Finland the way it affected the rest of the European nations. Finland could easily survive such devastating macroeconomic situation because of the bilateral trade agreements with the Soviet Union.

Figure: F-3



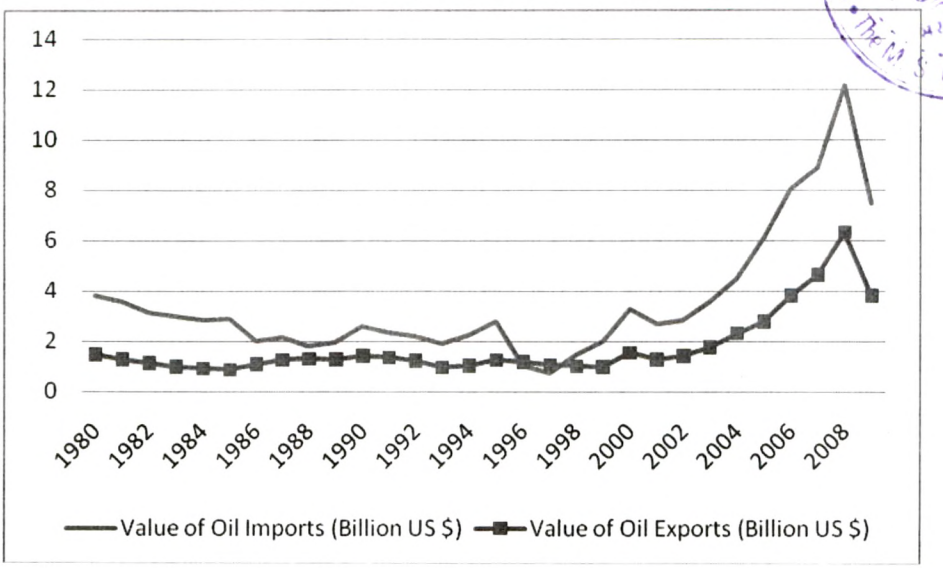
Source: OECD Factbook 2009 & 2011-112

Figure: F-4



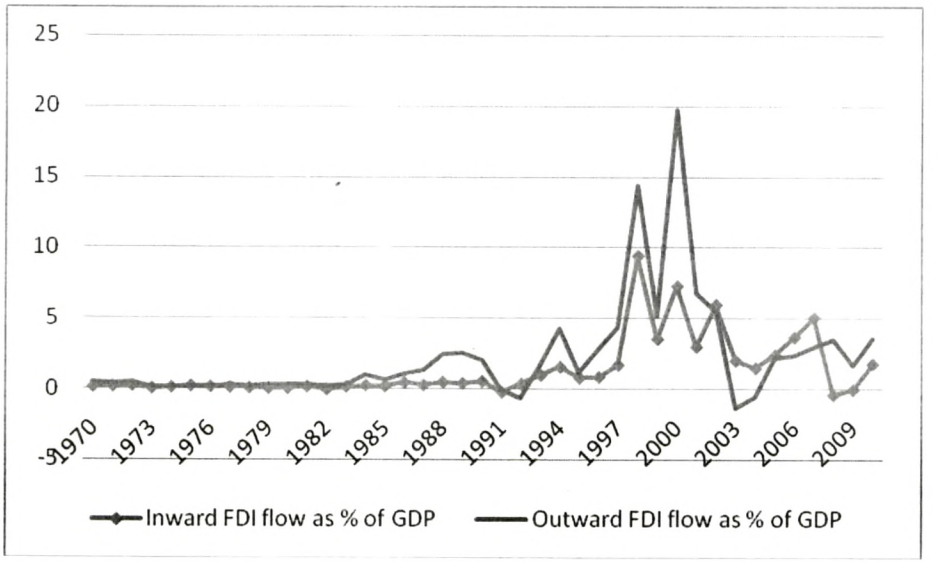
Source: World Development Indicators 2009, The World Bank

Figure: F-5



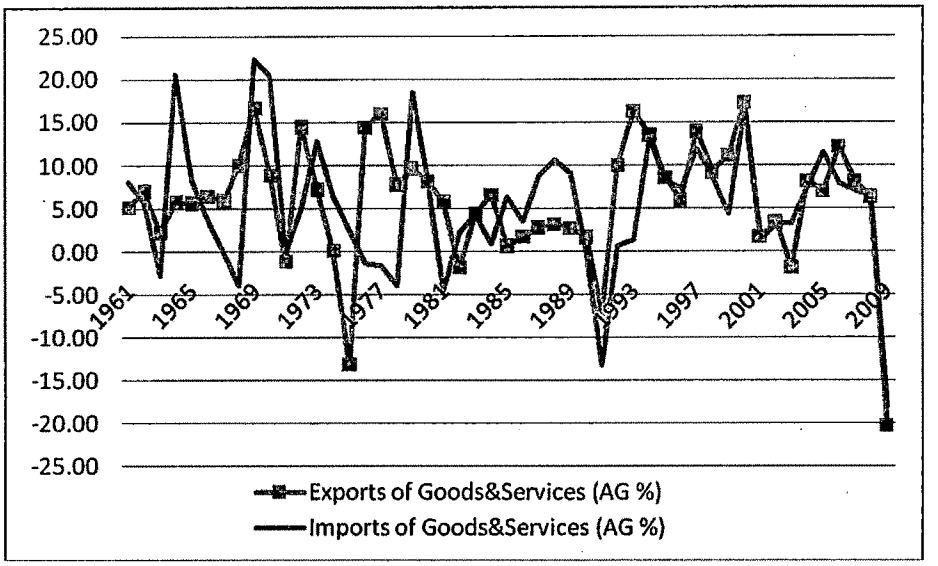
Source: World Economic Outlook Database, Sept 2011, IMF

Figure: F-6



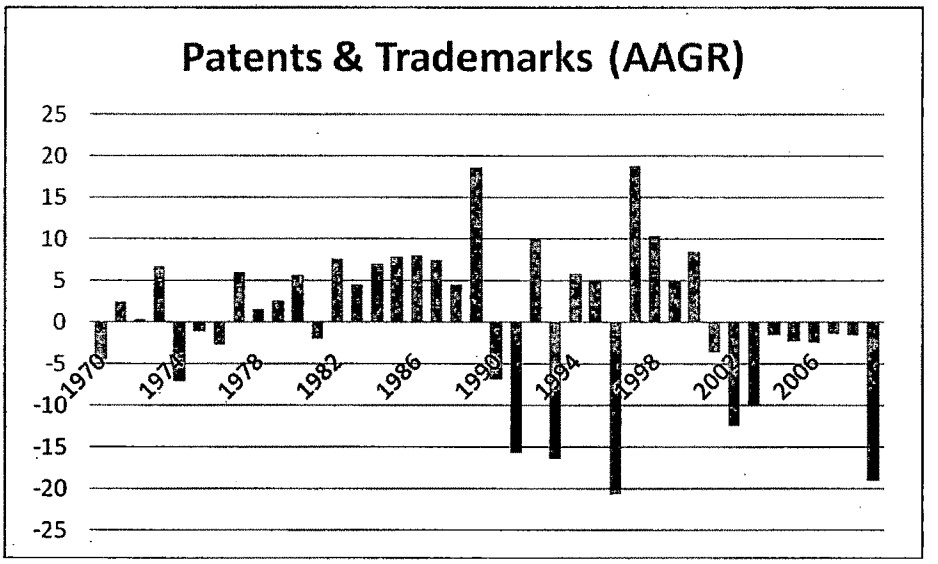
Source: UNCTAD

Figure: F-7



Source: Author's Calculations, Absolute figures from World Bank national accounts data, and OECD National Accounts data files.

Figure: F-8



Source: WIPO

The economic performance of Finland during the initial years of the 1980s was propitious. Unemployment was observed to remain low (see Figure 3),

with 'no major indebtedness problems in the external dimension or in the public sector.' (Honkapohja et.al: 2009). The growth rate in Finland in the 1980s was higher than many of the West European nations. When the West European countries depicted a low and even negative growth in GDP, the growth rate of GDP in Finland during the 1980s was observed, as per Figure 2, to be more than 3% p.a. It can, hence, be said that Finland in the 1980s started catching-up with the other mature economies of West Europe. Domestic investment stayed above 24%, while the inflation rate reduced from a soaring 11% in 1981 to 4% in 1987 (Figure 2). By the end of the 1980s the economic growth in Finland accelerated which led to over-heating in the economy. In fact, the growth in GDP was observed to be more than 5% p.a. during 1988-1989. The factors, as pointed out by Honkapohja et. al. in their book, leading to the boom of the late 1980s are:

1. Deregulation of domestic financial markets and liberalization of international capital flows (i.e. private borrowings from abroad). These liberalization policies were implemented when the domestic interest rates were much higher compared to interest rates in other nations. This led to an explosion of domestic bank credit and large international capital inflows (for detailed analysis on the financial crunch of the late 1980s in Finland, see Honkapohja et. al: 2009, chapter 2).

2. Escalation in terms of trade for Finland resulting from falling energy prices, rising world market prices of forest products and strong business cycle upswings for West European economies and

3. Economic policies – especially the fiscal policy – lacked in stabilizing the aggregate demand in the economy.

This boom led to high inflation rate in the economy. Rates of inflation were 7.65% and 6.39% during 1988 and 1989 respectively. Domestic demand increased which resulted into weakening of the external balance and serious current account problems. As a result domestic currency had to be devalued against the US dollar in the international market. Deregulation in the financial sector increased competition among banks which led to increased risk-taking by the banks. This, however, resulted into increased indebtedness of the private sector. High domestic interest rates compared to foreign interest rates attracted huge capital inflow in the economy. All these factors resulted in increased asset prices. Thus, by the end of the 1980s, Finland started showing sluggish growth rates.

In 1990, economic growth in Finland was only 0.51 percent and the economy entered one of the most severe recessions. Savings and domestic investment rates declined accompanied by high inflation rates (Figure 2), while the growth in exports and imports of goods and services dipped (Figure 7). "By many measures, it was more severe than the depression of the 1930s." (Honkapohja et. al: 2009, p. 4). The crisis of the 1990s was caused by external factors and inefficiencies in domestic macroeconomic policies. The collapse of the Soviet Union (1990/91) along with the collapse of the bilateral trade agreement with Russia, recession in the West European nations, 'problems in adjusting to the new liberal order of international capital movement' (Hjerpee: 2008), and the German reunification were the external shocks which resulted into Finland's depression. "However, external shocks are not

nearly the whole story. If there had been no additional factors, Finland would have experienced a recession, but not a severe depression." (Honkapohja et. al: 2009, p. 50). The crisis also featured internal factors like the banking crisis (which changed the structure of the financial sector of the economy), high interest rates, the bursting of credit bubble which led to indebtedness on the part of the consumers – this can be observed from the reduced rates of savings in the economy during 1991-1993 (Figure 2). This was accompanied by a boom in the home prices, wage rigidity, high labor costs, and decline in productivity. By 1993, unemployment was soaring high at 16.2% and GDP growth became negative. The major cause of concern during these years was the low investment rates or the capital shortage (see Figure 2).

Finland's recovery from such severe crisis was indeed remarkable. Honkapohja et. al. (2009) attributes the success of the 1990s to macroeconomic policies and political developments, 'which provided economic predictability and stability for the Finnish economy.' Privatization was considered as a key policy as it aided in improving Finnish export performance and attracting valuable foreign capital. The membership of the EU in 1995 was a major breakthrough in the process of liberalizing the Finnish economy. Since then the structure of the Finnish economy had changed from a traditional industrial country to a high-technology economy. The contribution of the industry and services' sectors, in terms of value added, in the economy increased (Figure 4). Financial system, which was tightly regulated in the first half of the 1980s, has been liberalized (market-based), and well integrated in line with other West European financial systems. Since 1994, Finnish economy has shown signs of improvement. The balance of payments, which

was a major concern for the economy until 1990, started showing signs of improvement.

The resources which remained idle during the period of crisis were reallocated and diverted towards more productive units. Finland's GDP per capita also started increasing since the mid 1990s. One of the major factors leading to such profound growth rates in Finland, as identified by many economists (Maliranta: 2003, Böckerman & Maliranta: 2007, Honkapohja et.al: 2009), was labor productivity. "One of the key factors in the growth of labor productivity in Finland during 1994-2003", along with efficient use of inputs and technological progress, "is an increase in the skill level of the labor force." (Honkapohja et.al: 2009, p. 75). The Finnish economy during the 1990s became a high-tech economy. Figure 8 shows a remarkable increase in the growth of number of patents and trademarks in the economy during the late 1990s. Finland now leads the world market of foreign trade in communication (ICT) goods. The major contribution in this sector comes from one company named Nokia.

Finland's accession to the European Union in 1995 and joining of the common currency boosted the openness of the economy to high levels (Neal: 2007). As a result the growth in exports and imports of goods and services showed a significant increase (Figure 7). EU's membership opened the doors for Finland's products to a larger West European market. Gillingham (2003) feels that Finland's membership to the EU have transformed her mixed economy to a market oriented economy. Finland has been successful in exploiting the economic opportunities provided by the EU's membership through her strong macroeconomic policies. Membership of the EU aided in initiating a program

of macroeconomic stabilization, thus improving the growth in the economy in the mid 1990s.

Thus, Finland's success story "...involves a historical egalitarianism, a strong sense of community, an innate practicality, the intelligent application of brains and bravon, farsighted leadership and plenty of good luck." (Gillingham: 2003, p. 359). However, the economy is still vulnerable to economic problems from rapidly ageing population (see Figure 1), persistent high unemployment levels since the 1990s crisis (see Figure 7), and pressures from globalization on production activities, labor market and public finances. (Honkapohja et.al: 2009).

Economic Growth in Finland – An Empirical Analysis

To analyze and understand which factors explain the economic growth in Finland for the period 1971-2009, the following linear regression model is estimated using the selected variables mentioned in chapter 1:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6(FDI) + e \quad \ldots\ldots(1)$$

The results of the regression estimation of the above equation is shown in table 1

Table: F- 1

Model with all variables for 1971-2009

Variables	B	t-Stat	p-Value	Significance of the model	
Constant	19.705	1.911	0.065	R	0.797
Invt	-0.217	-1.482	0.148	R Square	0.636
SSER	0.052	1.028	0.312	Adjusted R Square	0.568
Open	0.066	1.737	0.092	Standard Error	2.135
PT	0.160	3.945	0.000	F	9.317
Govt	-1.071	-4.275	0.000	Significance F	0.000
FDI	0.082	0.358	0.722		

The above table 1 observed that:

1. Domestic investment has a negative and statistically insignificant effect on the growth rate of per capita GDP in Finland over the period 1971-2009. A one percent increase in domestic investment in the economy leads to 0.217 percentage points reduction in the growth rate of per capita GDP. Thus, the negative impact of domestic investment in Finland may be due to a policy followed by the domestic government. This forms a subject matter of future research.
2. SSER has positive and statistically insignificant impact upon the per capita GDP in Finland for 1971-2009.
3. The growth rate of GDP per capita during 1971-2009 was positively affected by the total trade as percentage of GDP. A one percent increase in the economy's openness would improve the growth of per capita GDP

by 0.066 percentage points. However, this result was found to be statistically insignificant.

4. Improvement in the growth rate of numbers of patents and trademarks showed positive and statistically significant effect on the growth of GDP per capita over the period 1971-2009 for the Finnish economy. A one percent increase in the growth rate number of patents and trademarks would increase the economic growth of the economy by 0.16 percentage points. This may depict the rise and success of Finland as a technologically advanced nation.
5. Government consumption, as per the existing economic literature, tends to reduce the growth in an economy. The results in Table: 1 confirms this hypothesis when an increase in government consumption by one percent reduces the growth of per capita GDP in Finland by 1.071 percentage points. Moreover, this result is found to be statistically highly significant.
6. Inflow of foreign investment into the Finnish economy from 1971-2009 has assisted the GDP per capita to grow in the economy. However, this result casts doubts from a statistical viewpoint.

Furthermore, in order to analyze which factor/s among the other selected ones have acted as drivers of economic growth in Finland, during the period 1971-2009, the above equation (1) is estimated using stepwise regression. This regression technique would facilitate in removing the unnecessary variables creating traffic and would emphasize only those factors that have worked upon to improve the economic growth of the Finnish economy. The results are depicted in table 1.1

Table: F- 1.1

Stepwise Regression on Per Capita GDP for 1971-2009

Regression Model	Variables	R2	Adj R2	F-Value	p-Value
1	PT	0.286	0.266	14.79	0.000
2	PT, Govt	0.43	0.398	13.553	0.000
3	PT, Govt, Open	0.565	0.528	15.169	0.000
4	PT, Govt, Open, Invt	0.614	0.568	13.499	0.000

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	26.509	3.055	0.004
PT	0.161	4.097	0.000
Govt	-1.073	-4.446	0.000
Open	0.077	2.246	0.031
Invt	-0.284	-2.063	0.047

Table 1.1 reveals the following:

1. The stepwise regression resulted into four different statistically significant models. The first model considered growth in total number of patents and trademarks as a factor explaining economic growth in Finland over the period 1971-2009. The second equation considered government consumption along with growth in total number of patents and trademarks as factors explaining the per capita GDP in the Finnish economy during 1971-2009. The third model included openness among the variables in the second model, while the final regression model showed growth in total number of patents and trademarks, government consumption, openness and domestic investment as the drivers of economic growth in Finland for the period 1971-2009.

2. The growth in total number of patents and trademarks has escalated the rate of economic growth in the Finnish economy by 0.161 percentage points. This exemplifies the significant of technology in the economic growth of Finland since 1971.
3. Government consumption depicts a result confirming the existing economic literature which states that government consumption has a negative impact on the economic growth of a nation. It can be seen from table 1.1 that an increase of 1% in government consumption in Finland reduces the growth of GDP per capita by 1.073 percentage points. Moreover, this result is found statistically highly significant.
4. Openness is found to have a positive and statistically highly significant effect on the growth of per capita GDP in Finland. An increase of one percent in the ratio of total trade to GDP increased the growth of per capita GDP by 0.077 percentage points. Openness has acted as a driving force in the process of economic growth in Finland since 1971.
5. Domestic investment, however, contradicts the theory on economic growth by depicting a negative effect on the economic growth of the nation. It can be seen from table 1.1 that a one percent increase in domestic investment reduces the growth of the economy by 0.284 percentage points.

Further, in order to analyze the impact from the membership of European Union on the Finnish economy, equation (1) is now estimated with the introduction of a dummy (EU1). This dummy variable is intended to explain the impact from integration into the EU in the Finnish economy. In view of this, the equation (1) can now be written as:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6(FDI) + B_7(EU1) + e \quad \text{.....(2)}$$

The results of the above regression are shown in table 2:

Model with all variables including dummy (EU1) for 1971-2009

Variables	B	t-Stat	p-Value	Regression Statistics	
Constant	19.881	1.842	0.075	R	0.798
Invt	-0.215	-1.414	0.168	R Square	0.636
				Adjusted R	
SSER	0.051	0.941	0.354	Square	0.554
Open	0.063	1.077	0.290	Standard Error	2.169
PT	0.161	3.861	0.001	F	7.739
Govt	-1.069	-4.176	0.000	Significance F	0.000
FDI	0.079	0.333	0.741		
EU2	0.117	0.068	0.946		

The above table 2 observed that:

1. Domestic investment has a negative and statistically insignificant effect on the growth rate of per capita GDP in Finland over the period 1971-2009. A one percent increase in domestic investment in the economy leads to 0.215 percentage points reduction in the growth rate of per capita GDP.
2. SSER has positive and statistically insignificant impact upon the per capita GDP in Finland for 1971-2009.
3. The growth rate of GDP per capita during 1971-2009 was positively affected by the total trade as percentage of GDP. A one percent increase in

the economy's openness would improve the growth of per capita GDP by 0.063 percentage points. However, this result was found to be statistically insignificant.

4. Improvement in the growth rate of numbers of patents and trademarks showed positive and statistically significant effect on the growth of GDP per capita over the period 1971-2009 for the Finnish economy. A one percent increase in the growth rate number of patents and trademarks would increase the economic growth of the economy by 0.161 percentage points. This may depict the rise and success of Finland as a technologically advanced nation.
5. Government consumption, as per the existing economic literature, tends to reduce the economic growth rate in an economy. The result in table 2 confirms this hypothesis when an increase in government consumption by one percent reduces the growth of per capita GDP in Finland by 1.069 percentage points. Moreover, this result is found to be statistically highly significant.
6. Inflow of foreign investment into the Finnish economy from 1971-2009 has assisted the GDP per capita to grow in the economy. However, this result casts doubts from a statistical viewpoint.
7. Surprisingly, the impact of EU membership did not turn out to a significant factor in explaining the rate of economic growth in the Finnish economy.

Equation (2) is then estimated through stepwise regression. This would demonstrate the factors that have acted as drivers of economic growth in the economy during 1971-2009, especially after entering into the European Union since 1995. Moreover, this would aid in comparing the economic performance

of the Finnish economy pre-EU and post-EU membership. The results of regression estimates of the equation (2) are shown in table 2.1

Table: F- 2.1

Stepwise Regressions on Per Capita GDP for 1971-2009 with Dummy

Regression Model	Variables	R2	Adj R2	F-Value	p-Value
1	PT	0.286	0.266	14.790	0.000
2	PT, Govt	0.430	0.398	13.553	0.000
3	PT, Govt, EU1	0.578	0.542	16.008	0.000

Significance of Coefficients for final model

Variables	B	t-Stat	p-Value
Constant	16.250	5.133	0.000
PT	0.167	4.117	0.000
Govt	-0.733	-4.639	0.000
EU1	2.892	3.516	0.001

Table 2.1 reveals the following:

1. The stepwise regression resulted into three different statistically significant models. The first model considered growth in total number of patents and trademarks as a factor explaining economic growth in Finland over the period 1971-2009. The second equation considered government consumption along with growth in total number of patents and trademarks as factors explaining the per capita GDP in the Finnish economy during 1971-2009. While, the third model EU1 among the variables in the second model as the drivers of economic growth in Finland for the period 1971-2009.

2. The growth in total number of patents and trademarks has escalated the rate of economic growth in the Finnish economy by 0.167 percentage points – higher in comparison to the pre-EU period. This exemplifies the significant of technology in the economic growth of Finland after its membership in the EU.
3. Government consumption depicts a result confirming the existing economic literature which states that government consumption has a negative impact on the economic growth of a nation. It can be seen from table 2.1 that an increase of 1% in government consumption in Finland reduces the growth of GDP per capita by 0.733 percentage points. Moreover, this result is found statistically highly significant. Compared to the pre-EU period the negative impact of government consumption has reduces in the post-EU period.
4. Membership of the EU has a positive impact on the rate of economic growth of the Finnish economy. Since its membership in the EU in 1995, Finland's economic growth has increased by 2.892 percentage points. This shows a significant impact of economic integration upon the economic growth of the Finnish economy.