

**GROWTH TRANSITION IN SELECTED DEVELOPING
COUNTRIES OF EUROPE AND RUSSIAN FEDERATION**

A

Thesis submitted

In the partial fulfilment of the requirement for the degree

**MASTER OF ARTS
IN
ECONOMICS
(INTERNATIONAL BUSINESS)**



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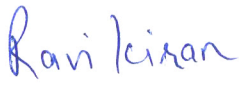
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CERTIFICATE

This is certify that the thesis entitled “**Growth Transition in Selected Developing Countries of Europe and Russian Federation**” being submitted in partial fulfilment of requirements for the award of degree of **Master of Arts in Economics**, submitted in **the School of Humanities and Social Sciences, Thapar University, Patiala** is a bonafide work carried out under the supervision of **Dr. (Ms.) Ravi Kiran**, Professor & Former Head, School of Humanities and Social Sciences, & Professor In Charge Alumni Relations, Thapar University, Patiala and that no part of this project has been submitted for the award of any other degree.


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This is to certify that above statement made by the student concerned is correct and true to the best of my knowledge.


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CANDIDATE'S DECLARATION

I hereby declare that the work presented in this thesis entitled, “**Growth Transition in Selected Developing Countries of Europe and Russian Federation**” in partial fulfilment of the requirement for the award of Degree of **Master of Arts in Economics**, submitted in **the School of Humanities and Social Sciences, Thapar University, Patiala**, is an authentic record of my own work carried out under the supervision and guidance of **Dr. (Ms.) Ravi Kiran**, Professor & Former Head, School of Humanities and Social Sciences, & Professor In Charge Alumni Relations, Thapar University, Patiala and refers other researcher's work which are duly listed in the reference section.

The matter embodied in this thesis has not formed the basis for the award of any other degree of this or any other university.

Date: 14th June, 2017

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ABSTRACT

The study examines the growth transition of the developing countries of Europe and also of Russian Federation. In these countries there is a transition from planned economy to market economy. The present research examines transition in the selected developing countries of Europe and Russian Federation. According to IMF definition 2014 the developing countries of Europe are Hungary, Poland, Romania, Lithuania and Turkey. Russian Federation was also analysed. The results highlight that the population in these countries is not increasing at a high rate. In Lithuania population growth rate is low from 1999 to 2014, whereas, on the other hand population of Turkey is continuously growing. The present study examines the growth rates of Gross Domestic Product (GDP), Population, Net Exports and Foreign Direct Investment (FDI) for the period 1999 to 2014. In the period 2007-200, there is decline in all variables, viz. FDI, population, and net exports. This could be due to the impact of recession. The growth of different components has been analyzed with the help of trend rates of growth. To study the factors which cause the effects on growth, multiple regressions has been used by taking GDP as dependent variable and FDI, Population and net export as the independent variable. The year on year growth rates have also been calculated. The results have shown the true picture of recession for the developing countries of Europe and for Russian Federation. From the analysis it has been concluded that recession had its impact on these countries but somehow the countries are able to grow up after it.

CHAPTER-1

INTRODUCTION

1. The present thesis covers the growth transition in selected developing countries of Europe and Russian Federation. The countries covered include: Hungary, Turkey, Poland Romania, Lithuania and Russian Federation. The transition in these economies is occurring at a very fast rate and it is important to study the changes. The aspects covered include, Gross domestic product scenario, Population status, Foreign Direct Investment (FDI) and Net exports status. It is important to introduce these economies. This has been done in the sections 1.1 to 1.6 in chapter 1.

1.1 Economies

Hungary

According to IMF from a total of 188 countries, the Hungary is at 57 rank. It has annual output worth \$265.037 billion (IMF World Economic Outlook Database, 2017). In terms of per capita gross domestic product through Purchasing Power Parity Hungary ranks 49th in the world. Hungary is one of the leading countries for attracting FDI and is also the largest electronic producer in Central and Eastern Europe.

Hungary has been a centre for Mobile technology, Information security and other related hardware. The financial Crisis of 2008 has impacted the economy and it faced severe recession and its GDP decelerated to -6.4%. This is one of the worst economic slowdown that it faced. The economy showed signs of recovery and revival in 2011. This was done through decrease in tax. This led to moderate GDP growth of 1.7% .

Hungary has rapidly rising life expectancy and an incredibly meagre infant mortality rate. In 2009, Hungary spent 7.4% of the GDP on health care. It has a tax-funded Universal healthcare system, which is managed through the State-owned National Healthcare fund. Thus, investment in healthcare has paid its dividend, and helped in reducing infant mortality rates. Hungary is known as a desired destination of foreign investors of automobile industry. 17% of the total exports in Hungary come from the exports of Opel, Audi and Suzuki.

The tertiary sector accounted for 64% of GDP (2007) and its role has been expanding and growing due to constant investments into transport and the other services.

According to World Bank, Hungary enjoys the status of an upper middle-income economy. Hungary's economy relies extensively on trade. The value of both export and

imports equals 171% of GDP. Having drifted to market economy, it is the market which set up the prices. Prices on tobacco and pharmaceuticals are managed by Government. The govt administers and manages surcharges on the state-run mobile payment system and fees on connections to district heating systems, telecommunications and electronics companies. The current study examines the GDP scenario and Population status to understand the growth of the economy. For understanding the performance in terms of foreign sector, Net exports (Exports- Imports) and FDI status has also been analysed for the selected time period.

Poland:

Poland is also an emerging economy. The economy of Poland is at sixth rank in the European Union (World Economic Outlook Database, October 2014) The economy is the largest among the former Eastern bloc members of the European Union (EU). Poland adopted economic liberalization in 1991. In fact Poland economy was the economy in the European Union, which was able to bear the impact of to recession of 2008-09 and as such the impact was low.

Poland at 20th rank terms of GDP. Poland is a high income economy. The major contribution is by the service sector (62.3%). Agriculture accounts for 35.1% (IMF World Economic Outlook Database, 2017). The Polish external debt has been increased from \$42.2 billion in 1989 to \$365.2 billion in 2014.

Poland recorded an economic growth rate 3.9% in 2010. In 2014 its economic growth was a little lower and was 3.3%. Poland is the founding member of the World Trade Organisation. It implies the common external tariff to goods from the other countries including the United States.

The aftermath of war has been visible in Poland and the recovery has taken a long process. Trade is emerging an important component for Poland. The value of imports and exports taken together equals 96% of GDP. Credit is available on market terms and foreign investors can access domestic financial market. So the economy is moving with the globalised world.

Turkey:

According to IMF, Turkey is an emerging market. Turkey has the world's 17th largest nominal GDP. In terms of PPP, it is at thirteenth rank. Turkey is known as an industrialized country (IMF World Economic Outlook Database, 2017). Thus, the researchers have included Turkey also in the study. It is among the world's leading

producer of agriculture products, textiles, motor vehicles and other transportation equipment, consumer electronics etc.

In 2007, The World Bank classified Turkey as an upper middle income country in terms of the country's Per-capita GDP. In 2010, mean graduate pay was \$10.02 per man hour. According to a survey by Forbes Magazine in 2013, Istanbul, Turkey's financial capital had a total of 37 billionaires and ranked 5th in the world, following Moscow, New York city, London and Hong-Kong. In 2009, the govt of Turkey introduced various economic stimulus measures to reduce the impact of 2007-12 global financial crises. The country introduced temporary tax cuts on automobiles, home appliances and housing sector. This helped in enhancing the production of durable consumer goods, which increased by 7.2%, despite decrease in automotive production.

Being a globalised economy, trade is very important for Turkey's economy. The exports and imports taken together account for a major share of GDP and is 59% of GDP. There is no discrimination against foreign investment and many state owned enterprises have been privatized. The banking sector remains capitalized and is resilient to change, but the presence of foreign banks is small.

Romania:

Romania is a developing, upper middle-income mixed economy. This is an nation with having high Human Development Index. Romania is the 16th largest economy in the EU in terms of nominal GDP. Based on PPP parameters, it is at rank 13. Romania is a leading nations, which had lured FDI in Central and Eastern Europe (IMF World Economic Outlook Database, 2017). Until 2009, Romania's economic growth was among the fastest in Europe. A major contribution to it is through oil, iron ore, nickel, copper and natural gas. Romania is also a regional leader in Information Technology (IT) and motor vehicle production.

According to IMF, in 2016 and 2017, Romania will have the highest economic growth in Europe. Main exports of Romania are vehicles, chemical goods, transport, electronic goods, rubber, plastics etc. Romania also has one of the highest poverty rates in the EU. The share of Romania's population at the risk of poverty after social transfers increased from 22.9% in 2012 to 25.4% in 2015. However, the share of population at risk of poverty and social inclusion decreased from 43.2% in 2012 to 37.4% in 2015

Trade emerges a strong contributor to GDP. The value of exports and imports taken together equals 83% of GDP. The average applied tariff rate is 1.5%. The govt does not

discriminate against foreign investment, but the regulatory and judicial systems are deterrents to investment. The banking sector has high degree of capitalization. More than 70% of total assets are by Foreign-owned bank accounts.

Lithuania:

Lithuania is a member of EU. It is the largest economy among the Baltic States. Lithuania belongs to the group of very high human development countries. On the basis of the 'Ease of Doing Business' Index, it was at 24th rank, by the World Bank Group. According to the Heritage Foundation, Lithuania got a rank 15 from 178 countries in the index of Economic freedom (IMF World Economic Outlook Database, 2017). Thus the economy is an emerging economy in Baltic States and the researchers have tried to examine the trends in selected parameters to understand the growth transition of Lithuania.

Lithuania was the foremost country declaring its independence from Soviet Union in 1990. Through the implementation of reforms aiming at liberalisation, its transition occurred speedily from centrally planned economy to a market economy.

Lithuania's two-thirds of the population are working in the service sector. Under graduate, graduate and post -graduate education is also State Funded for enhancing the educational status of its population. Among the member of the states of EU and NATO, Lithuania is one of the poorer countries, but it is richer than the Eastern Europe with the exception of Slovenia, Slovakia etc

According to the Observatory of Economic Complexity, refined petroleum is the leading export of the economy of Lithuania. Russia is the main destination for Lithuania's exports and Latvia is the second more popular destination for Lithuanian goods. Rest of exports are by the U.K, Estonia and Germany.

Trade is extremely important to Lithuania's economy, the value of exports and imports taken together equals 155% of GDP. The competitive Financial Sector provides full range of services and branch networks of commercial banks provide access to services through the country. This emerging economy is also relying heavily on trade which has been subject to transition in the wake of Globalisation. Thus, it is relevant to include this in this study.

Russian Federation:

Russia, upper -middle income, mixed economy with state ownership in strategic areas of the economy. Russia's vast geography is an important determinant of its economic

activity. It is estimated that Russia contains 30% of the world's natural resource. Russia's major exports are oil, natural gas and precious metals (IMF World Economic Outlook Database, 2017). In 2012 the oil and gas accounted for 16% of GDP, 52% of federal budget revenues, and 70% of total exports. After United States of America, Russia has a large and sophisticated arms industry.

Russian economy is the economy with low debt to GDP ratio. Most of its external debt is private. Russia has added protectionist policies in place than the other countries. In Russia, major contribution comes through the service sector. The service sector is the largest sector of the economy and it accounts for 58% of GDP.

The petroleum Industry in Russia is one of the largest industries in the world. Russia is having the largest reserves and is the largest exporter of natural gas. It is the 2nd largest in coal reserves, 8th largest oil reservoir and is the largest exporter of oil in the world in absolute numbers. Also, it is the biggest diamond producing country in the world. The production was examined around thirty three million in 2013.

Trade is important for Russian federation. The exports and imports account for 51% of GDP. Foreign investment is screened and there is investment in several sectors of the economy. The financial sector is under the govt influence. State owned banks dominate the banking sector. As Russian Federation has moved from socialistic economy to mixed economy, it becomes very important to observe the transition of this economy. Thus, it has also been included in the present study.

Thus, in this Chapter an attempt has been made to introduce the six countries included in the study. As the basic motive of the study was to examine the growth transition in developing economies, the present study has taken Hungary, Turkey, Poland, Romania, Lithuania and Russian Federation as these economies are fast changing economies, are relying on heavily on trade, have different policies in Foreign investment. It would be important to study the growth rates of GDP and population. Equally important is to see the visibility of Net Exports and FDI on GDP. The following chapter will be based on review of literature related to growth aspects of these economies.

CHAPTER-2

REVIEW OF LITERATURE

The studies have been divided on the basis of the issues related to the growth of the developing countries. These issues included in the review of literature are: FDI, Export and import; GDP; and government policies.

Popescue (2014) describes the growth of developing countries of Europe by explaining the variables like FDI and GDP. After the emergence of the global economic and financial crisis, the GDP growth in most of developing countries of Europe has decelerated. The crisis has a great impact on the growth policy of these countries.

After the crisis, FDI has significantly dropped. Popescue (2014) considered credit increase as an important determinant of growth. Besides GDP magnitude and trade openness, the institutional factors too affected the FDI inflows in the developing economies of Europe.

Thus, FDI and Growth imperatives are highly relevant for gauging the transition. Hence, the present study focuses on growth rates of GDP and also covers the FDI status, along with export-import scenario of selected developing countries of Europe and Russian federation

There have been researchers working on the developing European economies, viz. Lithuania, Hungary, Poland and Romania. The researchers' (Fabrizo, Leigh and Mody, IMF 2008) have explained the importance of openness and institutions in countries like Lithuania, Hungary, Poland, and Romania. The results depict that there was a rapid amplification of the trade to GDP ratio in these economies. It was also reported that the share of their exports also registered an increase.

For substantial transformation of economy, there is a need of the combination of increased market shares with the real exchange rate and to increase the exports there is need to rise in the product quality and technology development in the export products. Poland's share in exports from 1994-2004 has increased continuously and same as in the case of Hungary, Lithuania. So there is need of openness of trade for the development of the developing countries.

Age, 1991 has examined Eastern Europe's transition. The destruction of Communist regimes in Eastern Europe have also caused changes in Communist systems and has started a move towards mixed economies (Age, 1991) To understand what is happening

in developing countries of Europe and to the Russian federation becomes all the more important in view of this.

Casaba,(2004) studied how the end of communism in eastern and central Europe and the end of Soviet Union has changed the life of million people living in these parts. This research has described about the economies of Poland, Hungary and Romania with the help of some components like current account balance % of GDP, inflation, unemployment rate etc. The govt. of Hungary and Poland has changed their process of implementation of policies just for adjusting budget deficits and for speeding up the growth. Inflation has a deep impact on the countries' GDP, but the high rates of growth are followed by deep recessions, and recessions in turn are followed by upswings by the developing countries of Europe [Libor, 2014; Korana, 2006].

There are many researchers reflecting on different perspectives of changes that have happened in Central and Eastern European Countries, since 1990. These have been done by Nut and Ports (1993) Korana (2006), and Kolodko (2000) covering different aspects of transition. Kolodko (2000) opined that the post-socialist transformation started in Poland and this transformation happened in 1989. Afterwards through a chain reaction this engulfed the entire region leading to collapse of socialism. Thus, it was utterly essential to include Poland in the present study.

The current study has also taken all these four economies, viz. Lithuania, Hungary, Poland and Romania. Along with these countries, Poland and Russian Federation have also been included. This has been done to examine the changes that occurred in these six selected economies in the period, 1999-2014.

Rozmahel, Kouba and Grochoua (2013) examined the integration of central and Eastern European countries. They have differentiated between the successful and unsuccessfully CEE countries focusing on EU. Countries like Hungry, Lithuania, Lativa could not make homogeneous clusters. In most of the dimensions analysed successful implementation of transition and Integration strategies was the result of the enduring pressure of EU.

More liberal policies were adopted by Poland, Hungry, Yugoslavia compared to Bulgaria, Czechoslovakia and the Soviet Union. Macroeconomic policies are also important for transition and Integration periods .The important of fundamental and economic crisis are also analysed on different countries from the communist period. Hungry and Poland inherited higher indebtedness. It has been concluded that for the best economic performances and fiscal stability and by this the welfare state model is used .

Csizmadia (2014) explained the development of the Hungary during the difficult period of time. He also compared it with the other countries. The change in the structure of Hungary's economy i.e. the ownership with privatisation is considered to be very successful for Hungary. Bokros package was implemented to save the Hungary's economy from the financial crisis and for stabilisation also. The changes in the macroeconomic variables such as output, employment and productivity have also been taken. Hungarian economy has comparative advantage and for its noteworthy human capital.

Lipton and Sachs (2012) looked at the market economy in Eastern Europe by taking example of Poland. Poland suffered labour shortage. Poland has unemployment less than 2% of the labour force. Poland is important because it is the first country to embark a market reforms under a non-communist government. In 1990 Poland adopted a radical reform just to end the Poland's hyperinflation and create the legal and economic basis market economy. In this research the strategies which have been adopted by Poland have been examined.

CHAPTER-3

OBJECTIVES, DATA AND RESEARCH METHODOLOGY

The main objectives of the study are to examine the growth of the selected developing countries of Europe and Russian Republic. This has been done to give a clear picture of the growth aspects. The study also examines the year on year growth rates to analyse the impact of recession on the economies of these countries. It is very important to define the objectives of the study. This has been covered in section 3.1. The constraint of the availability of data the objectives were few. The focus has been to fulfil the purpose and goal of research, to compare these selected economies to understand the growth transition. Section 3.2 covers the data and variables of the study. Section 3.3 covers the Research Design and Methods.

3.1 Objectives of the Study

The study has been undertaken with the following objectives:

Objectives1: To examine the growth transition in selected developing countries of Europe and Russian Federation

Objectives 2: To determine the relationship of GDP with population, FDI and Net Export.

Objectives 3: To compare the growth rates of the selected developing countries of Europe and Russian Federation.

3.2 Data and Variables of the study

In this study, annual data of selected developing countries of Europe and Russian Federation from 1999-2014 has been used. The data of variables i.e. population, GDP, FDI and net exports has been considered. The variables used in this study are explained below:

1. GDP: GDP is defined as the monetary value of all the goods and services produced within a country's area in a specific period of time. It includes all government outlays, public and private consumption, Foreign balance of trade etc. It is also used as an indicator for calculating the country's economic growth.

2. Population:-

A population is defined as the number of all the organisms or individuals or units, which live in a particular area and have the capability of cross breeding. The population of a

country doesn't remain same. Either it will increase or decrease. It is also an indicator which is used to measure the countries development.

3. Foreign Direct investment (FDI):-

FDI is that investment made by a company or individual in another country. This can be done by establishing the business operation or by acquiring the assets. FDI is considered important for countries economic development.

4. Net exports:-

Net exports are the difference between country's export and country's total imports. Net exports are used to calculate a country's Gross National Product (GNP) in an open economy. When a country is having more exports than the imports then a country is having positive balance of trade. When a country is having more imports than the exports then the country will have a negative balance of trade.

3.3 Research Design and Methods: -

3.3.1 Data sources:

The study is based on a data collected from statistical data published by Bluenomics. We can easily access the global economic data from this site –www.bluenomics.com. The site provides the data on all countries and on different variables. Based on the availability of data for the selected countries of Europe and Russian federation, the above mentioned variables were used.

3.3.2 Data Analysis:

Growth rates (YOY) have been calculated. YoY growth rate signify how fast the economy is growing. We have calculated compound annual growth rates also for the all the variables. This was done to compare the growth of selected developing countries of Europe and Russian federation. The analysing of the data would help to understand the importance of these variables in the related countries.

Further, with a view to accomplish the second objectives of the study, multiple regression analysis has been used. This was done for finding the relationship between the variables, viz. population, FDI, Net Exports and GDP of the respective country.

Multiple regression models are used to predict the value of two or more variables. It is simply an extension of simple linear regression. When one variable's value is dependent on the two or more variables, then multiple regression models are used. The study has used stepwise regression model. The software used for analysis is SPSS v 20. Step wise regression models helps to choose the significant variables, viz. Population, FDI and Net

exports which influence the GDP of the economy in consideration. The problem of Multi-collinearity is also ruled out through step-wise regression and it excludes out the insignificant variables.

The regression equation used in the study is:

$$Y=f(P, I, X)..... (i)$$

Here Y=GDP. GDP is the dependent variable

The independent variables included in the study are:

P-population

I -FDI

X- Net exports

CHAPTER-4

DATA ANALYSIS AND RESULTS

The purpose of the research is to analyse the performance of the different developing countries of Europe and Russian Federation. So the data of different variables which affect the countries GDP has been collected and analysed for the time period (1999-2014). The growth rates (YOY) of different countries have been calculated and analysis has also been done with the help of multiple regression technique, to find out the relation of GDP with population, FDI, Net exports.

4.1- Performance of Hungary

Hungary: GDP Scenario

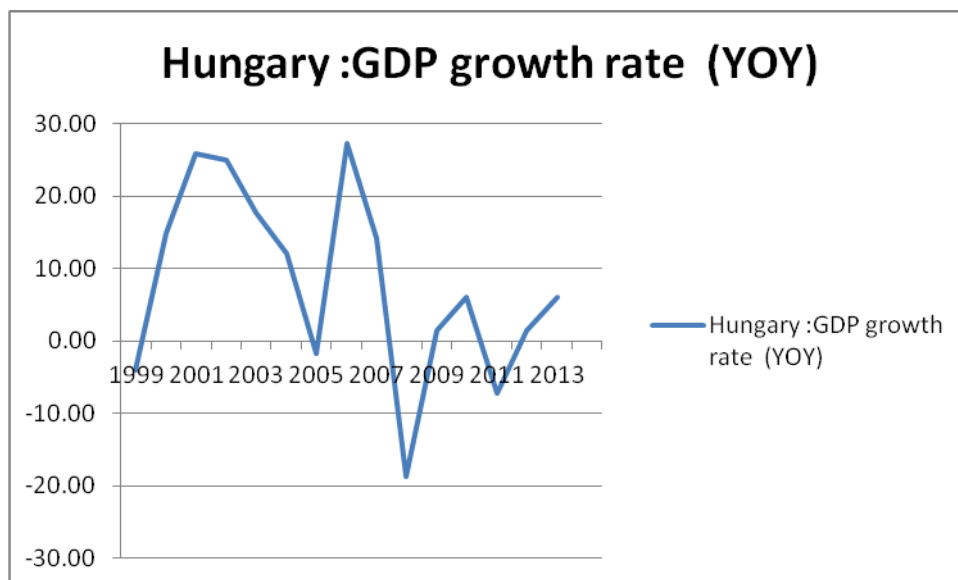


Figure 4.1a Hungary GDP Growth Rates

From the above graph (4.1 a) it is concluded that GDP of Hungary increased from 1999 to 2001. The growth rate is 25.93 in 2001 and is positive, but then it started to decline from 2002 to 2005. The growth before recession 2007-08 is higher, i.e. 14.29, as compared to the period after recession i.e. 2008-09 and is -18.13per cent per annum. The first financial crisis of 2008 has made the country to enter into a severe recession. The economy showed the signs of recovery after 201. This was done with the help of decrease in tax rates and GDP growth rate had an upswing, although still low at 1.5%.

Hungary: Population Status

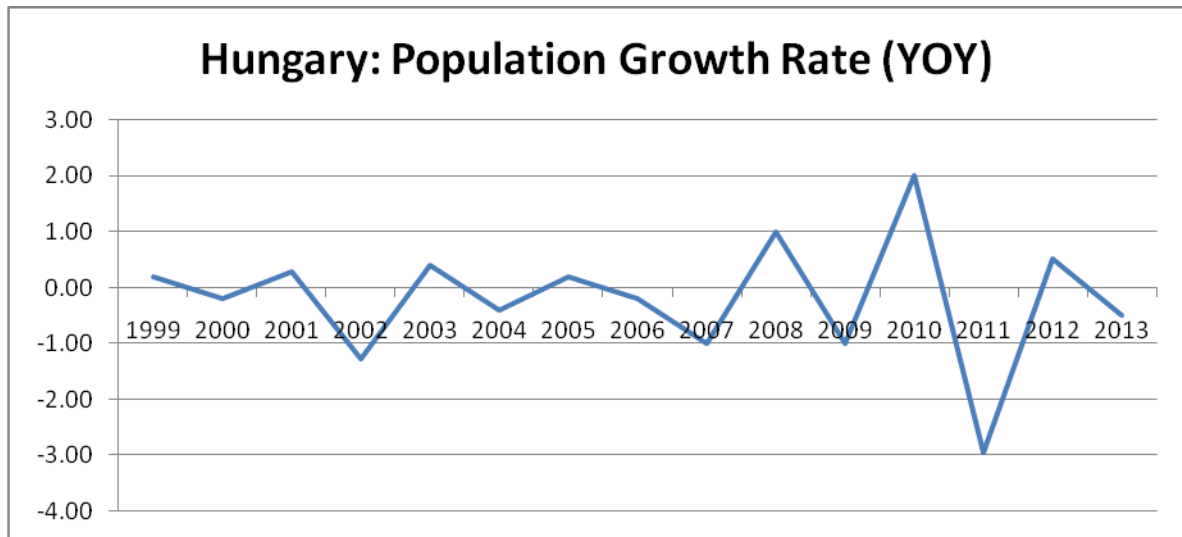


Figure 4.1b- Hungary: Population Status

The population of Hungary is very low as seen through figure 4.1 b and a meagre 0.14% of the world's total population is represented by Hungary. From 1999 to 2014 statistics it is clear that the population of Hungary is not growing on a large scale. In simple words, the population of Hungary is decreasing at a fluctuating rate. In 2010, Hungary attained max population growth rate, as compared to the other years. In 2010 the growth rate of population was 2.00 per cent, but this growth rate didn't remain there for long. In 2011 it fell sharply and was -2.94 per cent.

Hungary: Net Exports



Figure 4.1 c- Hungary: Status of Net Exports

From Figure 4.1 c, it has been clearly shown that net export growth rates of Hungary showed wide fluctuations. In 2003 Hungary attained the maximum growth rate in net

exports. In 2003, the rate was 716.6, but after 2003 it fell down to -91.25 rates and there after continued to fall. During the economic crisis in 2008, it declined at a fat rate and was-1333.3. After2008-09 the growth rate started to rise, and was able to come up from the crisis situation. In 2010 the net exports rate was 29.09 and after 2010 it continuously decreased. In 2013 it is reached a low of -21.82.

Hungary: FDI Status

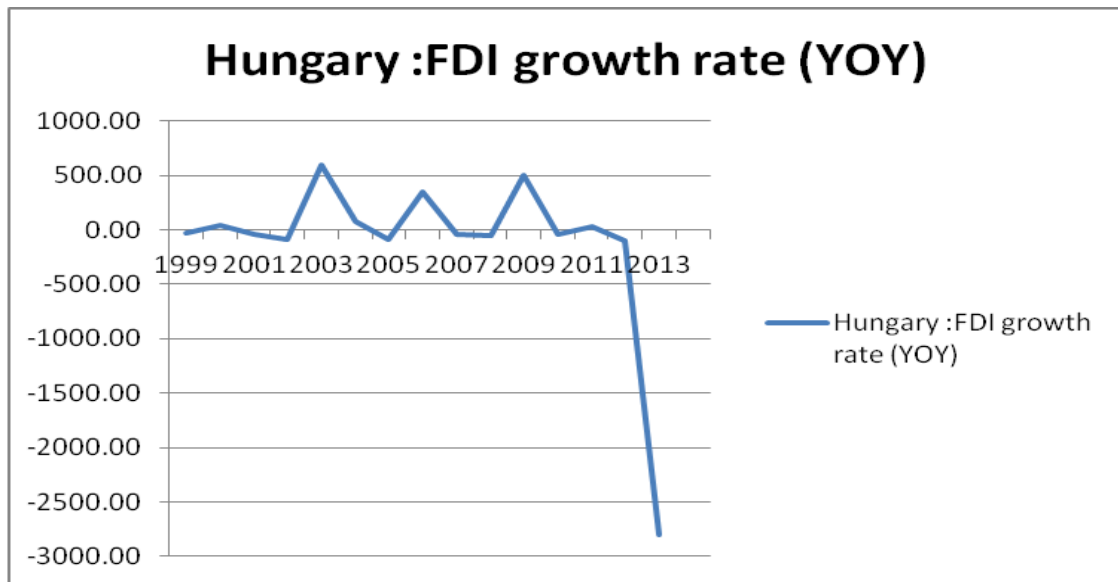


Figure 4.1 d- Hungary: FDI Status

FDI growth rate s of Hungary is shown through figure 4.1 d. The growth is negative from 1999-2002. In 2003 FDI growth rate attained the maximum value, it grew at rate of 600 and then in 2004 it declined. In 2004 it was 75 percent. After 2004 there were a lot of changes in the FDI growth rate. During the recession time, it reached a low of -54.55, but somehow the economy was able to cope up after the recession and it started growing. In 2009 it increased at a high speed, but after 2012 it again started declining.

4.2 Hungry: Regression results

Regression results for Hungary are given in table 4.1 a, 4.1 b and 4.1 c

GDP=F (population (P), FDI (I), Net export(X))

Table 4.2 a: Model summary results for Hungary

Model Summary						
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.702 ^a	.493	.457		.02707	
2	.826 ^b	.682	.633		.02224	1.878

a. Predictors: (Constant), H(POP)
b. Predictors: (Constant), H(POP), H(FDI)
c. Dependent Variable: HGDP

In the above model 68.2% of variation in GDP is explained by FDI and population together. Adjusted R Square is 63.3%, which shows that the independent variables FDI and population explain 63.3% variation in GDP. If only one variable is taken i.e. population then the adjusted R square is 45.7% and when both the variables are chosen, then R square increases to 63.3%

Table 4.2 b: ANOVA Results of Regression

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.010	1	.010	13.600	.002 ^b
	Residual	.010	14	.001		
	Total	.020	15			
2	Regression	.014	2	.007	13.947	.001 ^c
	Residual	.006	13	.000		
	Total	.020	15			
a. Dependent Variable: HGDP						
b. Predictors: (Constant), H(POP)						
c. Predictors: (Constant), H(POP), H(FDI)						

The value of F-statistics in the above model as shown in figure 4.1 b is 13.94 and is significant and the model is acceptable. In this model we will reject the null hypothesis because the calculated value is more than the critical value. This means the variables chosen, viz. Population and FDI do explain the variation in GDP.

TABLE 4.2 c: - Coefficient explanation

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.453	.636		3.858	.002
	H(POP)	-.232	.063	-.702	-3.688	.002
2	(Constant)	1.847	.566		3.262	.006
	H(POP)	-.170	.056	-.513	-3.009	.010
	H(FDI)	-.001	.000	-.474	-2.783	.016
a. Dependent Variable: HGDP						

$$H(\text{GDP}) = 1.84 - 0.170(H \text{ POP}) - 0.001(H \text{ FDI})$$

(3.2) (3.0) (2.78)

When population is decreased by 1%, keeping the FDI constant, then GDP decreases by 0.17%. When FDI decreases by 1% then GDP of Hungary also decreases by 0.001%, keeping the population variable constant.

In this model T statistics is 3.009 for population and for FDI it is 2.78. Thus, both the variables are included in the model. They are negatively related with GDP.

4.3 Performance of Poland

Poland: GDP Scenario



Figure 4.3 a- GDP Growth Rates

Poland's GDP growth rates have been depicted through figure 4.2 a. The growth has been increasing at increasing rate from 1999 to 2004. In 2004 its GDP growth rate was 20.0. Then, in 2005 it started decreasing and decreased to 13.33. In 2006, it again started rising with growth rate of 26.47. During the recession time, in 2008 GDP fell down. In 2008 Poland's GDP growth rate was -16.98. But after recession Poland was able to cover up its recessionary effects. In 2009 its GDP growth rate increased to 9.09 and in 2010 it reached to 10.42. After 2010, in 2011 Poland GDP growth rate became negative and reached a low of -5.66. Later on it started increasing and in 2013, Poland's GDP growth rate was 3.85

Poland: Population Status

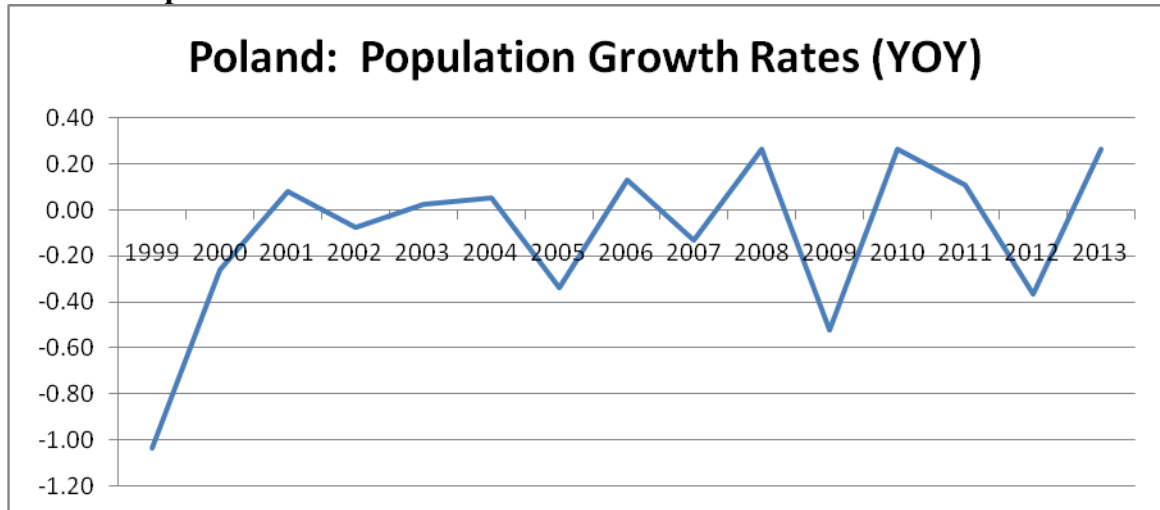


Figure 4.3 b- Poland: Population Status

As shown through figure 4.2 b, in 1999 and 2000, population of Poland continuously decreased and Poland was having a negative growth rate. In 1999 Poland's population growth rate was -1.03 and in 2000 it marginally rose to 0.26. In 2003 it slightly increased and Poland possessed growth rate of 0.08, but this increase didn't remain for a long time. In 2005 again Poland's population growth rate fell to -0.34 during recession time Poland's population in place of decreasing was 0.26. After recession in 2009, the growth rate of population again decreased. In 2013 Poland's population growth rate was positive and was 0.26.

Poland: Net Exports



Figure 4.3 c : Poland: Status of Net Exports

Poland's net export growth rate as shown through figure 4.2 c decreased from 1999 to 2004, and was negative till 2004. In 2005, it started increasing and showed fluctuations,

this time in the upward direction and was positive. In 2005 Poland's net export growth rate was 31.63 and it continuously grew till 2007. In 2008 due to crisis, the net export growth rate declined sharply. In 2008, Poland's net export growth rate was -64.36. After the crisis the economy was able to cope up with the situation and possessed the positive growth rate in 2009 i.e. 48.38. In 2012 it again showed some downward changes but somehow in 2013 it increased and the growth rate was 35.

Poland: FDI

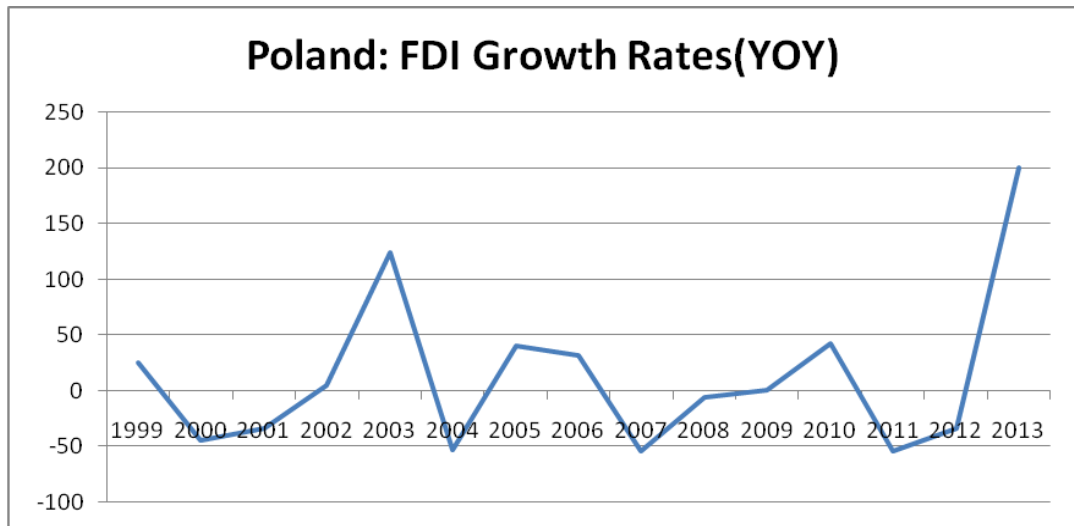


Figure 4.2d: Status of FDI

From FDI statistics, as in Figure 4.2 d, it has been shown that from 1999 to 2002, the FDI growth rate has been continuously declining, but after 2002, it has increased at a high rate. In 2002, the FDI growth rate in 2002 was 5 and in 2003 it increased to 123.81, but in 2004 it decreased with a high speed and reached at -53.19. In 2005 it again started to grow and occupied the growth rate increase of 40.91. During the recession time the FDI growth rate decreased. In 2007 it decreased to -53.66 and in 2008 it was -52.6, but somehow after recession it started to increase and was 1.11 in 2009. After 2009 also the FDI growth rate fluctuated and showed many ups and down, but in 2013 it again reached at the peak. In 2013 there was recover and Poland's FDI growth rate was positive and very high.

4.4- Regression results for Poland are given in table 4.4 a, 4.4 b and 4.4 c

Table 4.4 a: Model summary results for Poland are

Model Summary						
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.678 ^a	.459	.421	.11163	.696	

a. Predictors: (Constant), P(pop)
b. Dependent Variable: P(GDP)

In this model 45.9% of variation in GDP is explained by population only. In this model adjusted R square is 42.1% which states that the only dependent variable population explained the variation in GDP. The remaining two variables, viz. FDI and Bet exports have been excluded from the model.

4.4 b ANOVA Results for Poland

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.148	1	.148	11.887	.004 ^b
	Residual	.174	14	.012		
	Total	.323	15			
a. Dependent Variable: P(GDP)						
b. Predictors: (Constant), P(pop)						

The value of F is 11.88, thus it is significant and the model is thus acceptable. In this model we reject the null hypothesis because the calculated value is more than the critical value.

4.4 c: Coefficient explanation of Poland Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.067	6.875		3.501	.004
	P(pop)	-.621	.180	-.678	-3.448	.004
a. Dependent Variable: P(GDP)						

$$P(\text{GDP}) = 24.06 - 0.621(P \text{ POP})$$

$$(3.5) \quad (3.4)$$

When population of Poland is decreased by 1% then the GDP of country also decreases by 6.21. In this model, GDP relationship is explained by population variable only and the other two variable have been excluded from the model i.e. FDI and net export through step-wise regression analysis. The T-statistic for population is 3.4 and is significant. So the population is the only variable which is included in the regression model.

4.5 Performance of Turkey

Turkey: GDP Scenario

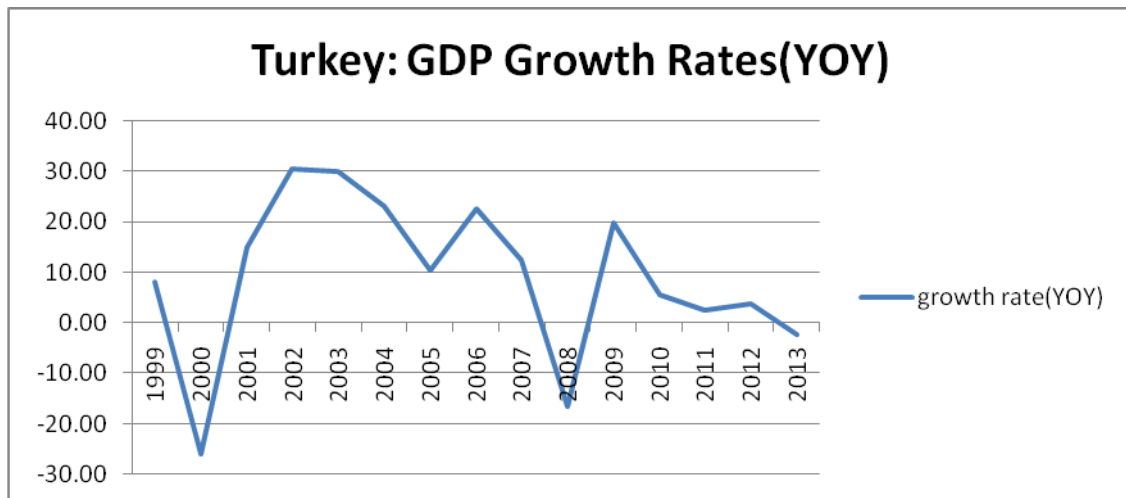


Figure 4.5 a-Turkey: GDP Scenario

As shown through figure 4.3 a, Turkey's GDP growth rate from 1999 to 2000 was falling and was low. Soon after 2001, it started growing and in 2002 Turkey's GDP growth rate was 30.43. After 2002, it was increasing although there were many ups and downs. But in 2008 it fell down sharply. In 2008 it reached -16.44, but after the recession Turkey's economy was able to cope up with the situation. In 2009 Turkey came up with positive GDP growth rate, i.e.19.67. After 2009 it again fell and in 2013 it is still having negative GDP growth rate i.e. -2.44.

Turkey: Population Status

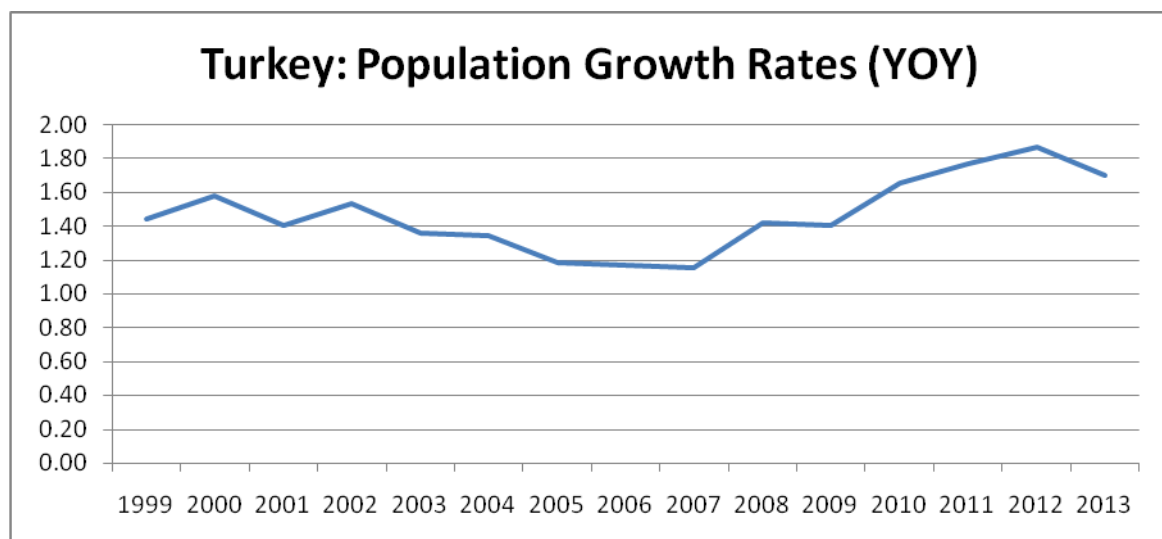


Figure 4.5 b Population Status

Figure 4.3 b depicts Population Status in term of YoY growth. Turkey Population Growth rate was always positive with little fluctuations. In 2000 the population growth rate of

turkey was 1.58. In 2005 it slightly declined to 1.18. Turkey was the only country whose population is not affected by recession. In 2008, Turkey was having growth rate of 1.42. There-after, it was continuously growing with little swings. In 2013 it reached 1.71.

Turkey: Net Export

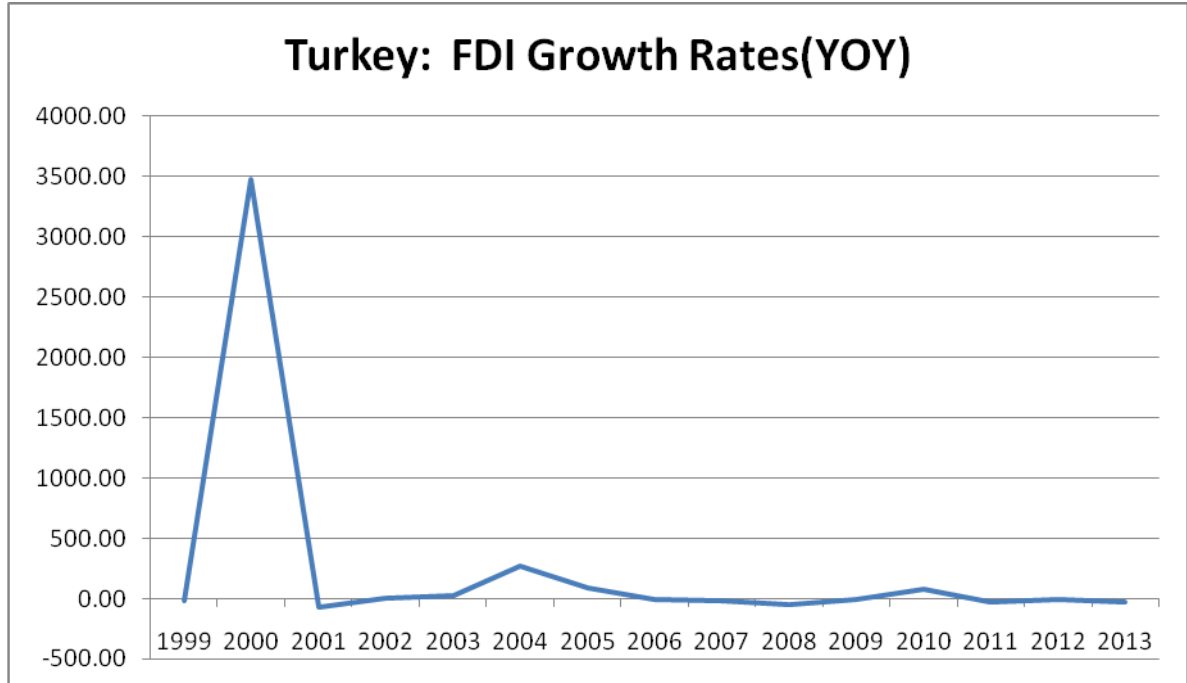


Figure 4.5 c : Status of Net Exports

Status of Net Exports of Turkey has been shown through figure 4.3 c. In, 1999, Turkey net export growth rate was 71.24, but in 2000 it decelerated and reached -35.17. After 2002, it started to grow and continuously grew. But due to recession, it sharply fell down to -30.01 from 7.95. However, Turkey’s economy was able to upslide the recession and in 2009, it reached a maximum of 49.73. After 2009, it declined slowly. In 2013, turkey’s net export growth rate was -7.14 which was lower compared to the other years.

Turkey’s FDI Growth Rate

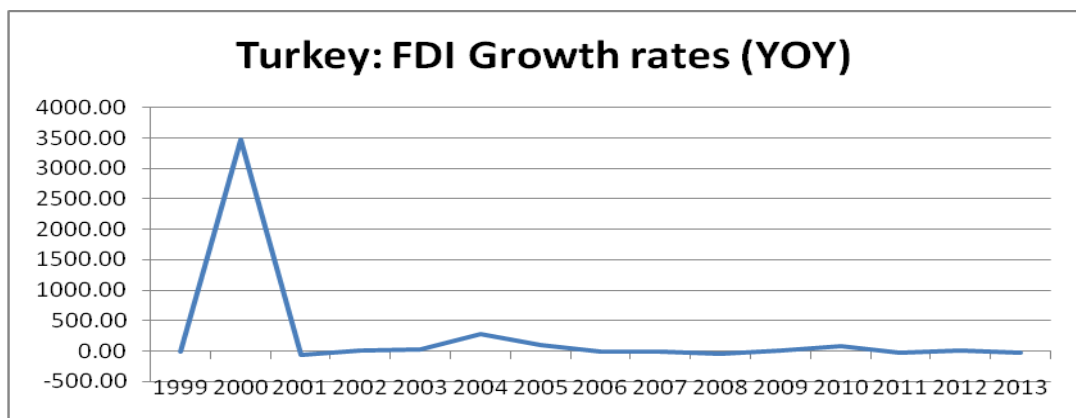


Figure 4.5 d : Status of FDI

Turkey's FDI growth rate as shown through Figure 4.3d was negative in 1999, and it was -23.64. But in 2000 it increased at a high rate to 3471.43. In 2005, it decreased to 89.47 and after 2005, it continuously decreased, except for in 2010, Turkey's FDI growth rate increased to 80.0, but after 2010 it fall down quickly and in 2013 it reached -34.55.

4.6-Turkey: Regression results are given in table 4.6a, 4.6 b, 4.6 c

Table 4.6 a: Model summary results for Turkey

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.959 ^a	.921	.915	.06749	.638
a. Predictors: (Constant), T(net ex)					
b. Dependent Variable: T(GDP)					

In this model 92.1% variation in GDP is explained by net exports only. FDI and population, both the components are excluded from the model. Adjusted R square is 91.5% which shows that the independent variable net exports explained 91.5% variation in GDP.

Table 4.6 b: ANOVA for Turkey

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.739	1	.739	162.222	.000 ^b
	Residual	.064	14	.005		
	Total	.803	15			
a. Dependent Variable: T(GDP)						
b. Predictors: (Constant), T(net ex)						

The value of F is 162.2, thus the model is significant and from this model it is concluded that we will reject the null hypothesis because the calculated value is more than the critical value

Table 4.6 c: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.083	.039		2.110	.053
	T(net ex)	-.003	.000	-.959	-12.737	.000

a. Dependent Variable: T(GDP)

$$T(\text{GDP}) = 0.83 - 0.003 (T \text{ net ex})$$

(2.11) (12.73)

When the net export is decreased by 1%, then GDP of Turkey also decreases by 0.003. The T statistic for net exports is 12.73. So in this model GDP variation is explained by net exports only. The other two variables FDI and population have been excluded from the model.

4.7 Performance of Romania

Romania GDP Scenario

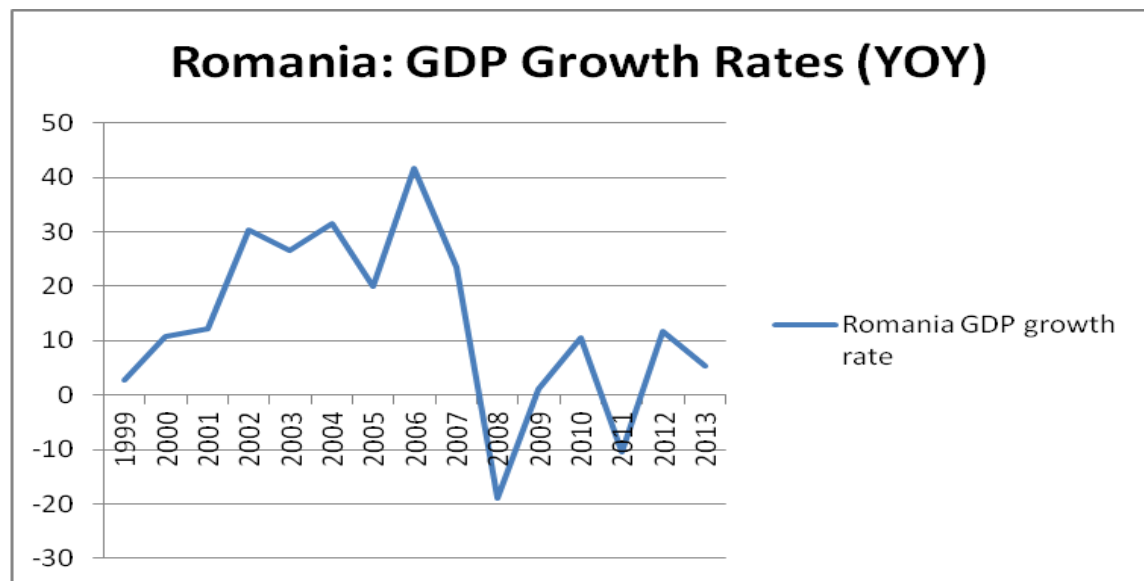


Figure 4.7 a- Romania: GDP Scenario

Romania GDP (Figure 4.4 a) growth rate was positive. From 1999 till recession, Romania GDP growth rate showed many ups and downs, but it was never negative. In 2006, it attained the maximum GDP growth rate i.e. 41.67%. In 2007-8 it decelerated and was negative and reached a low of -19.05. After recession, it was 1.18%. Then in 2011 it decreased again and reached -10.53% and after that it again started to grow.

Romania Population Status

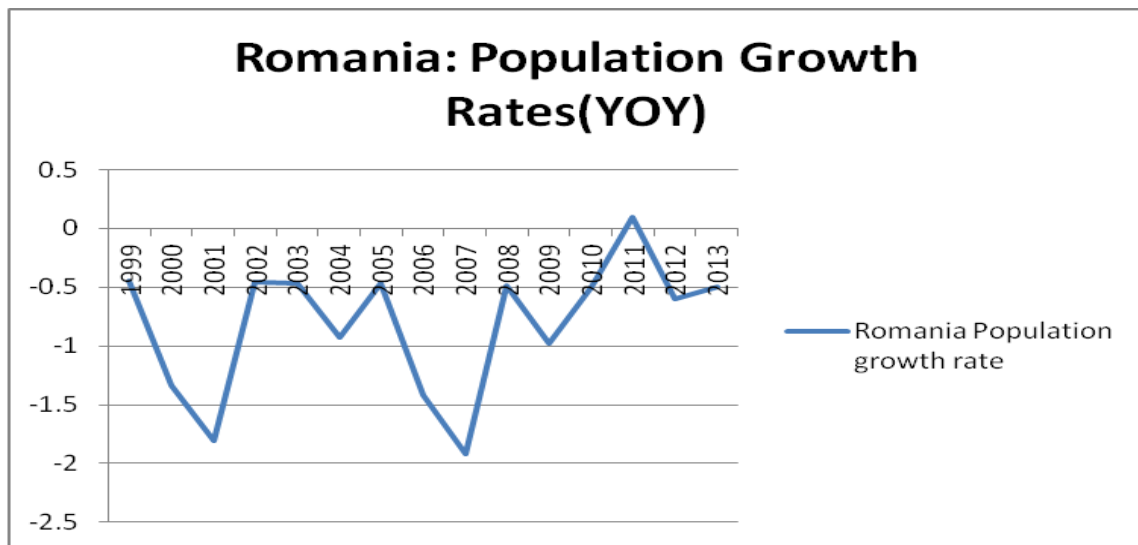


Figure 4.7 b- Romania Population Status

Romania's population growth rates (Figure 4.4 b) are very low. The growth rate of population of Romania is not growing since 1999. It was continuously decreasing and in 2006 the population growth rate of Romania was -1.42. Even during the recession time the population of Romania decreased and was very low. Only in 2011, it showed a positive result i.e. 0.10, but this was temporary and the growth rate again started decreasing after 2011.

Romania: Net Exports



Figure 4.7 c-Romania: Status of Net Exports

From Romania's net export statistics (Figure 4.4 c), it is clearly shown that from 1999 to 2000 growth rate was positive. In 2000, the net export growth rate of Romania was 62.07, then it fall down sharply and was -10.64 in 2001, but after 2001 it slowly increased to 33.33%. During 2008, it was negative i.e. -58.12, but after recession economy of

Romania has seen many ups and downs in growth rate of its net exports. In 2013, it grew at a rate of 7.02%

Romania FDI growth rate

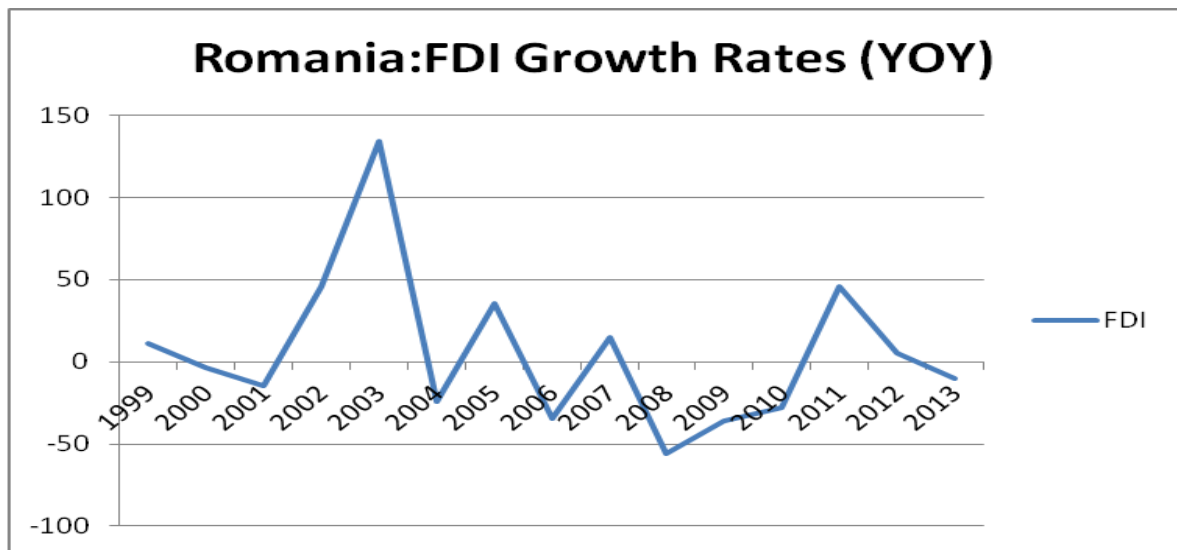


Figure 4.7 d- Romania FDI status

FDI of Romania was falling from 1999 to 2001. It was 11.53 in 1999, fell to -3.44 in 2000 and was further negative in 2001. In 2003, it increased at a higher rate. In 2003, it attained growth rate of 134.28. Then, it continuously declined. In 2008, it reached a low of -35.71 and after that in 2010, it started rising. In 2011 it was 46.15 and in 2013 it fell down again and attained the growth rate of -10.

4.8 Romania: Regression Results are given in table 4.8 a, 4.8 b and 4.8 c

Table 4.8 a: Model summary results for Romania

Model Summary						
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.950 ^a	.902	.895		.02143	
2	.978 ^b	.957	.951		.01471	.876
a. Predictors: (Constant), R(POP)						
b. Predictors: (Constant), R(POP), R(NET EXP)						
c. Dependent Variable: R(GDP)						

In this model 95.7% variation in GDP has been explained by the variables i.e. population and net export. Adjusted R Square is 95.1% which explains that the independent variable population and net export explains 95.1% variation in GDP. If one variable in this model

i.e. population is included, then adjusted R square is 89.5% and when both the variables are taken, viz. Population and net export then adjusted R square is 95.1%

Table 4.8 b: ANOVA Results for Regression

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.059	1	.059	129.249	.000 ^b
	Residual	.006	14	.000		
	Total	.066	15			
2	Regression	.063	2	.032	145.638	.000 ^c
	Residual	.003	13	.000		
	Total	.066	15			
a. Dependent Variable: R(GDP)						
b. Predictors: (Constant), R(POP)						
c. Predictors: (Constant), R(POP), R(NET EXP)						

The value of F-statistics is 145.6. In this model calculated value is more than the critical value so we will reject the null hypothesis. And the model is acceptable and in this model both the variables are taken that is population and net export.

Table 4.8 c: Coefficient

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.623	.132		12.301	.000
	R(POP)	-.071	.006	-.950	-11.369	.000
2	(Constant)	1.429	.102		14.004	.000
	R(POP)	-.063	.005	-.844	-13.403	.000
	R(NET EXP)	-.003	.001	-.257	-4.091	.001
a. Dependent Variable: R(GDP)						

$$R(\text{GDP}) = 1.42 - 0.063(\text{R pop}) - 0.003(\text{R net export})$$

$$(14.004) \quad (13.40) \quad (4.09)$$

When the population of Romania is decreased by 1%, then the GDP of Romania also decreases by 0.063% keeping the net export constant. When population is kept constant

and if net export decreased by 1% then the GDP of Romania also decreased by 0.003. The value of t-statistic for population is 13.40 and for net export are 4.09. Thus, both the variables are included in the model and explain the variation in GDP. They are inversely related with GDP.

4.9-Performane of Lithuania

Lithuania GDP Scenario

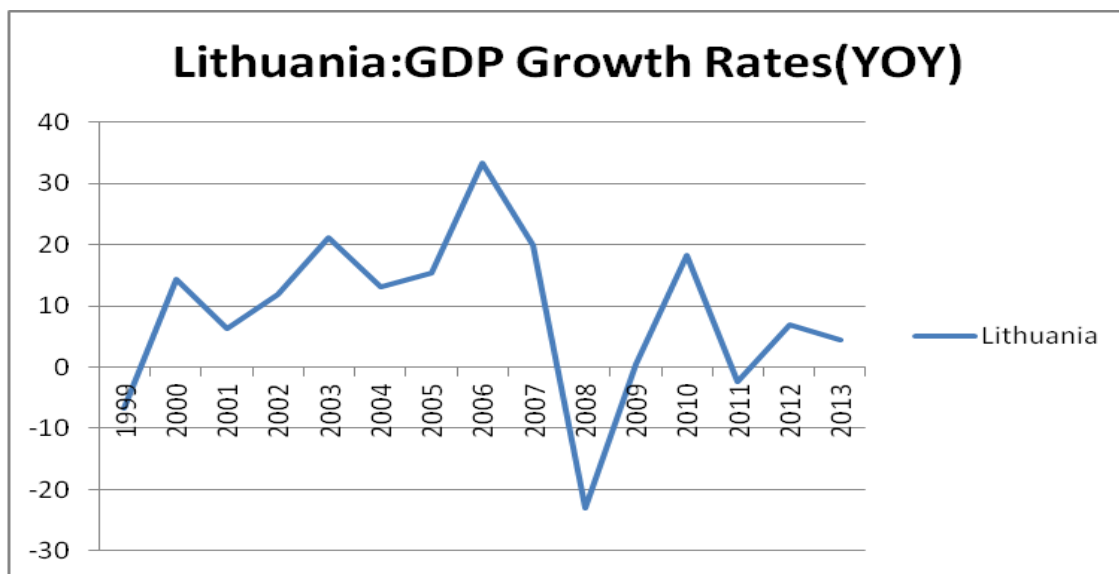


Figure 4.9 a- Lithuania GDP Scenario

GDP of Lithuania (Figure 4.5 a) was mostly positive, but with a lot of fluctuations. In 2000, Lithuania's GDP growth rate reached 14.28 and in 2001, it fell down to 6.25, then in 2003 it increased to 21.05. In 2006, it reached a maximum of 33.33. In 2008, it sharply falls down and decelerated to -22.91. In 2009, it again started growing. In 2010 Lithuania's GDP was 18.27, but after 2010, it started falling again, but remained positive. In 2013, the GDP growth rate of Lithuania was 4.34.

Lithuania: Population Status

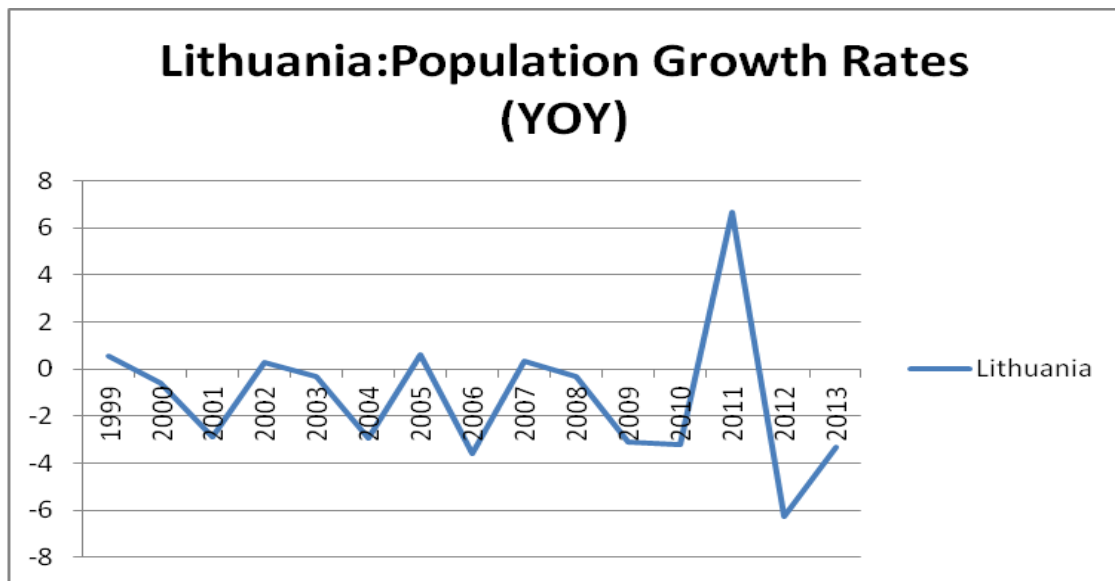


Figure 4.9 b - Lithuania: Population Status

Lithuania's population (Figure 4.5 b) is not growing at a high rate. For most of the period it was negative like in 2000, 2001, 2003, 2004 and 2006. In 2002 it was 0.29, in 2005 it was 0.60. Though positive, the rates were very low. In 2007 it reached to 0.31 but in 2008 due to economic crisis it fall down tom -0.31 and after that it's population growth curve fall down only. Only in 2011 the population growth rate of GDP was positive and reached to 6.66 but in 2013 it again went to negative and having growth rate -3.33

Lithuania Net Exports

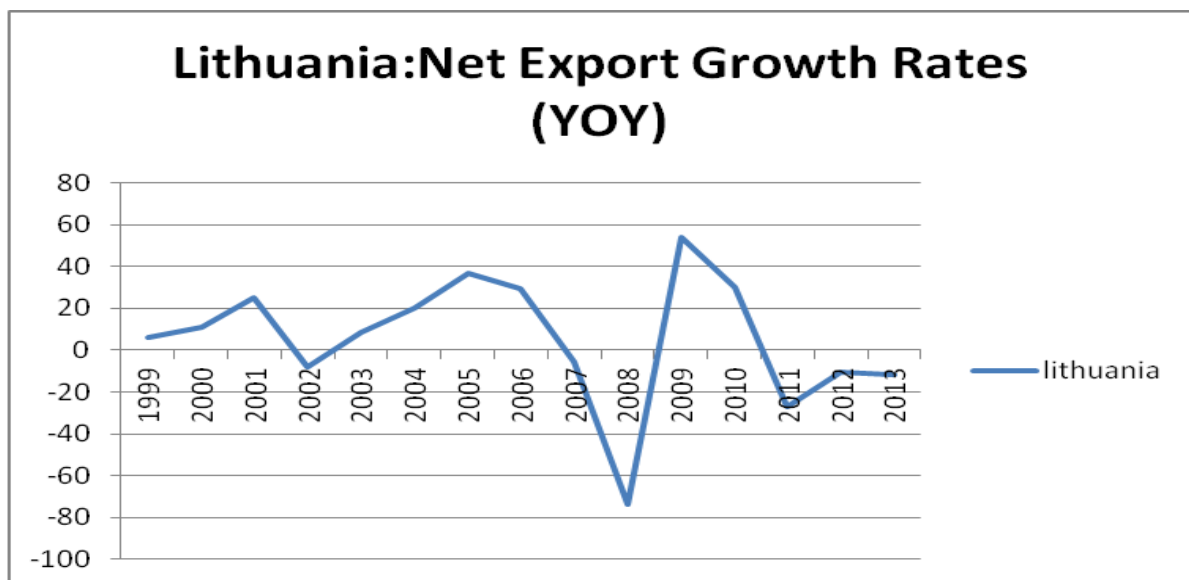


Fig 4.9 c- Lithuania net export status

From 1999-2001, Lithuania's net export growth rate was positive. In 2001, it reached to 25. In 2002, the growth of net export has declined, and it went to negative. But after 2002,

it started growing with a positive rate .In 2005 the net export growth rate attain 36.66 rate. In 2008 the growth of net export fall's down at high rate. In 2008 it was -74.After 2008 it started to grow and in 2010 the growth of net export in Lithuania was30.After 2011 the growth of net export was continuously fall down .

Lithuania: FDI

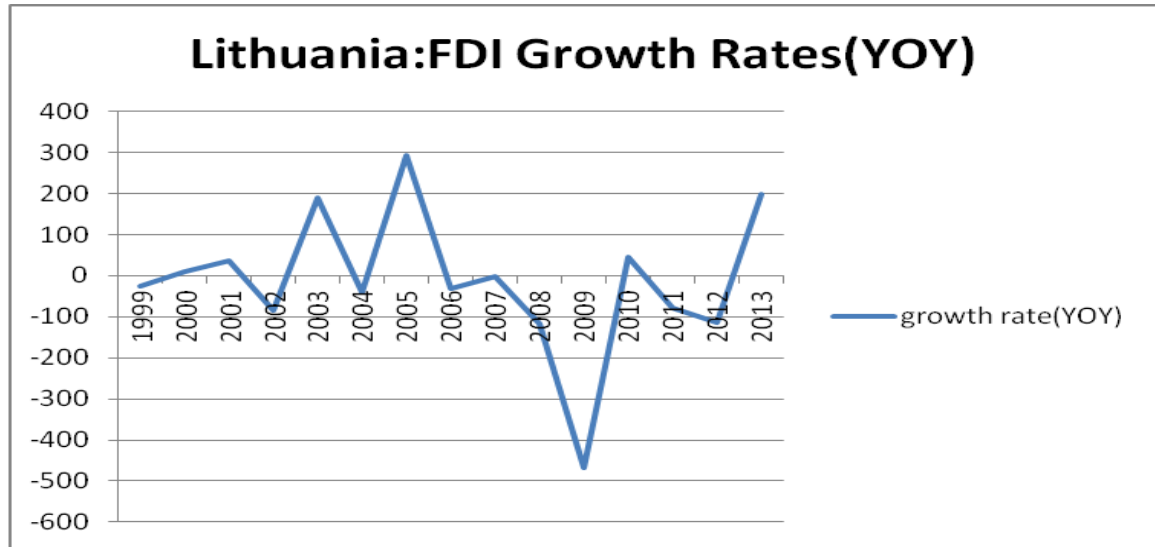


Figure 4.9 d- Lithuania: FDI status

As shown in Figure 4.5 d, from 1999 to 2006, Lithuania’s FDI growth rate was positive in some years only became negative in 2002, 2004 and 2006 .In 2005 it reached a maximum of 292.30, but it sharply fell down and in 2006 Lithuania’s FDI growth rate was -31.37. In 2008, the Lithuania’s growth rate fell more sharply and in 2008 it was -117.66. It fell continuously and revived in 2010, fell again in 2011 and 2012 and again revived in 2013. The FDI growth rate was 200 which was maximum in 2013.

4.10-Lithuania: Regression results are given in table 4.10 a, 4.10b and 4.10 c

Table 4.10 a: Model summary results for Lithuania

Model Summary						
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.916 ^a	.839	.828		.00532	
2	.945 ^b	.894	.877		.00449	1.893
a. Predictors: (Constant), L(POP)						
b. Predictors: (Constant), L(POP), L(NETEXP)						
c. Dependent Variable: L(GDP)						

In this model 89.4% variation in GDP is explained by two variables, viz. population and net exports. Adjusted R square is 87.7%, which means that population and net exports explained 87.7% of variation in GDP. If only population is included in the model i.e. then the adjusted R square is 82.8%. When both the variables are taken together, then the value of adjusted R square increased to 87.7%

Table 4.10b: ANOVA Results for Regression

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.002	1	.002	73.212	.000 ^b
	Residual	.000	14	.000		
	Total	.002	15			
2	Regression	.002	2	.001	54.715	.000 ^c
	Residual	.000	13	.000		
	Total	.002	15			
a. Dependent Variable: L(GDP)						
b. Predictors: (Constant), L(POP)						
c. Predictors: (Constant), L(POP), L(NETEXP)						

The value of F-statistics is 54.71, the model is significant. The calculated value is more than the critical value, so we will reject the null hypothesis. Thus the model is acceptable.

Table 4.10c: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.231	.023		9.889	.000
	L(POP)	-.061	.007	-.916	-8.556	.000
2	(Constant)	.225	.020		11.338	.000
	L(POP)	-.061	.006	-.918	-10.159	.000
	L(NETEXP)	-.002	.001	-.233	-2.579	.023
a. Dependent Variable: L(GDP)						

$$L(\text{GDP}) = 0.225 - 0.061(L \text{ pop}) - 0.002(L \text{ net exp})$$

(11.33) (10.15) (2.5)

When population is decreased by 1%, then GDP of Lithuania also decreases by 10.15% keeping the other variable i.e. net export constant. When population is kept constant and the net export decreases by 1% then the GDP of Lithuania also decreases by 2.5%. FDI is the variable which is excluded from the model. The value of T statistics for population is 10.15 and the value for net export is 2.5. Thus the model is acceptable.

4.11 Performance of Russian Federation

Russian Federation GDP Growth Rate

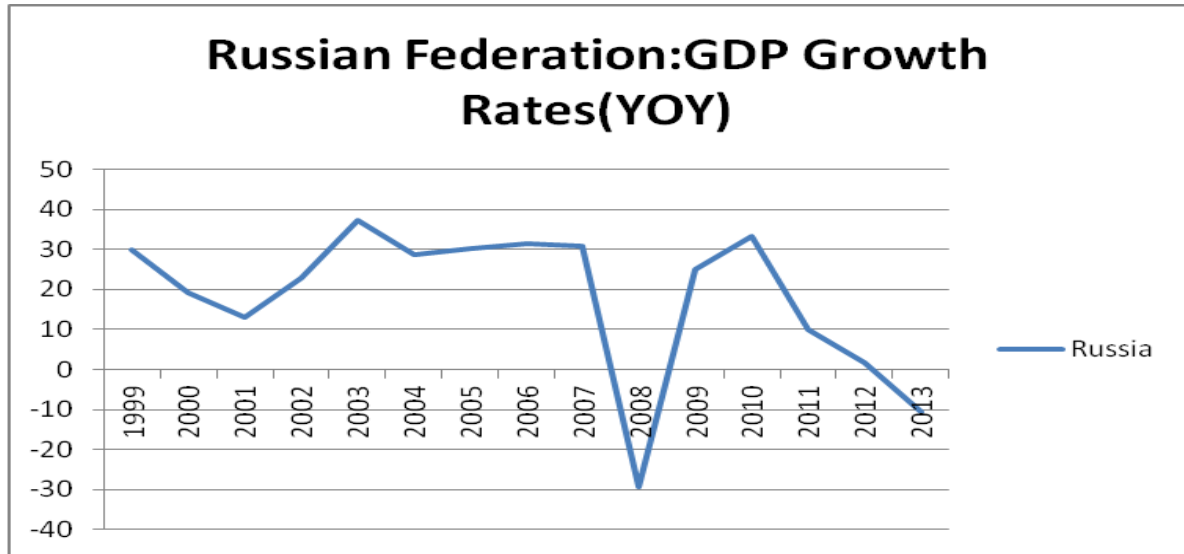


Figure 4.11a- Russian Federation GDP Growth Rate

Figure 4.6 a depicts the growth rates of GDP. Russia Federation managed to keep its growth rate mostly positive. In 1999 Russia Federation growth rate was 30 and in 2000 it slightly decreased and was 19, but then again in 2003 it increased and reached a maximum level of 37%. During the recession time GDP growth rate fell sharply and was -29 rate but somehow after the recession there was an upswing in Russian economy in terms of its GDP growth. In 2009 the GDP growth rate reached 25. In 2011 it again started to decrease and in 2013 it is -10.71

Russia Federation Population growth rate

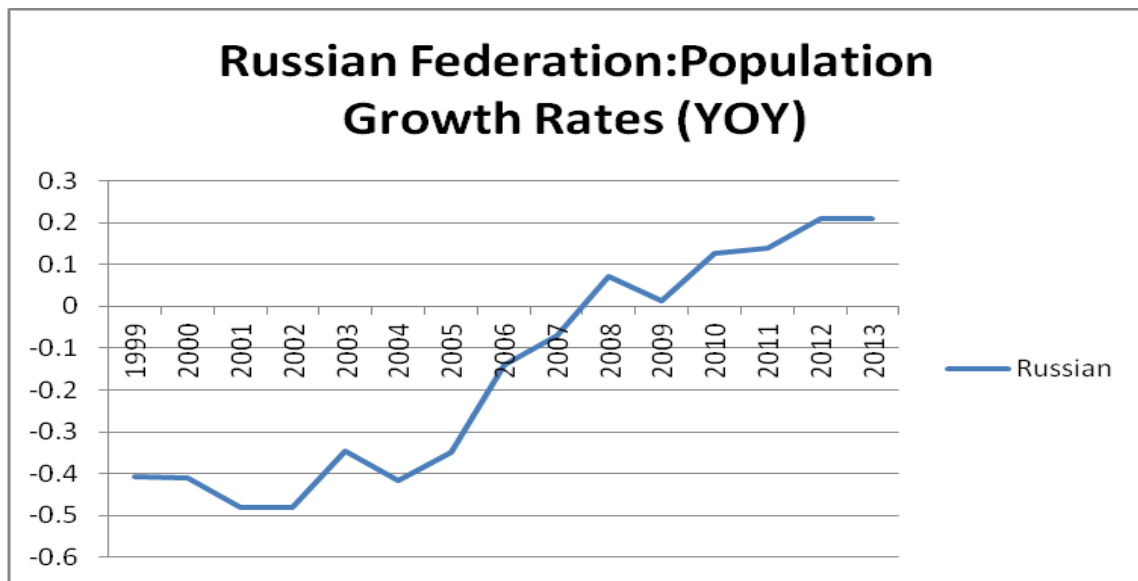


Figure 4.11 b- Russian Federation Population Status

Russia population statistics as depicted through Figure 4.6 b indicate that the population growth rate of Russia Federation was negative before the economic crisis or recession. In 2002-2003 it had adverse growth rate of -0.48 and after 2003 it had positive growth rate. In 2008 it increased to 0.07 and was continuously growing after that. In 2011 the population increased to 0.14 and in 2013 it reached 0.21.

Russian Federation: FDI Status

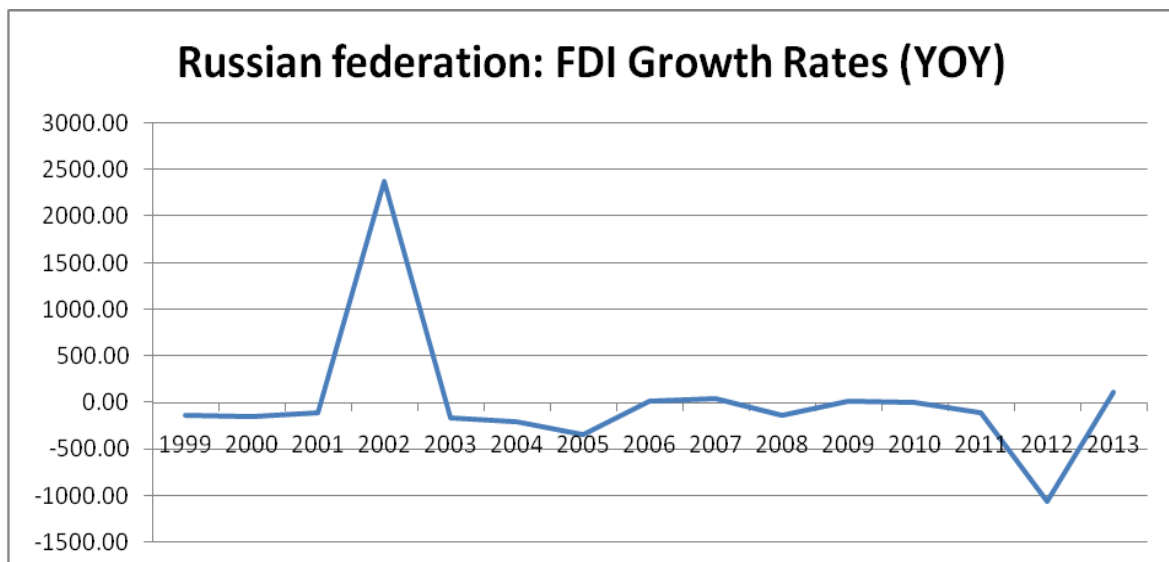


Figure 4.11 c- Russian Federation FDI Status

There are many fluctuations in FDI growth rate of Russian Federation (Figure 4.6 c). In 1999 it was -1333.9 and in 2002 it reached to max level of 2370.5 and again in 2003 it started falling. In 2006 it grew up and having achieved growth rate 10.39, it increased

further and was 41.18 in 2007. The impact of recession was visible and the growth rate fell to -145.8. After 2008 recovery started and growth rates increased till 2011. In 2012 it again declined to -1062.9 rate, but somehow Russian economy able to stand up in 2013 with growth rate of 105.13.

4.12: Russian Federation: Regression Results are given in table 4.12 a, 4.12 b, 4.12 c

Table 4.12 a: Model summary results for Russian Federation

Model Summary						
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.783 ^a	.613	.553		.49520	.764
a. Predictors: (Constant), RF(FDI), RF(pop)						
b. Dependent Variable: RF(GDP)						

In the above model 61.3% variation in GDP is explained by FDI and Population together adjusted R-square is 55.3% which shows that both the independent variables explained 55.3% of the variation in GDP. Since for Russian Federation data for net exports was not available, step wise regression was not used.

Table 4.12 b: ANOVA Results

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.039	2	2.520	10.275	.002 ^b
	Residual	3.188	13	.245		
	Total	8.227	15			
a. Dependent Variable: RF(GDP)						
b. Predictors: (Constant), RF(FDI), RF(pop)						

The value of F statistics is 10.27, and is significant. The calculated value is more than the critical value so we will reject the null hypothesis. The model is acceptable.

Table 4.12 c: Coefficient explanation

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	53.758	12.597		4.268	.001

	RF(pop)	-.366	.087	-.723	-4.180	.001
	RF(FDI)	-.002	.001	-.268	-1.552	.145
a. Dependent Variable: RF(GDP)						

$$RF(GDP) = 53.75 - 0.366(RE POP) - 0.002(RF FDI)$$

$$(4.2) \quad (4.1) \quad (1.5)$$

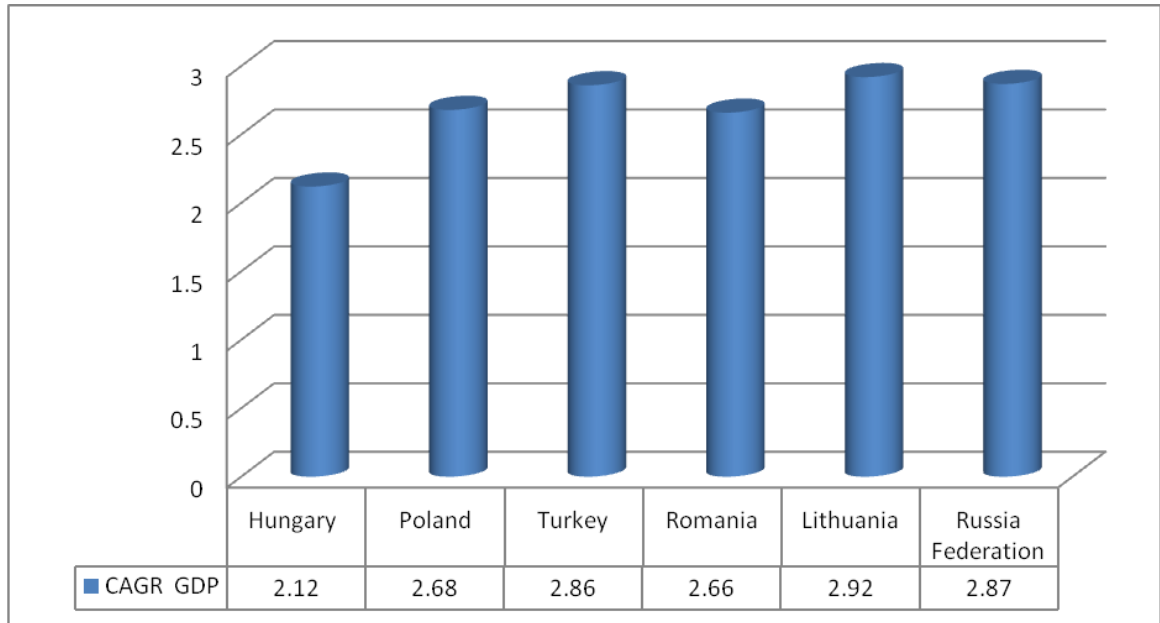
When population is decreased by 1%, keeping the FDI constant, GDP decreases by 3.6%. When FDI is decreased by 1% GDP also decreases by 0.02%, keeping the population constant. It means that if population will decrease then the GDP of the country will also decrease. In this model T- statistic for population is 4.1 but in the case of FDI the value of T statistic is 1.5. So in this model FDI variable is not considered important as the value is not significant at 5 per cent. Hence model has chosen only population.

4.13 -Cumulative Growth Rates of Developing European Countries and Russian Federation

4.13 a- Table of GDP Cumulative Growth table

S. No	Countries name	Cumulative growth rate
1	Hungary	2.12
2	Poland	2.68
3	Turkey	2.86
4	Romania	2.66
5	Lithuania	2.92
6	Russia Fed	2.87

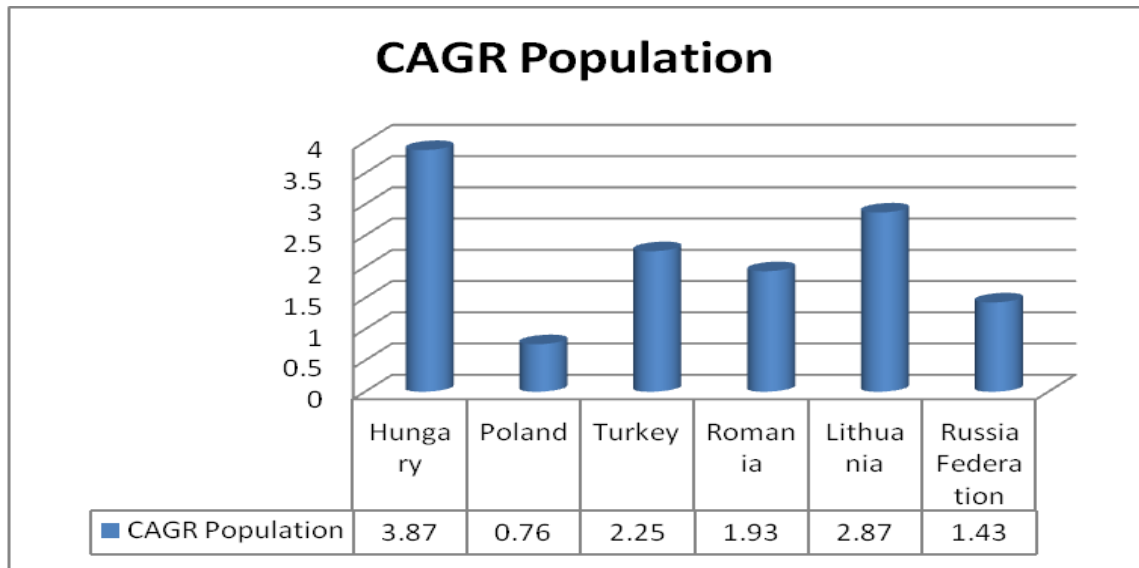
Lithuania is having the highest cumulative growth rate and Hungary is having the lowest GDP growth rate in the period 199-2014. For all selected economies the cumulative growth rate was positive and was in the range of 2.12 to 2.98. The same is depicted graphically as well.



4.13 b- Table of Population cumulative growth rate

S. No	Countries name	Cumulative Growth rate
1	Hungary	3.87
2	Poland	0.76
3	Turkey	2.25
4	Romania	1.93
5	Lithuania	2.87
6	Russia Fed	1.43

Hungary is having maximum population cumulative growth rate and Poland has the lowest growth rate. The growth rate ranged from 0.76 to a high of 3.87. Lithuania also showed a high growth rate, after Hungary.



4.13 c-Table of Net export cumulative growth rate

S No.	Countries name	Cumulative growth rate
1	Hungary	6.55
2	Poland	5.36
3	Turkey	2.70
4	Romania	4.29
5	Lithuania	6.23
6	Russia fed	-

Hungary had maximum net exports cumulative growth rate and Turkey had the lowest amongst the selected economies in net exports. The growth rate ranged from 2.70 to a high of 6.55. Lithuania also showed a high growth rate of 6.23 per cent after Hungary.

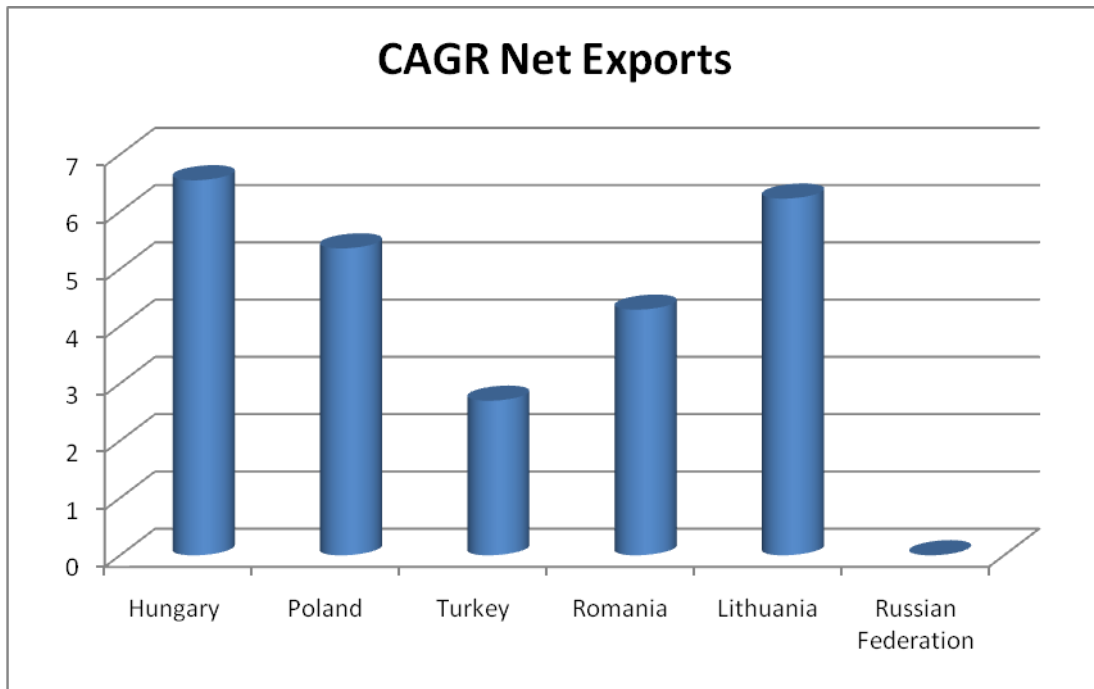
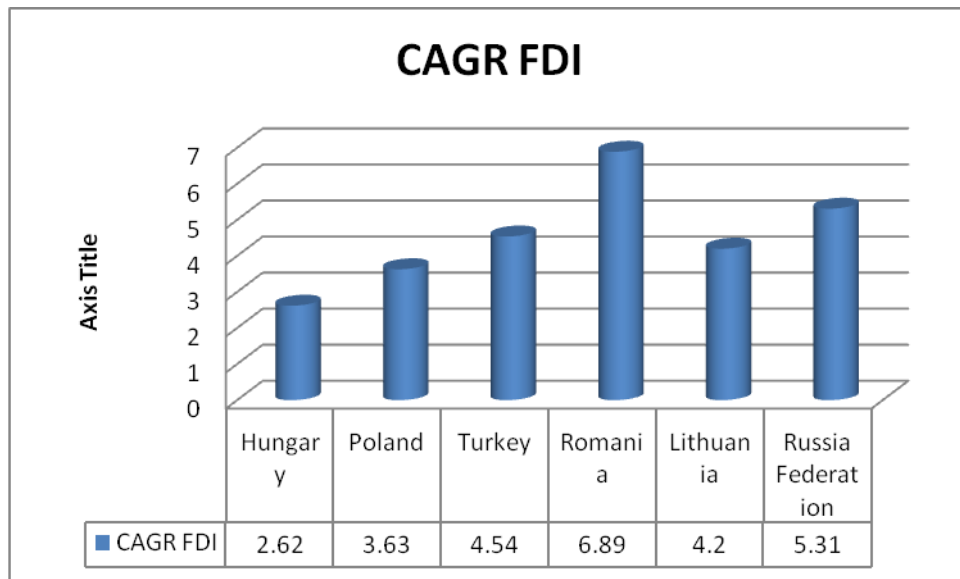


Table 4.13 d Table of FDI cumulative Growth table

S. No	Countries name	Cumulative growth rate
1	Hungary	2.62
2	Poland	3.63
3	Turkey	4.54
4	Romania	6.89
5	Lithuania	4.20
6	Russia Fed	5.31

Romania is having the highest cumulative growth rate and Hungary is having the least cumulative growth rate. The growth rate ranged from a low of 2.62 to a high of 6.89. Russian Federation and Turkey also showed high growth rates of 5.31 and 4.54 per cent. The same is depicted graphically as well.



4.14- Summing up

When the cumulative growth rate of different developing countries of Europe and Russian Federation has been calculated, then it has been found that Lithuania is having the maximum GDP as well as population growth rate and Poland is having minimum population growth rate and Hungary is having least GDP growth rate. In case net export cumulative growth rate, Hungary is having maximum and Turkey is having minimum growth rate. In case FDI Hungary is having minimum FDI cumulative growth rate and Romania is the country which is having the highest cumulative growth rate in FDI.

From the Regression models also it is evident that the GDP growth of these developing countries of Europe and Russian Federation is related with the Population growth. But the problem in these countries is that the population is not increasing at a high rate.

CHAPTER -5

CONCLUSION

Growth transition in selected developing countries of Europe and Russian Federation depicts many ups and downs in terms of the parameters undertaken for the study, viz. GDP, and Population, FDI and Net exports. The population growth rate of selected developing countries of Europe and Russian Federation is not very high and is not increasing at a high rate. Due to recession faced in 2007, the economies were affected adversely in terms of GDP, FDI and net exports. The growth rates fell sharply for GDP, FDI and net exports. This Chapter explains the broad findings of the study. Section 5.1 presents the Summary and Findings; in Section 5.2 Regression Results are reported; and finally Limitations are presented in section 5.3.

5.1 Summary and Findings

The aim of the research study was to analyse the growth transition, the changes in GDP, Population, FDI and net exports. Effort was made to understand which variables played an important role in the development of the selected countries and also to examine the impact of the recession on these countries.

For analysis, annual data has been used from year 1999-2014, to examine year wise impact on the developing countries of Europe and Russian Federation. The growth rates have been calculated for these selected economies. The economies included are: Hungary, Poland, Turkey, Romania and Lithuania from Europe and Russian Federation. The first and third objective of the study were:

Objective 1: To examine the growth transition in selected developing countries of Europe and Russian Federation.

Objective 3: To compare the growth rates of the selected developing countries of Europe and Russian Federation.

Romania is having the highest FDI growth i.e. 6.89 in comparison to the other countries, while Hungary is having the least FDI growth rate i.e. 2.62. Hungary attained the maximum net exports growth rate 6.55 and Lithuania is also having the net exports growth rate was 6.23. Turkey is the country which is having only 2.7 net exports growth rate.

The population of the developing countries of Europe is not increasing at a high rate. Poland is the country whose population is growing at 0.76 and Hungary had the

maximum population growth rate i.e. 3.87. In terms of GDP growth rate Lithuania is maximum against other developing countries of Europe and Russian Federation.

The study also used Year on year growth rates to study performance across time. Year on year growth rates depict wide fluctuations across countries in terms of GDP, population, FDI and Net Exports. It has been seen that, the growth rate in almost all the included countries declined in 2008-09. But after recession all the countries were somewhat able to handle up the situation. Thus, first objective was achieved through compound Growth rates

5.2 Regression Results

For achieving second objective, multiple regression analysis was used. This objective was defined as:

Objective 2: To determine the relationship of GDP with population, FDI and Net Exports.

According to the multiple regression model, Hungary 's GDP growth rate is explained by only two variables, viz. FDI and population and the net exports has been excluded from the model. Acc to this GDP of Hungary is positively related with these two variables.

GDP growth rate of Poland is explained by only one variable i.e. population and the other two variables i.e. FDI and Net Exports were excluded from the model. Russian Federation GDP growth rate is explained by population.

Turkey's GDP growth rate is only explained by only net export s. FDI and population, the two other variables have been excluded from the model. When net exports growth rate is low then the Turkey's GDP growth rate was also low and vice versa.

GDP growth rates of Romania and Lithuania are explained by two variables i.e. population and net exports. Thus, GDP is related with population and net exports.

All regression results reported are significant and the explanatory power ranged from 42.1 percent for Poland to 95.1 percent for Romania. Thus, this objective was achieved through regression analysis. Thus, there is a variation across different countries in terms of GDP, Population, FDI and Net Exports.

5.3 Limitations of the study and Further Study

Time constraint and Lack of availability of data for a longer period were the major limitations. Data on employment, fertility rate, mortality rates could have added more depth to the analysis. These could be a scope for future research.

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