CHAPTER 1

INTRODUCTION AND METHODODLOGY

Introduction

It has been a long time now since the study of economic growth has had its eminent position in the scope of macro economics. Economists and policy makers have known the importance of economic growth for a nation and have emphasized the process of growth in formulating various policies for a country. Economic growth has attracted the attention of many economists over the years. However, the study of economic growth took a back seat after the late 1960s and was revamped only in the late 1980s – after almost two decades.

Economic growth and economic development have been, for many years, considered as two different disciplines; only until recently. In view of this, let us understand what economic growth and economic development mean.

Economic Growth

Economic growth refers to the quantitative change and is usually measured as increase in per capita output or income. In other words, it refers to rising output per capita. Economic growth has a connotation of quantitative expansions in economic variables, especially aggregate and per capita national incomes as measured by such statistics as Gross Domestic Product (GDP) and Gross National Income (GNI). Therefore the analysis of economic growth is concerned mainly with measuring growth in economic variables and identifying their inter relationships such as between the National Income

growth rate and the speed of capital formation. Economic growth can be considered as a quantitative aspect of economic development. Economic growth is the result of not a single factor but a number of factors such as economic, social, political, legal and cultural.

Kuznets (1973, 1981) brings out other characteristics of modern economic growth. He notes the rapid rate of structural transformation, which includes shifts from agriculture to industry to services. This process involves urbanization, shifts from homework to employee status, and an increasing role for formal education. He also argues that modern growth involves an increased role of foreign commerce and that technological progress implies reduced reliance on natural resources. Finally he discusses the growing importance of the government as an institution.

Some definitions of economic growth can be given as:

A Dictionary of the Social Sciences, UNESCO, defines economic growth as, "a long-term increase in a country's National Income in real terms".

This states that the process of economic growth is a long run process which is spread over the years. It is not a sudden phenomenon but takes time to occur. It occurs gradually over the period of time. When a nation experiences an increase in its National Income, in quantitative terms, over a period of time, economic growth is said to have occurred.

Economic Development

Economic development is a more difficult concept to define and measure than economic growth. This is mainly because economic development has a

qualitative dimension associated with it. It entails structural change, and encompasses the reduction of poverty and widespread gains in nutrition, health, education and standard of living. It implies a diffusion of economic growth and an expansion of economic opportunities. Economic growth is a necessary but insufficient condition for economic development. Professor Dudley Seers argues development is about outcomes i.e. development occurs with the reduction and elimination of poverty, inequality and unemployment in a growing economy. It refers to a general improvement in the standard of living for a population of a nation. With economic development comes structural change – a transformation from a primary agrarian economy to a diversified industrial economy, as earlier noted by Kuznets. And so development should be perceived as a multidimensional process involving the reorganization and reorientation of entire economic and social systems. Economic development is usually conceived as a process involving not only quantitative expansions but also changes in non-quantitative factors such as institutions, organizations, and culture under which economies operate.

As stated by the World Bank's World Development Report (1992), sustainable development means development that would meet the needs of the present generation without compromising the needs of future generation.

As a result, it becomes essential to understand and analyze the process of economic growth of an economy. It would then be possible to establish a comparative analysis on how an economy is moving on the path of growth and development. But how can one measure the status of economic growth in an economy? What are the factors leading to the growth in an economy and how can we measure them? What are the reasons for differences in the rate of

economic growth among the nations? And the most important question to be dealt with is: why are all countries not growing at the same pace?

The answers to these questions can be found in the various theories of growth and development, developed from time to time[1]. The classical theories of economic growth provided with the "...basic approaches of competitive behavior and equilibrium dynamics, the role of diminishing returns and its relation to the accumulation of physical and human capital, the interplay with between per capita income and the growth rate of population, the effects of technological progress in the forms of increased specialization of labor and discoveries of new goods and methods of production, and the role of monopoly power as an incentive for technological advance." (Barro and Sala-i-Martin: 2004, p. 16). Based on these ideas a revolution took place in the economic literature concerning the economic growth of an economy with the neo-classical model of Solow and Swan. Solow considered economic growth to be exogenous from an economic view point in the long-run, as the two factors explaining the economic growth in an economy – population growth and technological progress – were considered to be outside the purview and reach of pure economics and economic policy (Gylfason: 1999). This simple and revolutionary idea of Solow propagated a large literature on economic growth. As economic growth was considered as exogenous; this literature on economic growth came to be known as 'exogenous' theories of economic growth. As time progressed, the exogeinity of technological change/ progress and of the long-run economic growth from the view point of (pure) economics were doubted. Many questions were raised which urged for new thinking about economic

[1] The theories of economic growth and development are presented in detail in Chapter 2

growth. As a result of which, a new theory which considered technological progress as endogenous emerged. This made the long-run economic growth endogenous, and hence these theories are appropriately called as the 'endogenous' growth theories. This endogenous growth literature opened the doors for more intensive research analysis.

Chapter 3 evaluates the ingredients put forth by the various theories of growth from time to time. In this respect the chapter discussed the impact of and the relationship between income inequality, physical capital, human capital accumulations, total factor productivity, technology and research and development, international trade, institutions and policies, and economic integration upon economic growth of an economy.

Integration, it is believed, enhances the rate of growth of an economy. In view of this, Chapter 4 tries to explain the theories which constitute the building blocks of the theories of economic institution; and more specifically the theories of Customs Unions. The chapter is further extended to explain the formation of one of the oldest Customs Unions – the European Union.

The impact of economic integration upon the member countries of the European Union is analyzed in Chapter 5. This chapter is intended to assess the gap in economic growth among the selected member nations of the European Union.

Chapter 6 finally presents the conclusions.

Methodology

In order to identify the impact of forming a customs union on its member nations, European Union is taken as a case in point, as it is one of the oldest forms of economic integration. Based on the existing economic literature on economic growth and economic integration, the thesis utilizes time series data to examine whether the economic integration among the European countries have facilitated higher economic growth among the selected member nations or not? However, only a few selected countries, with higher levels of development, but belonging to different geographical areas have been considered. The European Union member nations taken for the analytical purpose are:

1. Germany
2. Italy
3. The United Kingdom
4. Portugal
5. Spain
6. Finland

Each of the above member nations has been selected from different phases of development of the European Union. Germany and Italy are the founding members of the European Union; the UK joined the EU in 1973. With the enlargement of the integration, Portugal and Spain entered in 1986 and Finland is the member who entered the EU in 1995.

The questions that I intend to answer in the present research are:

1. Which are the factors that explain the overall economic growth process of the selected member nations?
2. Which are the factors among many that have acted as driver/s of economic growth for the selected nations?
3. Which are the factors that significantly affect the level of per capita GDP in the countries under study?
4. What has been the impact of economic integration on the member nations of the European Union taken for analysis?
5. Is there any disparity among the growth of these member states? And if yes, which factor/s explains this disparity in economic growth among the selected member nations?

In order to answer the above questions, a time-series linear regression model is estimated for a period of thirty-nine years from 1971 to 2009, for each individual member nation under study. Most of the economic literatures, in order to study the impact of economic integration, upon the member nations have resorted to cross-sectional studies. However, this thesis intends to study the effects of economic integration based upon time-series regression estimated for individual member nations of the EU. For this purpose, a linear regression model is estimated.

In order to analyze which economic factors explain the process of economic growth in the selected member nation of the EU, the following model for the time period 1971-2009 is estimated using SPSS:

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

where,

GDPpc = Annual Growth Rate of Gross Domestic Product per Capita in constant 2000 US$

Invt = Domestic Investment/Gross Capital Formation as percentage of GDP

SSER = Gross Secondary School Enrolment Rate

Open = Openness of an economy measured as Total Trade (exports + imports) as percentage of GDP

PT = Annual Growth Rate of Total Residential and Non-Residential Patents and Trademarks

Govt = General Government Final Consumption Expenditure as percentage of GDP

FDI = Inward FDI Flow as percentage of GDP

The variables in the above model, as can be observed, are the conventional and most widely used dummies in order to analyze the process of economic growth in an economy. The main intention to include only the traditional variables in the regression analysis is to study whether these variables explain the process of economic growth even in recent times[2].

Moreover, to calculate for the driver/s or factor/s for economic growth in an individual selected member nation, equation (1) is now estimated using

[2] Definitions of the variables under study are mentioned in Appendix.

stepwise linear regression model for 1971-2009. This would assist in finding those economic variables, among other, that act as drivers of economic growth in the particular country.

Furthermore, in order to study the impact of economic integration on the selected EU member nations under study a dummy variable with respect to time is introduced in equation (1). Hence, equation (1) can now be written as:

$$(GDPpc) = B_0 + B_1(Invt) + B_2(SSER) + B_3(Open) + B_4(PT) + B_5(Govt) + B_6(FDI) + B_7(EU) + e \quad \ldots\ldots\ldots\ldots (2)$$

where,

GDPpc = Annual Growth Rate of Gross Domestic Product per Capita in constant 2000 US$

Invt = Domestic Investment/Gross Capital Formation as percentage of GDP

SSER = Gross Secondary School Enrolment Rate

Open = Openness of an economy measured as Total Trade (exports+imports) as percentage of GDP

PT = Annual Growth Rate of Total Residential and Non-Residential Patents and Trademarks

Govt = General Government Final Consumption Expenditure as percentage of GDP

FDI = Inward FDI Flow as percentage of GDP

EU = dummy variable for membership in the European Union with respect to time; EU = 1 if a country is EU member and EU = 0 otherwise.

The above time series linear regression equation (2) is estimated by stepwise regression using SPSS. This would aid in analyzing those economic variables which have boosted the economic growth in an individual member country after it entered the European Union. In a more specific manner, it would now be possible to compare between the driving forces of economic growth pre - EU and post – EU membership.

In order to analyze the significant impact of the selected conventional variables on the level of per capita GDP in a country, the following log-lin regression model is estimated:

$$\text{Ln (GDPpc)} = B_0 + B_1(\text{Invt}) + B_2(\text{SSER}) + B_3(\text{Open}) + B_4(\text{PT}) + B_5(\text{Govt}) + B_6(\text{FDI}) + e \quad \ldots\ldots (3)$$

Moreover, in order to understand the impact of EU membership on the level of GDP per capita in a country, the equation (3) is now estimated by introducing a dummy variable (EU). The equation (3) can now be written as:

$$\text{(GDPpc)} = B_0 + B_1(\text{Invt}) + B_2(\text{SSER}) + B_3(\text{Open}) + B_4(\text{PT}) + B_5(\text{Govt}) + B_6(\text{FDI}) + B_7(\text{EU}) + e \quad \ldots\ldots (4)$$

Both the equations (3) and (4) are estimated by stepwise regression using SPSS.

The time span taken for the analysis is 1971 to 2009. This time span has been selected for the below mentioned reasons:

1. Comparable data could be availed only for this time frame from the authentic and internationally comparable sources.

2. The 1960s, after the Second World War, was a golden period for growth in the European countries. However, since the 1970s, the countries in Europe started experiencing difficulties in their growth process from within and outside the nation. As a result, it is essential to know which economic factor has helped these economies to maintain and/or increase the rate of growth in the country.
3. The impact of economic integration can be studies in view of the expansion in the member of member nations of the European Union.

The data is compiled from World Bank, WIPO, Organization for Economic Cooperation and Development (OECD), International Monetary Fund (IMF) and United Nations Conference on Trade And Development (UNCTAD).