THE IMPACT OF EXCHANGE RATE ON ECONOMY

(Case of Albania)

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THE IMPACT OF EXCHANGE RATE ON ECONOMY
(Case of Albania)

ABSTRACT

The purpose of the study is to inspect the impact of exchange rate fluctuations on Albanian macroeconomic performance. Macroeconomic indicators are taken in considerate starting from 10th month of 1998 until 11th month of 2016. The data includes monthly observations of US$/ALBLEK, inflation, unemployment, interest rate, export and import. Vector Autoregressive model (VAR) is conducted and empirical analysis indicates that the US$/ALBLEK exchange rate has no significant impact on selected macroeconomic variables for the first, the second and the third month. This mean that, ER does not give any significant effect in three months on CPI, exports, imports, interest rates and unemployment. But, in fourth month is noticed that US$/ALBLEK exchange rate has a negative significant impact on selected macroeconomic variables such as export, import, and inflation which is calculated by using consumer price index. In this period is observed as well, that exchange rate has no significant impact on interest rate and unemployment rate. The main reason is that Albanian economy is moving in slow motion.

Keywords: exchange rate, Albanian economy, macroeconomic performance.

NDIKIMI I KURSIT TE KEMBIMIT NE EKONOMI
(Rasti I Shqiperise)

ABSTRAKT

Qellimi i studimit eshte te shqyrtoj impaktin e luhatjeve te kursit te kembimit ne performancen makroekonomike shqiptare. Treguesit makroekonomike i jane referuar periudhes kohore nga muaji tetor i vitit 1998 deri ne muajin nentor te vitit 2016. Data perfshin vrojtimet mujore te dollarit me lekun, inflacionit, papunesise, normes seinteresit, exportit dhe importit. Modeli i perdorur eshte analiza e regresionit, dhe rezultatet empirike tregojne qe kursi i kembimit US$/ALBLEK nuk ka ndikim te rendesishem ne variablat e marra ne shqyrtim ne muajin e pare, te dyte dhe te trete. Kjo nenkupton qe kursi i kembimit nuk jep ndonje efekt te rendesishem ne tre muaj ne indeksin e cmimeve te konsumit, ne ekportet, importet, normen e interesit dhe papunesine. Por, ne muajin e katert eshte vene re qe kursi i kembimit i US$/ALBLEK ka nje efekt te rendesishem negativ ne variablat e selektuara sic jane exporti, importi, dhe inflacioni i cili eshte llogaritur duke perdorur indeksin e cmimeve te konsumit. Gjate kesaj periudhe eshte vene re gjithashtu se kursi i kembimit nuk ka ndikim te rendesishem ne normen e interesit dhe normen e papunesise. Arsyeja kryesore eshte se ekonomia shqiptare eshte duke ecur me ritme te ngadalta.

***Fjalet kyce*:** kursi i kembimit, ekonomia shqiptare, performanca makroekonomike.

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Thank you all for all your support and love!

DECLARATION

I declare that this Master Thesis titled “The Impact of Exchange Rate on Economy” is based on citations which have been duly acknowledged and on my original work except quotations. This thesis has not been submitted at any other Institution or University or at Epoka University for any kind of purpose, either previously neither currently.

Nertila Feruli

..... May 2017

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LIST OF ABBREVIATIONS

MSc	Master of Science
IMF	International Monetary Fund
BWS	Bretton Woods System
VAR	Vector Auto Regression
USA	United States of America
GS	Gold Standard
GW	Gold Window
FER	Floating Exchange Regime
ER	Exchange Rate
FC	Foreign Currency
DC	Domestic Currency
IQ	Indirect Quotation
DQ	Direct Quotation
FFER	Freely Floating Exchange Rate
FEM	Foreign Exchange Market
NER	Nominal Exchange Rate
RER	Real Exchange Rate
NEER	Nominal Effective Exchange Rate
ERT	Exchange Rate Targeting
CB	Central Bank
BOA	Bank of Albania

EI	Expected Inflation
FR	Foreign Reserves
TOT	Terms of Trade
FT	Foreign Trade
FDI	Foreign Direct Investment
BOT	Balance of Trade
BOP	Balance of Payment
IM	International Market
IT	International Trade
DM	Domestic Market
JCE	J- Curve Effect
CA	Current Account
CPI	Consumer Price Index
DEM	Deutsche Mark
TR	Turkish Lira
GRD	Greek Drachma
ALL	Albanian Lek
USD	United States Dollar
%	Per Cent
e.g	Example
$	Dollar

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APPENDIX A: Monthly data for US$/Alb Lek and selected macroeconomic variables for Albania, during 1998-2016 period.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Albania is a transition country, with a small and open economy, located in the west Balkan near the euro zone, where the exchange rate has an important function in some economic factors such as in the level of prices, the productivity level, the balance of payments, and also in attracting foreign investments. Albania is pretending as well to join European Union. Albania has exceeded from a fixed to a flexible exchange rate (ER), since July 1992. The lack of international reserves forced Albania to implement a flexible exchange rate. In this research is aimed to inspect the impact of exchange rate over Albanian macroeconomic performance, where the indicated variables are inflation which is calculated using consumer price index, unemployment, interest rate, export and import. Based on this,the literature of the study suggests different views.

First chapter of the study contain a brief history of exchange rate in Bretton Woods system. Also it explores the exchange rate regime, in which is presented a review of the definition of exchange rate, the main components of it, and the definition of two types of ER, such as nominal effective exchange rate and real effective exchange rate. In this section is included as well and the classifications of ER systems, where in each system is given a point of view of their definitions, and a short review of many citations of authors about their findings for each system.

In the first chapter is included as well exchange rate targeting which is one of the policy regimes used by the most of small countries in order to keep in control and to reduce the inflation. In this part are given the advantages and disadvantages of using it. This chapter include and the factors that impact exchange rate, in which are presented the determinants of ER, and numerous factors are explained in details of how each of them impact the performance of exchange rate. This section contains and the three main subsections in which are given basic information about some macroeconomic benefits of a weaker currency, the limits of a currency depreciation to solve economic problems, and also the reasons that cause currency depreciation. Later is given specifically the regime in Albania, and how this regime changed from a fixed to a freely floating exchange rate. What are the benefits of freely floating ER and why the government chose this kind of regime.In another section of the first chapteris described as wellthe Albanian market over years, including the period from 1999 to 2016 year, where in each year is given the performance of Albanian lek against two main foreign currencies such as euro and usd. For each year are included and the factors that have impacted in the performance of Albanian currency. From all of this is given a point of view how the economy performance of Albania has continuing during years. Being that euro is depreciated recent years, this has given many effects in Albanian economy. All the main effects of this devaluation are described in a specific section of this study.

The second chapter of the study is about literature review, in which is discussed the impact of exchange rate systems on some of the main indicators of macroeconomic performance such as inflation, unemployment, economic growth, and impact on current account,and in each of them are included reviews of previous studies of different authors, relating with the topic.

To be continued with the third chapter of the study, in which is discussed the data and methodology used, in order to achieve the aim of this paper. The data obtained in consideration for the study, cover a period from October 1998 to November 2016. Monthly data are observed from International Monetary Fund that is a reliable webpage.

Another chapter of the study explores the empirical results achieved from the data, by using graphical analysis method, descriptive analysis method, unit root test and vector autoregression model. From VAR is conducted that US$/ALBLEK exchange rate have negative significant impact on inflation, export and import, and no significant impact on interest rate and unemployment rate, in fourth month. Also is observed that the US$/ALBLEK exchange rate has no significant impact on selected macroeconomic variables for the first, the second and the third month. This mean that, ER does not give any significant effect in three months on CPI, exports, imports, interest rates and unemployment.

The last chapter of this study reports the conclusions that are achieved during studying the topic. In this part are described the findings that are obtained from empirical results.

1.2 Objective of the study

The overall intention of the study is to collect reliable, accurate and valid information in order to complete with success the research about exchange rate and its impact in economy, especially in Albanian economy. Within this broad theme the research has a number of specific objectives. One of them that is very important is to give fully adequate information about the concept of exchange rate, and specifically to understand the impact of freely exchange rate regime in our economy since it is presented in July 1992. However, a great importance during this study, is also to include understandable information about fluctuation of domestic currency against two dominant currencies in the market such as; euro and dollar, examining in most cases what factors have impacted in the performance of Albanian currency in specific years. And finally, and the most important is the study of influence of US$/ALBLEK exchange rate on Albanian macroeconomic performance, where the foremost variables included are inflation, interest rate, unemployment, exports and imports.

1.3 Motivation of the study

First of all, I want to emphasize that this topic was very interesting for me since the concept of exchange rate I have treated during my years of study in banking and finance department, especially in macroeconomic lessons. Information that I have received during this year's made it easier for me to find relevant information about the topic, and focuses to the necessary information was in a way not very hard to find. This was one of the motivation that pushed me to choose this topic. Despite this, another important factor was the fact that I believed on my knowledges obtained in all this years and in the fact that my idea will be well-executed, bringing in this way a good quality of my research. I motivated also and for my ability to justify the originality of my proposal. Another important part that make me to choose this topic was the ease of finding relevant data for this research, and to have a regression that will help me to find a solution to my objectives raised during the study. I found this topic not wasted time because of the opportunity that it give to develop a good idea, and to reach necessary results. Also being that exchange rate reflect the economic situation of a country, and the economy of Albania has been very intensive the last 25 years since 1992, because of presentation of the free exchange rate regime, I want to see how exchange rate impact different variables of Albanian economy.

1.4 Significance of the study

As it mentioned before, is very important the study of Albanian economy. Since Albania has approximately 25 years that has embraced free exchange regime many changes have occurred in the economy. Knowing the fact that our country has moved from fixed exchange rate to freely floating regime, are distanced different advantages, that every regime may contain itself. For example, free ER regime offer better preservation against foreign shocks and vast monetary policy independence. But, no single ER regime is suitable for all countries in all circumstances. This study is significant because in an open and smalleconomy like Albania, exchange rate is considered an important variable in the aspect of interaction with other economic variables. Studying the impact that exchange rate has on macroeconomic variables, will be very useful for the study in order to reach a

result of actual economy situation of Albania. Also exchange rate may affect the economic performance of the country, as well the political-economic developments, and decisions on monetary policy of BOA. The determination of exchange rate is one of the areas that has been widely researched in the economy.

1.5 A brief history: Exchange Rates in the Bretton Woods system

International Monetary Fund (IMF) that was established by the British and American governments, was intended to police a system of fixed exchange rates known as the Bretton Woods system, signed in 1944. Under the Bretton Woods system (BWS) the two major commitments undertaken by countries were:

1. A maintain of convertibility
2. Preservation of fixed exchange rate

The BWS was a success, as far as fixity of exchange rates was concerned. In the late 1960s, when appeared the first signs of the breakdown process, there were only two marked trends: the rise of Deutschmark, and the decline in the value of the pound, with two devaluations, in 1948 and 1967, as the competitiveness of US trade decreased, and German economy recovered. On the principle the BWS worked known as the Gold Exchange Standard. Under this arrangement, the USA operated a fully fledged Gold Standard (GS) by keeping the dollar price of gold fixed irrevocably, being ready to exchange gold for US currency on demand via the so-called Gold Window (GW). In this way other countries fixed their currencies in terms of dollars and had to accommodate themselves by changing their exchange rates when required. Finally, the system broke down on 15 August 1971, when President Nixon announced the closing of the GW, and in this way many industrialized economies passed in an floating exchange regime (FER).

1.6 Exchange rate regimes

Understanding about the exchange rate is that it is simply a price. Or is the price of a nation's currency in terms of another currency. A decline in a currency's value is called depreciation, and an increase of its value is referred to as appreciation. The domestic and

a foreign currency are two main components of exchange rate (ER), and can be expressed direct versus indirect quotations. When the price of a unit of foreign currency (FC) is expressed in terms of the domestic currency (DC) this is called direct quotation. An example of direct quote in Albania may consider if the spot rate of the euro is quoted as 135ALL, because it represents the value of the FC in Albanian lek. In an indirect quotation (IQ), the price of a unit of DC is expressed in terms of the FC. Based on the above example the calculation of indirect quotation may be expressed as: IQ=1/DQ=1/135 LEK=0.0074, which means that €0.0074=1ALL. An ER has also a base and a counter currency, meaning that in an DQ the base currency is the foreign currency, and the DC is the counter currency. While, in an IQ the base currency is the domestic currency, and the FC is the counter currency. Also is necessary to distinguish nominal exchange rate (NER) from real exchange rate (RER). The number of units of DC that can purchase a unit of a given FC is called NER. In contrast a RER is referred as how many times less or more goods can be purchased abroad (after conversion into a FC), than in the domestic market for a given amount.

Meanwhile, is important the understanding of ER regime which is expressed how an authority may manage its currency in relation to other currencies. The classification of exchange rate system is based according to the degree by which the government has controlled the rates. The various regimes of exchange rate are imposed by the governments in order to achieve the successful economic objectives. The main types of regimes are four, such as: fixed, freely floating, managed floating and a pegged exchange rate regime.

1.6.1 Fixed exchange rate regime

The cases when the government keep fixed the exchange rate currency, and allow to fluctuate within narrow boundaries is known as fixed regime of exchange rate. Under this system the main purpose is to ensure stability on capital movements and foreign trade. In the BWS the value of each currency was standard in terms of gold. In order to achieve stability the government should buy foreign currency (FC) in cases when exchange rate becomes weaker, and to sell FC when is a stronger rate of exchange. To achieve this, the

government should keep large reserves of foreign currencies. A favourable case in which the fixed regime could work perfectly would be in an optimal political and economic institutions, Krause (1971). According the same author may exists circumstances in which none of these regimes will work in an effectively way. According Frieden, Stein and Blomberg (2005) the key determinants of the opportunity that a government will impose fixed exchange rate are economic and political factors. The above mentioned authors suggests that if exist a case that trade and manufacture sector have an important role in a country economy, and are enough developed, then exists less possibility that a government of that country to impose a fixed ER regime. On another hand stands the Von Hagen and Zhou (2005) views that countries with focused foreign trade are more likely to adopt fixed regimes. To be continuing with studies of Broda (2004), which support the idea that fixed regimes on comparison with flexible ones, are less possible to absorb real shocks of the economy.

1.6.2 Freely floating exchange rate regime

In cases when ER of a currency is established purely by market forces is determined as freely floating regime. According to changes in supply and demand of foreign exchange allow freely fluctuation on the value of currency. Under this system the governments are not limited by boundaries of ER when setting new policies. According Aliber (1975) the advantage of this system is that the government is not devoted to a particular parity, and what is the most important is the opportunity of following an independent monetary policy, because of the ability of control that the central bank has at the nominal and real economic variables. Also, the FFER regime offer to a country the ability to absorb the shocks of foreign exchange market because of the ability of this regime on automatic adjustment. Regarding this Broda (2004) suggest that flexible systems have priority against fixed ones because of its ability to take control of the problems in economy against real shocks. On the research by Abbott and De Vita (2011) was reached the conclusion that costs of inflation under floating regime especially on developing and industrialized countries are higher comparing with fixed rate systems. Other studies of Sjaastad (2008) claim that the floating system has been the major factor of price instability of the gold

market. According the mentioned author this has happened after the breakdown of BWS. Since the US dollar was the denominated currency of the gold market, and appreciation and depreciation of it would have effects to the gold price in the other countries.

1.6.3 Managed floating exchange rate regime

Under this regime no official boundaries exist and the rates may fluctuate freely only in daily basis. The government has opportunity to manipulate the ER in order to achieve the own country benefits. This regime may be classified as something between fixed and floating system. In the article **"**The optimal exchange rate regime for a small country**"** by Iida, Akiba and Kitamura (2009) claim that since 1980 year, the FER (floating exchange rate) system was officially adopted by many countries moving from peg regime. According these authors this transition was a "de jure" move, because the most of "de facto" countries established a managed floating system. In this way they would have opportunity to intervene in the foreign ER market. In their research they found also that the best system for a welfare of the small country is floating system.

1.6.4 Pegged exchange rate regime

In this system is distinguish a fixed home currency's value in terms of the foreign currencies, especially the US dollar. This allow the currency of a country that has adopted pegged system against dollar to be fixed. And this currency will move against nondollar currencies by the same degree as the dollar. This indicate a great advantage for the countries under this regime because this attract foreign investment while exchange rate is expected to be stable. By Esaka (2010) empirical studies in which were included 84 countries between 1980-2001 period about pegged regimes, was found that this system reduces the chance of the crises of the currency compared with floating regimes.
Studies of Garcia and Eichengreen (2006), suggest that countries that apply restriction on capital mobility pegged system is more suitable.

1.7 Exchange rate targeting (ERT)

This is one of the policy regimes that is used by the most of small countries in order to keep in control and to reduce the inflation.

Advantages of exchange rate targeting

One of the main importance of ER targeting is to fix the inflation rate for international trade and contributing in this way on keeping the inflation in control. Also it avoid the instability problems. This regime has been helpful for big countries such as Anglia in order to keep the control of inflation, but from international experience this regime has caused problems in developing countries. This has happened because in this places the depreciation of home currency has negative impact in balance causing the increase of inflationary expectations, because of the long history of inflation. Advocates of ERT show that this strategy has impact on productivity growth especially in emerging markets.

Disadvantages of exchange rate targeting

This regime cause a financial fragility especially in developing countries such as Albania. This happen because the home currency of this countries is uncertain and an unpredicty in the currency depreciation cause negative impact on balances of firms and banks that operate in there. Developing countries have higher debt expressed in foreign currency comparing with the own assets. A negative impact on balance cause a worsening in the growth economy. Exchange targeting regime prevent the Central Bank (CB) to direct independently its monetary policy. This disable the CB to answer the different shocks of the economy. In the beginning of using the ERT regime it may result successful in the reduction of inflation. Mishkin author claim that: "A successful speculative attack could lead to a reappearance of inflation". So, this may cause an increase of actual and expected inflation (EI). An increase of EI may cause higher interest rates which reduce the flow of revenue of firms, and a deterioration in economic growth. This system cause a higher risk for foreign investitors. When the CB has a large share of uncovered debt this leads to a stagnation of bank balance, of which has a bad impact in an country's economy. The targeting system may weaken as well the responsibility of policy makers, and it stimulates

the central bank to pursue an expansionary monetary policy. Also ERT in times of shocks does not provide mechanism of adjustment, so it distort price signals, and misallocate the resources in the economy.

1.8 Factors that impact the exchange rate

Exchange rate is determined by numerous factors, such as**:**

- **Differentials in Inflation---** Countries with low inflation are in better position comparing with the others with higher one, because of the directly impact of inflation in exchange rate. Low inflation increase the worth of the currencies, and the higher one depreciate the currency value.
- **Differentials in interest rate---** Exists a strong relationship between interest rate, inflation and ER. Because of this correlation between them, any change of any variable have impact in the changes of the two others. Higher the value of interest rate the higher the return on investment and attract more the foreign capital, in contrast to the lowest interest.
- **Speculation---** Speculators are the analyst of the capital market and general markets. This may be a person or an institution that are concerned in the evaluation of economic situation of a country. According continuing assessments of capital-economic development, they make decisions on investments. If their forecasting is that the value of a currency will rise in the future, then they will invest capital in the specific currency making so an increasing of that currency value in the market. Also this speculations have impact to consumers that take decisions for exchange capital in certain currencies.
- **Intervention of the state---** Are many situations that the state take short-term or long-term decisions for the stabilization of the level of exchange against a particular currency, in order to protect the economy of its country.
- **Public debt---** An increase in public debt have a direct impact on the depreciation of the currency, and under this conditions that state is less attractive to foreign investors, because of the high inflation. In order to pay its debts the government may print money, increasing so the money supply that inevitably cause high

inflation. Another solution in this case is selling the securities to foreigners with lower price.

- **Terms of trade (TOT)---** Is related with balance of payments and current account. If goods and services becomes attractive and competitive, then, the level of exchange will increase. For e.g., if the exports price of a country rises greater than its imports, then happen a good improvement in TOT, and this cause an increase in the demand for the country's exports. This, in turn bring higher revenues from exports, which increase the demand for the currency. If is seemed a smaller increase in price of exports comparing with imports, then the value of the currency will decrease in relation with trade partners.
- **Current-account deficit---** Current account reflect payments between countries for services, goods, interests and dividends. A deficit of it shows that a county is spending more on foreign trade (FT) than is earning, by supplying more of its own currency, than it receives through sales of exports. In this way the country borrow foreign capital to make up the deficit. Increasing the demand for foreign currency lower the exchange rate of the country. A strong current-account surpluses increase the demand for a currency by appreciating its value.
- **Political developments and economic stability---** Political instability decrease the internal and external investments bringing in this way an economic instability. Both factors lead to a decrease of the currency value.
- **Foreign direct investment (FDI)---** An increase in net inflows of capital investment from overseas will increase currency demand and will rise exchange rate.
- **Portfolio investment---** Strong inflows of portfolio investment from overseas can cause an appreciate of a currency.

1.8.1 What are some of the macroeconomic benefits of a weaker currency?

Not always a fall in a currency is a bad thing, and below are listed some of the positive effects of its such as**:**

- A decrease in a currency is known as an expansionary monetary policy. It can be used as a countercyclical measure in order to stimulate profits, jobs, demand and output, when an economy suffer from recession.
- It brings improvement in the balance of trade (BOT), and through increase of export sales the fall of a currency drive an expansion of output in industries that serve export businesses.
- Depreciation impacts increasing on the value of income and profits for a country's businesses with investment overseas.
- It is a boost to tourist and farming industries, and in this way a cheaper currency provides a competitive boost to an economy.

The most of the positive effects of a currency depreciation happen in short-term, and sometimes in the medium term.

1.8.2 What are the limits of a currency depreciation to solve economic problems?

As it known the depreciation in value of a currency has and the negative sides which are listed below**:**

- The government may find difficult to finance a budget deficit in cases when overseas investors lose the confidence, and take their money out.
- Trade deficit that is owed to overseas creditors may be hard to paid in cases of a weaker currency.
- Increases cost of imports and this affect the long run productive potential.
- Weaken global demand and is difficult to export when have a recession of key markets and the overseas sales are falling.
- May cause a worsening of the **(**BOT**)** in goods and services, if the price elasticity of demand for exports and imports is low, and this is referred as the **J-Curve Effect (JCE).**

Exchange rates and balance of payments adjustment- The JCE

- The current account of Balance of Payment **(**BOP**)** may not be improve by depreciation in cases of short-term. This is because of the low price elasticity of demand for exports and imports.

- Contracts may have been signed for imported goods and that's because the quantity of imports may remain steady. And the demand of exports will be inelastic in response to the ER change.
- May be insufficient earnings from exports in order to compensate the higher spending of imports.

J-Curve Effect—it shows the **time lags** between a falling currency and an improved trade balance.

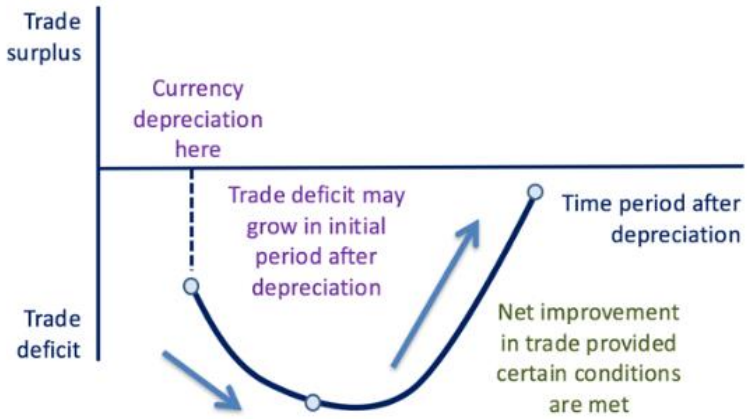

FIGURE 1.1 J-Curve Effect

Source: ***https://www.tutor2u.net/economics/reference/exchange-rates-macroeconomic-effects-of-currency-fluctuations***

1.8.3 What are the reasons for a currency depreciation?

Exists many reasons why the value of a currency may depreciate. Some of them are listed below.

- When the export price decline, and this lead to lower revenue from exports and in a fall in overseas demand for the exporting nation's currency.
- Current- account deficit of the BOP cause lower ER because it leads to a net outflow of currency.
- When the monetary policy of interest rates are reduced by the CB of a country.

- Under a managed ER system, CB intervene to sell its own currency in the foreign exchange market (FEM) and buy gold and FC.
- When the currency traders expect the ER to depreciate causing them to be sell on the market.

1.9 Exchange rate regime in Albania

Since July 1992, the Albanian economy has passed from a fixed regime to a freely floating ER regime. This mean that the price of foreign currencies and the price of European currency against Albanian Lek is determined by foreign exchange market conditions. Albania implemented a freely floating regime as the best choice and the automatic mechanism to improve the high trade deficit and current-account deficit at the early transition levels, and to fit with capital flows. This choice was and because of the lack of international reserves. At the same time this regime enabled an independent monetary policy which relied on direct monetary control instruments. The exchange rate channel is considered as the important channel to explain inflationary developments in Albania. He has resulted that stability of exchange rate during transition period has played a key role on keeping the inflation in low levels. The fluctuations of ER reflect the free movement of goods and capital and financial transactions of Albania with its trading partners. The free-floating exchange rate enables a monetary policy of Bank of Albania, in pursuing inflation objective. Also, this regime provides a useful tool to Albanian economy in order to cope the significant economic shocks, through rapid restoring the equilibrium in trade transactions with the outside. The policy of interference was projected to protect the foreign exchange market from sudden short term ER fluctuations, because of special seasonal developments with remittances flows, and to achieve the suitable level of international reserves. The BOA will aim to hold a level of sufficient foreign reserves for the concurrent observance of two main quantitative criteria, such as**:**

- Maintain in the medium term, an sufficient foreign reserve level in order to cover at least four months of import of goods and services, and to cover the short-term external debt of the Albanian economy.

The BOA should consider as well and the cost for the accumulation and the holdings of reserves. In order to increase the foreign reserve (FR) level, this bank may intervene in the domestic foreign exchange market. These interventions do not affect the performance of ER, and the fulfillment of the main objective of the BOA. The bank's intervenes in the FEM are in accordance with internal rules. This rules are transparent and public.

1.10 Currency market of Albania over years 1999-2016

During 1999, Albanian currency was appreciated towards other traded currencies on the local market. In this way, Lek appreciated towards the US dollar by 3.9% and 16.8% towards the DM and other European currencies. The reason of this appreciation was because of the developments of the international currency market.
In general, the appreciation of ALL whole the year was because of the influence of some factors such as:

- A decline on the inflation rate, because of the tight monetary policy of BOA.
- A good management of the budget deficit.
- Inflows of cash and aid in commodity from international organizations in order to help the population of Kosova settled in Albania.
- Developments on the international market, with the appreciation of US dollar, and the increasing pressure for the depreciation of European currencies on the Domestic market.
- A good functioning of domestic FEM, by an increasing role of commercial banks.
- By improvements of the domestic security and softening of the political tensions has influenced in an improvement of the social situations.

The highest level of exchange rate of USD/ALL was 149.00, while DEM/ALL was 82.70, registered by the end of March. And the lowest level were 131.30 and 69.10, registered during the second half of the year.

During 2000, the performance of ER of Lek have been affected by developments of foreign exchange by international markets (IM). The fluctuations of Lek during this year

have been gradual and offset. In this year, Lek was appreciated against euro, and was depreciated against USD. In the beginning of the year the value of euro/lek opened 137.3, and closed at the end of December at 131.2. So, lek was appreciated by 4.6 per cent against euro. And against GRD, which became an euro component from January 1, 2001, after Greece association in the European Monetary Union, Lek was appreciated by 7.1 per cent. In the beginning of the year the ratio USD/Lek was 135.2, and in the end of the year this changed to 135. Lek depreciated against USD by 6.1 per cent.

In December of 2001 is seemed a significant appreciation of Lek by 2.23% in comparing with the previous month. After June the ALL was coming by depreciating against USD until it peaked in December the value of 137.04. In October was seemed an imbalanced of ALL against two main currencies like; USD and EURO.

In the end of 2002 year the rate of USD/Lek was 133.8, and Euro/Lek was 140.2. Comparing this rates with the ER in the beginning of 2001, Lek was depreciated by 18,3% in ratio against euro, and was appreciated by 2.2 % in ratio to USD. Because of developments on inflation rate and political aspects of the country, and as well the fluctuations of foreign exchange have managed to restrain a fast depreciation of Lek.

During 2003, especially in the second half of the year, the interventions of BOA were concentrated in the periods where Lek appreciates, such as the August and December. In the end of 2003 year, the rates of USD/Lek and Euro/Lek was closed respectively at 106.2 and 133.6 ALL.

Because of country's macroeconomic stability the year of 2004 was associated with appreciations of the Lek. The Lek was appreciated by 7.2% against euro, and by 15.7% against dollar, comparing with the previous year. During 2004, Lek was appreciated by 13 per cent against dollar, where 1 dollar was exchanged with 92 ALL. During this year, the performance of ER was influenced by long-term domestic factors and the specific factors of the year, where some of specific factors relate with the starting of tourism earlier than in previous year, the rise on agricultural production, decline of demand for imports

of agricultural products, and impacting the supply and demand for foreign currency in the direction of ALL appreciation. But, in the second half of this year, some of the effects of the specific factors diminished, but the long-term domestic factors have strengthened the position of Lek, which some of these factors are as following:

- Constant consolidation of the country's economic activity. This stability has strengthened the confidence of financial system in Albania and in monetary assets in ALL. The Albanian economy is associated with low and stable inflation rates.
- The interest rate spread between the ALL and the foreign currencies. This spread is associated with a high demand for ALL. The low inflation rates have kept high real interest rates in Albanian Lek. This is noticed in the increased of ALL deposits and in the demand for treasury bills.
- Consolidation of budget deficit has dictated a low demand of Government for monetary assets. Also the credit in ALL have remained in low levels.
- Stable remittances of Albanian migrants working abroad, that constitute a constant source of foreign currency supply. Also the increase of FDI brought improvements in the balance of payments, and increase the FC supply in the country.

The ALL has maintained the appreciating trends against main foreign currencies, over a three year period. In the end of 2005 ALL was appreciated by 23 per cent against USD and at about 11% against euro, compared to three years ago. The constant appreciation of ALL has reflected the positive performance of the BOP, particularly in FC inflows through private transfers. During 2005 the appreciating trend of ALL was weakened. against the previous year the ALL was depreciated on average by 9.25% against dollar, and was appreciated by 3.32% against the euro. The weak seasonal effect of summer of the lek's appreciation has been a characteristic in the ER behavior. The summer period was characterized by a high supply and demand of foreign currency, as a result of tourism activity growth of Albanians abroad. During 2005 the appreciation of dollar against euro at about 12% in the international market, was reflected in an appreciation of dollar against lek by 11.8%. The ALL exchange against the euro is impacted mostly by internal factors, given that the euro is the main currency of the foreign trade and occupies a significant part in domestic transactions of the home market.

During 2006, ALL maintained the appreciating trend against the principal FC. In nominal effective exchange rates (NEER), ALL appreciated 1.1 per cent during this year. Also in this year, the strong of national currency is supported by economic developments. ALL appreciating has been concentrated mainly in July, August and December. Besides, the main factor of ALL appreciation over the year has been the seasonal FC inflow. During 2006, the Lek has continued an appreciating trend against dollar, which is favored by the depreciation of USD against euro in the international foreign exchange market. And ALL was more stable against euro with slight depreciating trend. USD depreciated by 9.25 per cent against Lek, and the Euro closed the year at about 0.9 per cent higher than its opening. But, in general ALL has presented a lower volatility against USD and Euro. The stability of ALL is attributed to positive developments in a number of macroeconomic factors, and because of improvement in foreign exchange market.

During 2007, in annual nominal effective terms, Lek was overpriced relative to foreign currencies by 1.4 per cent. During this year the overpriced of Lek has continued strongly, especially in last quarter. The overprice indicates lower competition in International markets, and higher demand for imported foreign goods. The overprice has helped in a low degree of imported inflation, and the overpricing of Lek in nominal and real terms indicate the macroeconomic stability at home. Compared to a year ago, the fluctuating of Lek was highly in 2007. The strengthen of Lek has noticed during seasonal remittance inflows periods, denominated in foreign currencies FC. Lek appreciated constantly against the US dollar, at about 7.8 per cent, where 1 dollar exchanged with 83 lek at the end of 2007. On the other hand, the euro/lek quote was 123.63 in 2007, and in December it reached the lowest rate, at 120.91 lek per euro.

ALL has appreciated against two main currencies during January-April of 2008, peaking in April (6.2 percent in annual terms). At the end of this year Lek depreciated against euro by 0.37% and against dollar by 10%. But, in average annual terms lek strengthened by 0.66% against euro, and 7.23% against dollar during 2008. A number of factors that have impacted in the positive performance of the national currency are; positive result of BOP

and the positive interest rate spread, as well as the satisfactory performance of macroeconomic indicators at home. In domestic market, the euro/lek ratio volatility was moderate compared with the previous year, and the US dollar presented a significantly higher volatility against lek, because of the dynamic performance of the US dollar in international markets.

During 2009, in the domestic foreign exchange market, the Lek was depreciated against both currencies, the euro and US dollar, by 7.6% and 13.2% respectively. The appreciating tendency of the euro was present almost all the year, except during summer months, and the seasonal holidays. The exchange rate of Euro/Lek and USD/Lek was highly volatile during 2009, reflecting the volatile supply to demand ratio and the uncertainty of market agents.

In 2010, the average depreciation of lek against dollar and euro was 9.33% and 4.33% respectively. The ratio of USD/Lek was in line with the performance of USD/Euro in international markets. On the other hand, during 2010, the performance of lek against euro is characterized by a gradually diminishing seasonal volatility, and the Euro/Lek ratio volatility reflected to have dropped significantly.

In 2011, Lek performance in nominal effective terms, was characterized by lower depreciating rates. The Lek depreciation against the euro and its appreciation against dollar was as result of individual developments of two major currencies in the foreign exchange market for 2011. Lek depreciated against the euro by 1.8% and against dollar lek appreciated by 2.9%. The depreciating trend against the euro was present almost during the year, except December. In the domestic FEM, where in the first week of December 1 euro exchanged for 136-137 lek, from 140 lek in the end of November. The depreciation of euro against lek was short-term, and on the other hand the USD/ALL ratio was in line with the performance of US dollar in international markets.

In 2012, the individual performance of the major currencies reflects the appreciation of ALL against euro, and its depreciations against the US dollar. So, the Lek appreciated by

0.9% against euro, and appreciating trend was present almost throughout the year, except December when the monthly average Euro/Lek ER depreciated 1.0%, and depreciated against US dollar by 7.4%, reflecting the performance of US dollar in international market. During this year the ER of Euro/Lek and USD/Lek were less volatile, showing a more balanced supply and demand ratio.

In the first quarter of 2013 lek was stable and against main currencies. Furthermore, lek appreciated against dollar and depreciated against euro with 0.3%, in annual terms. Comparing with the previous quarter, Lek strengthen its position against US dollar with 1.8%, and remained unchanged against euro. In the domestic market, Euro has continued to strengthen its positions against lek, exchanged at about 140.71 lek, or 0.7% more expensive than in the previous quarter. And in annual terms lek depreciated by 1.0%. The expansion of demand for currency bring that in 14 June 1 Euro was 141.44 lek, as the hightest value registered since November of 2011. And dollar exchanged with 107.77 lek appreciated against local currency with 1.9% in quarter terms. In the third quarter of this year, lek depreciated against euro by 1.7%, in annual terms, exchanged on average with 140.28 lek. In exchange market, 1 dollar exchanged with 105.92 lek, or 4.0% cheaper than a year ago. On average, in second half, one dollar exchanged with 104.55 lek, weaknesses against local currency with 4.1%, in annual terms. Comparing with the first half, lek appreciated against dollar by 2.1%.

During 2014, 1 euro was traded on average with 140 ALL. In August of this year, the ER of euro was at about 138.9-140.8 ALL. However, the performance of US dollar against ALL appears more volatile. Until August, the position of USD against ALL weakened on average by 3.7% in annual terms.

During 2015, one euro exchanged with 139.7 ALL. The depreciation of national currency in the first half of the year, was reflected by the growth of demand for FC by both public and private agents. During the summer months, ALL appreciated modestly in response to the characteristic of seasonal behavior. This continued and in the last quarter more

evidently, reflecting the higher FC supply. ALL depreciated whole the year against USD (19.4% in annual terms).

In the first quarterly of 2016, is noticed an appreciation of domestic currency. NEER index is appreciated in annual terms by 3.15%, illustrating in this way the appreciation of ALL against euro, Turkish lira (TR) and Chinese renminbi. During this period of the year, the ER of euro/lek was between 137.4-139.5 lek, showing added volatility in the domestic market. Comparing with the previous year, one euro was exchanged at about 1.4% cheaper during this period. During January-February of this year, in the domestic market, the supply for euro was higher than its demand, favouring so the DC. In the last week of March the ER of Euro/Lek showed no significant depreciating trend. In the beginning of the year, ALL depreciated against US dollar, and in annual terms this depreciation especially in January and February was at about 5.5% and 1.0% respectively. But, in March the DC appreciated against USD by 3.9%. During second quarter of 2016, ALL was appreciated by 1.7% in annual terms. The domestic foreign exchange market was characterized by an increase in surplus/demand ratio for the euro, even though the trade deficit expanded. During April and May the ER of euro/lek was stable, fluctuating within the interval of 138-139 ALL. At the end of June, this ratio reached 137.14 ALL. The ratio of USD/ALL continued to show high fluctuation, affected by the developments of Euro/USD exchange in the international market. In annual and quarterly terms is noticed the strengthen of position of ALL against USD by 3.8% and 2.5% respectively, in line with the appreciation of the euro against dollar. The third quarter of the year has been characterized by an appreciation of DC against major currencies. In July this appreciation peaked at 4.1% in nominal effevtive terms, from 3.3% on average in the first half of the year. During August this appreciation decreased at 3.1%, and at 1.8% in September. In this period the trend of ER of euro/lek, has reflected the presence of high seasonal remittances. So, during July and August the ALL appreciation tendency was strengthened when the ER averaged 136.5 lek/euro. Also, the fluctuations of the ER of euro/lek, have reflected the depreciation of the euro against the US dollar in international markets. The USD has continued its depreciating trend in the DM, by depreciating at 2.9% in July and August and 1.4% in September, from 3.8% in March-June. The depreciation of USD in

the DM until August, resulted higher compared with that observed in IM. The tendencies of the ER of euro/usd were partially transmitted to the euro/lek ER as well, affecting so the depreciation of the European currency in the DM. Also in the last quarter of 2016, the ALL continued to appreciate, both in nominal and real terms.

1.11 What are the effects of depreciation of the euro in Albanian economy?

Euro has reached the lowest levels since 2009. Nowadays in Albanian market, especially last days euro was exchanged with 135 lek. This situations brings winners and losers, but which are they? Is clear that a depreciation of euro means cheaper installment loans for those that have taken loans in euro. Also it has impact and in the apartments prices, which have stimulated the loans in euro, because the selling prices are also in euro. So, this is a good thing for those persons or businesses that have loans in euro and want to buy a house or to travel in Europe. But this situation has losers as well. For example the exporters sees how because of currency depreciation its income for the same quantity of product are less. The same thing is and for them that are paid in euro.

Loans

Years ago, loans in euro were preferred for both, businesses and individuals. The cheapest interest rate comparing with lek, and the fact that euro is very used in Albania made the common currency very requested. Taking loans in foreign currency peaked in 2011, and the banks started to curb it while the depreciation of Lek (1 euro exchange more than 140 lek), made evident the risk of exchange rate for all the people that had income in lek. For example those people that had monthly installment 250 euro, in 2006 year needed a 30,750 lek, while in 2013 was needed 35,000 lek, at about 14% more. Nowadays is difficult to obtain a loan in foreign currency, because banks recommend customers to borrow in the currency of their income. However the stock of loans in foreign currency still is high, constituting 53% of total loans. Today are at about 1.8 billion euro (253 billion lek), that must return to the bank from individuals and businesses through monthly installments. Those that profit from the depreciation of euro, are the borrowers that have their income in lek, that has made the installments at about 5% cheaper than two or three years ago. On

the other hand, those that have borrowed in dollars have expensive monthly installments. But they are few in number. According the data of BOA the stock of loans in dollar on November 2016 was at about 260 million euro.

Price of apartments

Today the price of houses and cars sell in euro currency. Because of depreciation of euro, the increase in apartment's price is somewhat amortized. For example one apartment 90 square meter in a good zone of Tirana in 2014 was cost 1000 euro for meter square, and was needed 12.6 million lek (1 euro=140lek). Nowadays for the same place and for the same surface, the price achieved 1100 euro per meter square, and the apartment cost 99,000 euro. If the exchange of euro in lek would be the same like 2014, then it would cost at about 13.9 million lek, or 10% more expensive. But, today 1 euro=135 lek, and the real cost of house would be 13.5 million lek, or at about 7% higher. In recent report of BOA, during 2016, the price index rose by 4.6% in average annual terms, and the rent index of houses rose by 3.3% in the last quarter. The reason of high prices is because of two factors. Firstwas increased the fee of construction in infrastructure from 4% of cost to 8% of selling price. Another reason is the increase of request of buying houses with cash in the center and in the suburbs of Tirane, through loans. The increase of request is reflected and in the sell price, where in specific zones the increase in price has achieved 200-300 euro per meter square. This increase has exceeded and the tax of infrastructure.

Government debt

The depreciation of euro has been a good thing for government. During this year it has paid 3.5% less when has exchanged lek for euro, for repayments of external debt. Currently the external debt is 504 billion lek, or 3.68 million euro. In the end of 2016 the debt was 2.1 billion euro. The Ministry of Finance has analyzed that the high exposure to this currency was not a concern as in recent years the euro currency has had a stable exchange rate with the lek and has recently decreased. Meanwhile, the domestic currency has been fluctuated at about 6.0% against the USD, which is the second most important currency according the weight in the debt portfolio. During last years costs from exchange rate changes have been moderate. Contribute to this is the reverse movement of the euro

and USD currency as well as the fact that the majority of the repayments of foreign debt instruments are scattered during in time and repaid in several installments.

Customs revenue

In 2015, the average exchange of euro-lek was 140.02. In 2016 albanian customs used an average of exchange rate of euro-lek at about 137.68 lek. It apply the exchange rate referring the official data of BOA. But, since the euro has been depreciated at least 3.5 per cent, in a year, the income of customs have been lower from exchange of euro with lek, when was paid the taxes. This year the same businesses have paid less lekfor the same goods, with the same euro than a year ago. Currently, 63% of imports that comes in Albania are from euro countries, but being that oil imported in dollars, at about 40 per cent of this imports comes in euro currency. In 2016, the imports were 579 billion lek, from which over 365 billion lek was from euro countries. And the value of imports has been at about 8.7 billion lek cheaper than in 2015, because of depreciation of euro in report with lek.

Wages

Lots of private businesses and international institutions, pay their employees in euro. But, in nowadays this is not a good thing for the employees, because their salaries may not have changed but the real income in lek are 4-5 per cent lower than two years ago, when euro was exchanged with 140 lek.Is different for them that are paid in dollar, that during 2015-2016 have had a significant increase in their lek income.

Holidays

Lots of albanians prefer to go out for holidays, not only in the summer, but also during the year. Since the holiday offers are all in euro, and the because of depreciation of that currency, this make the holidays cheaper for those that go abroad. More expensive is for those that want to go to USA, and have to pay at about 25% more in order to exchange lek per dollar, comparing with two or three years ago.

CHAPTER 2

LITERATURE REVIEW

In this work is going to discuss the impact of exchange rate regime on some of the main indicators of macroeconomic performance such as inflation, unemployment, economic growth, and impact on current account, and especially the way that ER regime effects balance of payments, where certain considered aspect of it is foreign trade investment. Are numerous studies that have intended to find the effects of exchange rate variability on macroeconomic indicators. Below are cited some of these studies investigating of different authors. Are included results of these authors that they have achieved during their studies researches about countries that have used different ER regimes. On the other hand are included specific investigations of different authors in their researches for Albania case. And in the end is done a comparison of what other authors have suggested for other countries, with the ones that have reviewed Albanian case.

Exchange rate regime and inflation

One of the most discussed topics has been the relationship between ER regime and inflation rate. Many authors have analyzed ER regime impact on inflation. The effects of ER regimes in inflation is an important issue for developing countries (Edwards, 2006). One of the first studies that has claimed the fact of emerging countries with low income that have low inflation and more stable in a fixed regime is Ghosh et al. (2003).

The conclusion resulted by Levy-Yeyati and Sturzenegger (2002), in their studies for advanced and developing countries claim that exist a positive impact of fixed regimes on price stability only in developing countries.

They also developed the idea that countries with dual exchange rate systems, run inconsistent macroeconomic policies, such as inflation and fiscal deficits, with a fixed ER. The results achieved from Husain et al, Coudert, and Dubert (2005), Ghosh et al. (2003) and Rogoff (2003) support the fact that fixed regimes are associated with low inflation in countries with low and low-middle income, and argue that under floating regimes countries with upper-income have low inflation. According McKinnon and Schnabel (2004) the low and stable inflation level result under a peg ER. Supporters of fixed regimes claim that the use of this regime in countries with unrestricted capital mobility helps in price stability in some different ways: by providing monetary discipline, reducing possibilities of expansionary monetary policy, and anchoring inflationary expectations.On the other hand, Quinn, Toyoda, and Inclan (2001) report that countries with capital account restrictions intend to have high inflation, fixed regime, trade restrictions and weak central banks. Some more studies by Giavazzi and Giovannini (1989) argue that a stable ER regime is helpful to a CB to impart credibility of low inflation policies. Ghosh et al (2010) suggests that may exist low inflation under a peg ER because of reduced monetary growth, and argue that fluctuating ER while depreciating, cause rises of prices by raising the domestic prices of imported final and intermediate goods, and when appreciating it fail to reduce prices. On the other hand, Tornell (1996) argue that inflation is costly for fiscal authorities, under a flexible rate, because it provide more policy discipline by forcing them to pay the cost. Other studies of Bleaney and Francisco (2007) confirm a negative relationship between pegged regime and inflation, and argue the fact that on average pegged systems are less inflationary than the float one. Exists and other studies of some authors that couldn’t find a significant relationship between ER regimes and inflation McKinnon and Schnabl (2004).

Exchange rate regime and unemployment

In research studies by Tornell (1996) is argued that flexible regimes provide monetary independence, that stimulates growth and reduces unemployment. On the other hand, empirical evidence by Ghosh et al (2003) in his studies argued that pegged regimes increase volatility of growth, investment and increase employment, reducing in this way the level of unemployment, productivity growth and inflation. Studies by Tavlas (2003), claim that lowering inflation under a stable ER regime will impact in high unemployment and low output.

Exchange rate regime and economic growth

Following will be a review of the empirical literatures explaining that ER regimes may impact on the economic growth performance of a country in two ways, directly as an effective tool against significant shocks in the economy, and indirectly through its impact on some factors of economic growth such as international trade, investments, and productivity. According to McKinnon the uncertainty of ER may compose a big problem for small and open economy, where trade accounts for a large proportion of the economy. Some studies argue that exists a relationship between ER regime and economic growth, but are ambiguous the signs of these influences. Exist another group of researchers that rely the fact that fixed ER stimulate economic growth, and the flexible one does not. On the other hand are groups that claim that the opposite is true. Other groups conclude that the choice of ER regime has no impact on subsequent economic growth. But previous studies by Ghosh et al (2003) in an analysis over a 30-year period of 145 countries observed a significant linkage of the choice of ER regime and economic growth in a country. In the results was proposed that ER regime effect indirectly through investment or increased productivity on economic growth. Also Huang and Malhotra (2004) in their investigation for relationship between the choice of ER regime and economic growth for advanced European and developing Asian countries, achieved two results. First, is no significant relationship between this two variables for the advanced European countries. And secondly, the choice of ER regime has effect in economic growth for emerging Asian countries. According the two aboved results is seemed that the relative impact of the ER regime on economic growth depend on the level of development of that countries. Similar

results by Levy-Yeyati and Sturzenegger (2002) suggests that choice of ER regime has impact on economic growth for non-industrial countries, but for the industrialized ones this impact seems to be far less significant. Advocates of fixed regimes suggest that flexible rates has negative impact on growth, because of the high level of uncertainty it imposes. On research studies by Bailliu et al (2003) is seemed tha the relied the fact that flexible regimes may adopt and absorb easily and fastly, the aggregate shocks. In studies by Bailliu, for 25 developing market economies, over a period of 25 years (1973-1998) discovered that flexible regimes are associated with a higher growth level. This studies stands only for those countries that possess developed financial markets, and that are open to cross boarder capital flows. Additionally, the model used by Levy Yeyati and Sturzenegger (2002) was pooled regression of a sample of 183 countries during 1974 to 2000 period, and they concluded that less flexible ER regimes in emerging countries impact in slower growth and greater output volatility. But according Francisco and Bleaney (2006) exists a negative correlation between flexible rates and growth. Their found relied on a sample of 91 countries during 1984-2001 period. In contrast, Bailliu et al (2003) found the opposite conclusion from above mentioned authors. His results was found by a study of 60 countries in the period 1973-1998, by using generalized methods of moments. But according Husain et al (2005) in his study of 158 countries in period 1970-1999 found that flexible regimes have no impact on economy growth. Although for developing countries is appropriate a fixed regime, because of higher volatility of real GDP growth Ghosh et al (2003). Also Ghosh (2003) found that exist a positive impact on economic growth in countries that follow intermediate regimes, compared with flexible systems. While Edwards (2006) found that may exist a crisis of currency in cases of an overvaluated of real ER under a fixed regime. However Edward and Magendzo (2003) conclude that dollarized economies have lower level of economic growth than those that have not. Supporters of fixed regimes argue that this system enhance investments by reducing real interest rates, but on the other side distort price signaling Ghosh et al (2003). Some other studies seemed that ER volatility exert a negative impact on trade volume Peree and Steinherr (1989). On the other hand empirical results by Brooks (1997), found a positive impact of ER volatility on trade volume. The supporter of fixed ER are agree with the fact that ER stability is helpful on economic growth because of its positive impact

on trade and investment Rose (1995). The stability of ER help in reducing price uncertainty and the volatility of real interest rates and thus contribute to economic growth and stability Schnabl (2007). In contrast, the advocates of flexible ER argue that ER volatility help in reducing negative impact of significant shocks on local, and external disequilibrium. In his studies Schnabl (2007) examined for a sample of 41 countries the impact of ER volatility on growth and found that it reduce the growth of the economy because of the negative impact of ER fluctuations on adjustment of asset and labor markets. Moreover, studies by Sercu and Vanhulle (1992) showed that sometimes exists a positive impact of ER volatility on trade, and sometimes this impact is negative because of its ambiguous impact on trade. By contrast, studies of supporters of floating ER found that this floating regime increase the growth Edwards and Levy-Yeyati (2003). The same opinion share and Ghosh et al (2003) that floating ER foster productivity growth by increasing in this way the growth of the economy. On contrast, Brada and Mendez (1988) support the idea that flexible ER decrease the volume of international trade, because of two main reasons such as the uncertainty of ER for conducting foreign trade, and because of raising trade barriers as a response to high-ER volatility. In studies of Obstfeld and Rogoff (1995) is observed that ER uncertainty reduces international trade (IT), and decrease investment.

Exchange rate regime and current account

Numerous studies have investigated the effect of ER volatility on current account. This has become a subject of interest for both policymakers and researchers.

Proponents of flexible ER agree that this regime is more efficient than fixed ER in correcting the disequilibrium of balance of payments, because of the flexible regime ability to facilitate the achievement of economic objectives of the country such as the easily accomplishment of internal balance. In contrast, stand the advocates of fixed ER that support the idea that flexible rates decrease the volume of investment and IT. Peters, Domac, Yuzefovich (2001). Also these authors in their descriptive analysis include that exists higher current account (CA) deficits in countries with fixed regimes compared with those with intermediate and flexible systems**.** Ghosh (2010) conclude that under flexible

ER regimes large CA change very rarely, and in cases that this occur it is accompanied with lower initial imbalances. Studies by Edwards (2006) during 1970-2011 period on investigation of 157 countries suggest that countries with flexible ER may adjust better shocks. On Contrary, has and few studies that conclude that there is no relationship between ER regime and CA imbalances. The authors that support this idea are Chinn and Wei (2008) in their analysis of 170 countries during 1971-2005 period, where found that there is no strong relationship between ER regime and the rate of CA reversion.

And studies of Nilsson and Nilsson (2000) investigate the impact that ER regime have on exports for developing countries and found that countries' exporters are affected by misalignments of ER and volatility. In contrast, another group of empirical studies state the idea that ER volatility has negative impact on FDI flow, because countries with a high degree of ER volatility have high degree of currency risk, and in this way converts the flow of FDI to countries with more stable ER Dixit (1994).

CHAPTER 3

DATA AND METHODOLOGY

3.1 Data

In this study, we need to gather relevant data, in order to test the theory. In this case we use macroeconomic indicators of Albania such as:

- Exchange Rate (US$/AlbLek)
- Consumer Price Index
- Unemployment Rate
- Export
- Import
- Interest Rate

The inflation rate in case of Albania, is measured by using consumer price index (CPI). The data cover the period from the 10^{th} month of 1998 until the 11^{th} month of 2016. Monthly observation are obtained from International Monetary Fund webpage, which is a reliable web site.

3.2 Methodology

In order to get final result of this study we have used four types of models. The first one is Graphical Representation, the second one is Descriptive Analysis, the third one is Unit Root Test, and the last one is Vector Auto Regressive (VAR). After reviewing the existing literature following hypotheses are formulated:

H1: Exchange rate has significant impact on inflation
H2: Exchange rate has significant impact on unemployment
H3: Exchange rate has significant impact on interest rate
H4: Exchange rate has significant impact on exports
H5: Exchange rate has significant impact onimports

"**Graphical method** is a way of analyzing numerical data. "It is a sort of chart by which statistical data are shown in the form of curves or lines drawn across the coordinated points plotted on its surface". Graph facilitate us in studying the relationship between two variables, and helps in measuring the extent of change in one variable when another one changes by a certain amount. Also graphs enable us to study both, time series and frequency distribution by giving in this way a clear picture of problem.

Descriptive analysis are used in describing features of the data that have been collected during the study, and helps to present quantitative descriptions, and to simplify large amounts of data in a sensible way. The most common types of descriptive analysis are the mean, median and mode.

Unit root test is a model which represent the situation where uncertainty is present, or a model that have some kind of randomness."It is a test for stationarity in a time series. The stationarity exist if a shift in time does not cause a change in the shape of the distribution. These tests are known for having low statistical power". In large samples is used the augmented Dickey-Fuller test.

Vector Auto Regressive(**VAR**) is a model used for multivariate time series, where each variable is considered a linear function of past lags of itself and past lags of the other variables. The components of the model are as following:

1. **n—dimension of the vector**: express the number of variables to model, and is equal to the nr. of equations in the system.
2. **p—lag structure** for each of the n variables is the identical number of lags positioned in the right hand side of each equation.

3. The specification of the linear autoregressive.
4. The assumptions on the statistical properties of the innovations.

CHAPTER 4

EMPIRICAL ANALYSIS

As outlined in the methodology, the analysis of the data was conducted in four steps, and each step is described as following:

4.1 Graphical Representations

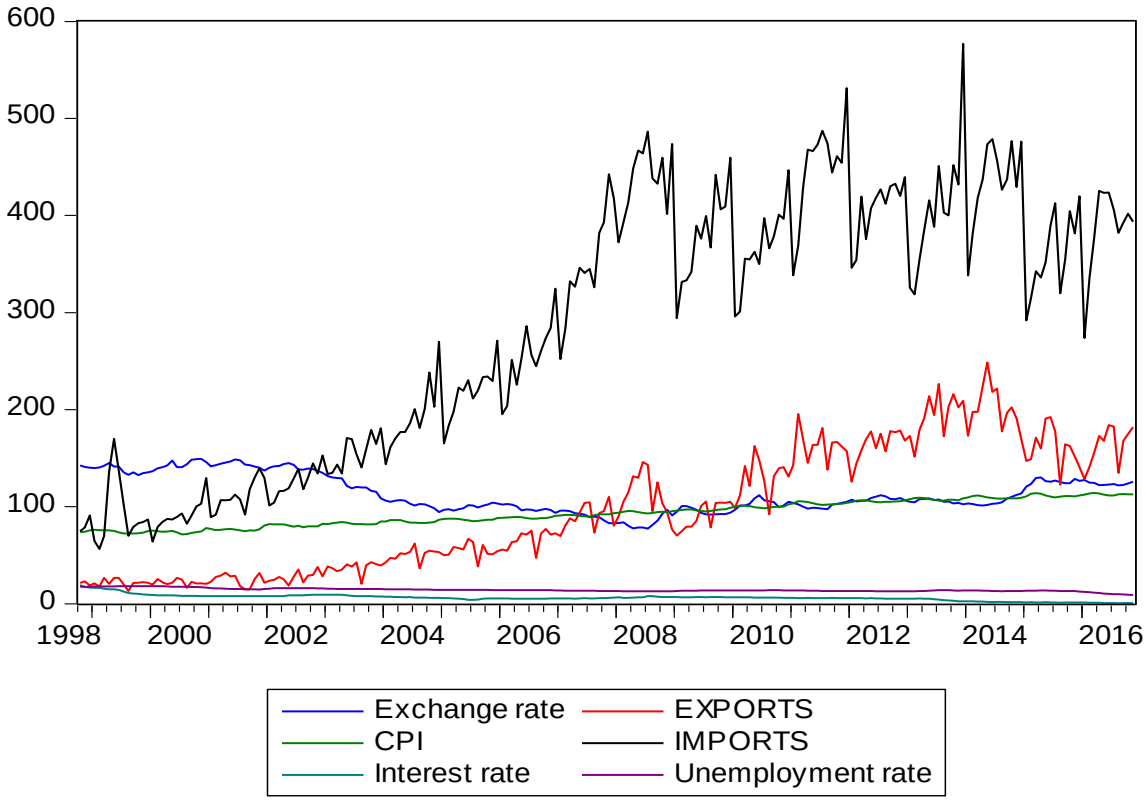

FIGURE 4.1 Time Series Plot of Selected Macroeconomic Variables

The above graph shows that exchange rate and the other macroeconomic variables included in the study such as; CPI, interest rate, exports, imports and unemployment rate seems to have different trend.

4.2 Descriptive Analysis result

TABLE 4.1 Descriptive Analysis Result Table

Sample: 1998M10 2016M11

	GCPI	GEXCH	GEXPORTS	GIMPORTS	GINTEREST	GUNEMP
Mean	**0.002008**	**-0.000328**	**0.028930**	**0.018978**	**-0.013425**	**-0.003049**
Median	0.001826	0.000000	0.014531	0.031074	-0.005906	-0.002226
Maximum	0.052964	0.081330	0.923596	0.953620	0.333333	0.031269
Minimum	-0.026722	-0.060775	-0.517755	-0.413531	-0.267606	-0.039325
Std. Dev.	0.010644	0.022297	0.199317	0.149355	0.060512	0.010556
Skewness	0.909712	0.314524	0.678677	0.435613	0.601260	-0.522419
Kurtosis	6.281091	4.179310	5.399540	10.04242	10.80248	5.799901
Jarque-Bera	127.2692	16.15269	68.71851	455.2906	563.5202	80.75228
Probability	0.000000	0.000311	0.000000	0.000000	0.000000	0.000000
Sum	0.435653	-0.071134	6.277878	4.118137	-2.913173	-0.661697
Sum Sq. Dev.	0.024471	0.107384	8.581099	4.818286	0.790926	0.024068
Observations	217	217	217	217	217	217

The descriptive analysis result reportedin Table 4.1 shows that the average growth rate of consumer price index or inflation is at 0.2%. But, the average exchange rate growth is observed-0.03%. Also, the average growth rates of interestrate and unemployment are negative,-1.3% and -0.3% respectively. The average growth rate of exports is at about 2.9%, and the average growth rate of imports is at about 1.9%.

4.3 Unit Root Test Result

TABLE 4.2 Unit Root Test Result Table

Variable	t-statistics (ADF) in level	p-value
GEXCH	-11.2246	0
GCPI	-4.59467	0.0002
GEXPORTS	-3.59095	0.0067
GIMPORTS	-4.62233	0.0002
GINTEREST	-14.5018	0
GUNEMP	-2.83024	0.05

In the Table 4.2 are shown the results of unit root test. The results is obtained from Augmented Dickey Fuller test andindicate that the variables, which are exchange rate, CPI, exports, imports and interest rate and unemployment rateare stationary in level, and this is shown by the probability of each of them that is lower than 0.05.

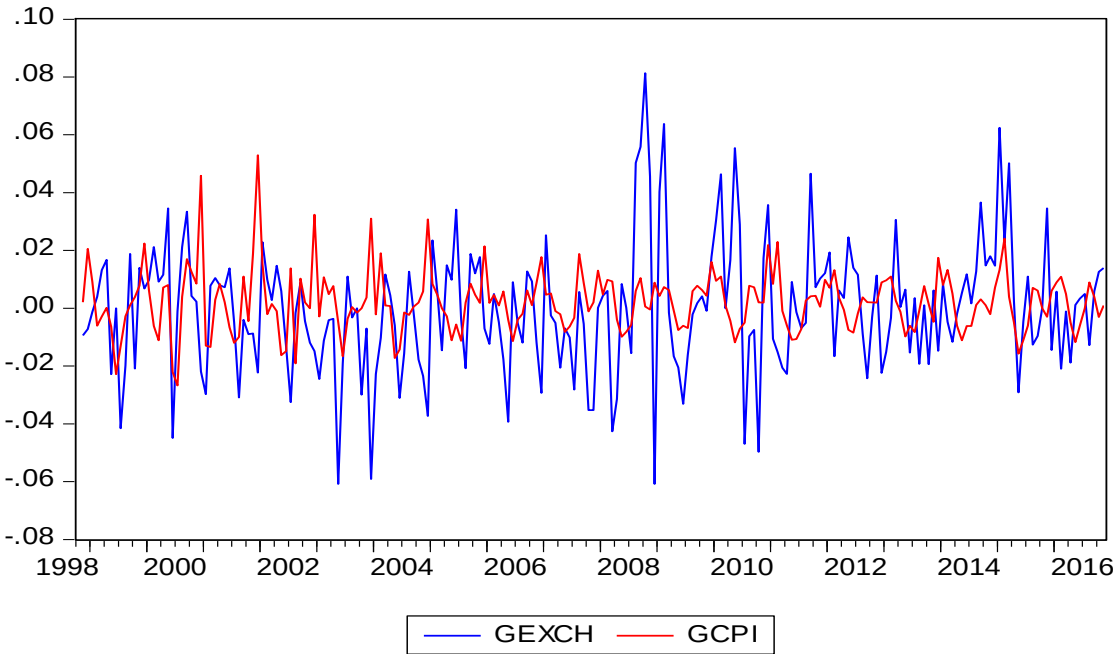

FIGURE 4.2 Time Series plot of GEXCH and GCPI

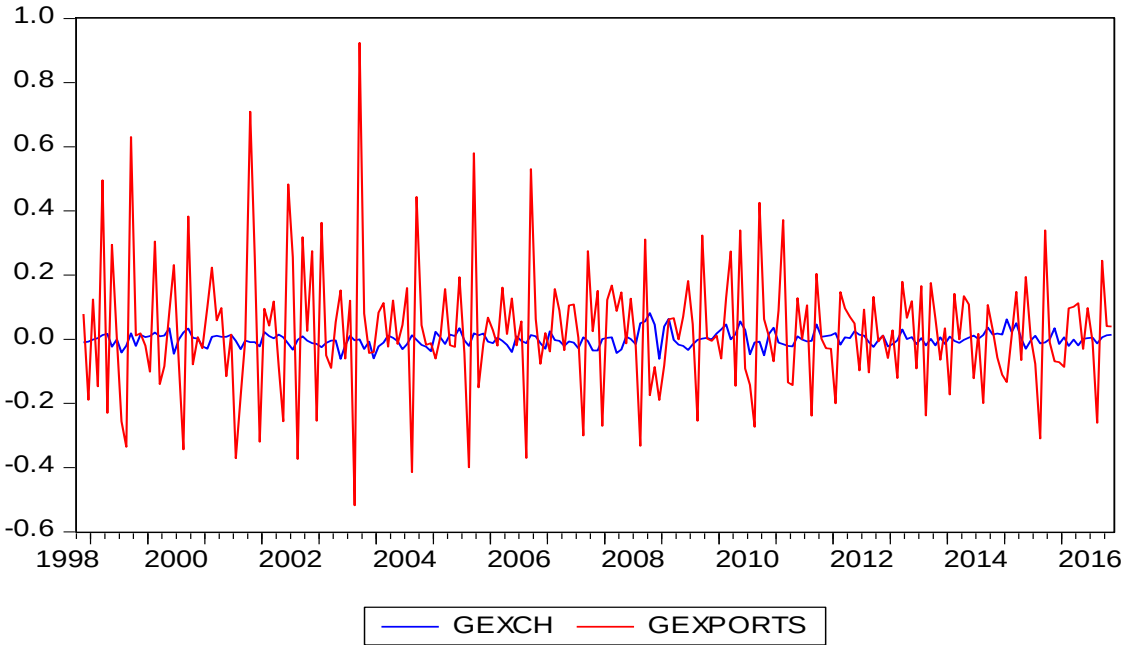

FIGURE 4.3 Time Series plot of GEXCH and GEXPORTS

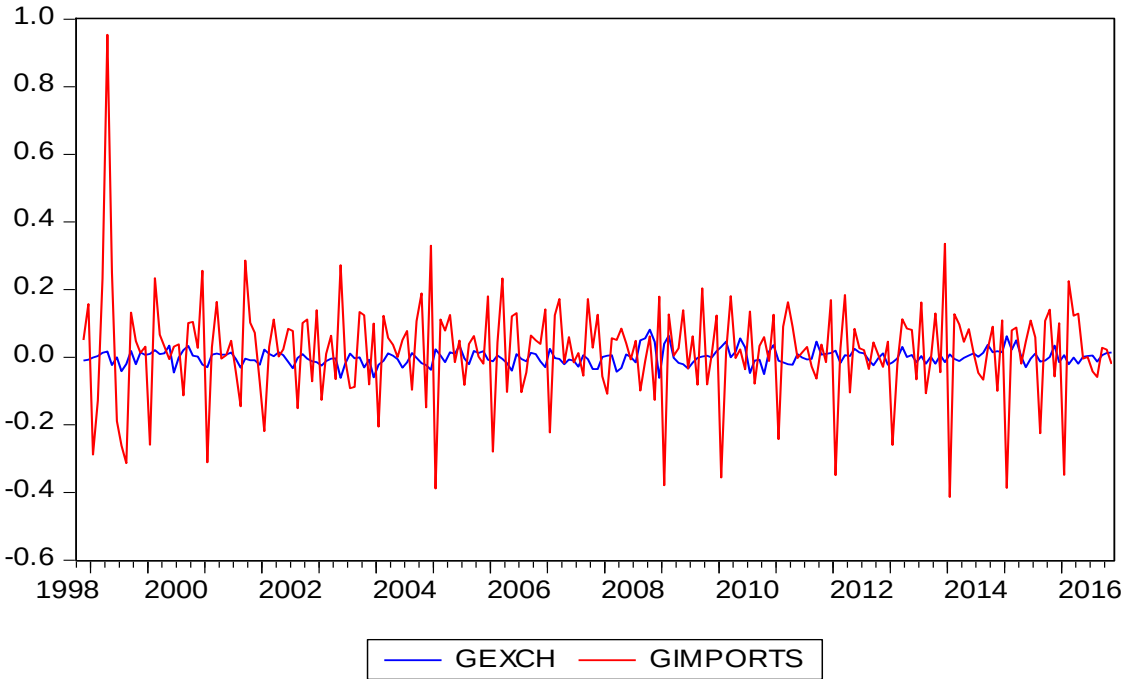

FIGURE 4.4 Time Series plot of GEXCH and GIMPORTS

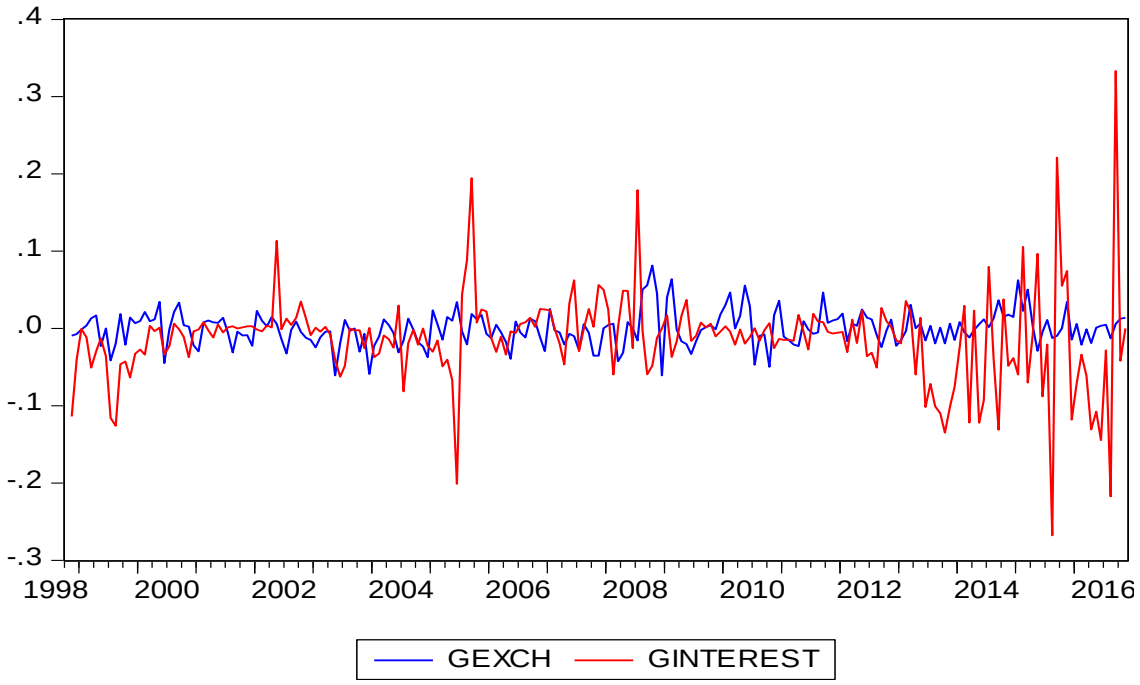

FIGURE 4.5 Time Series plot of GEXCH and GINTEREST

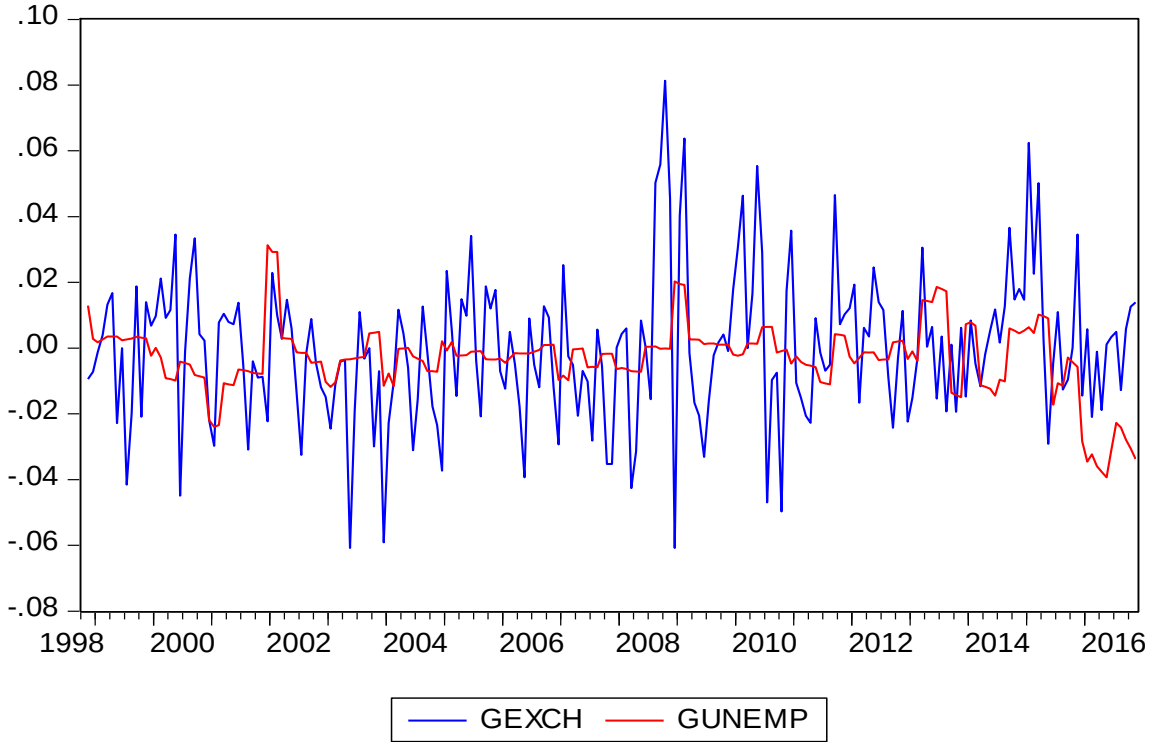

FIGURE 4.6 Time Series plot of GEXCH and GUNEMP

Bilateral relationships between exchange rate and selected macroeconomic variables are investigated through time series plots. The graphs in Figure 4.2, Figure 4.3, Figure 4.4, Figure 4.5 and Figure 4.6 shows the fluctuations of exchange rate and selected variables. No significant relationship is detected.

4.4 Vector Autoregression model result

TABLE 4.3 Vector Autoregression Result Table

Vector Autoregression Estimates
Sample (adjusted): 1999M03 2016M11
Included observations: 213 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	GCPI	GEXPORTS	GIMPORTS	GINTEREST	GUNEMP
GEXCH(-1)	0.045130	-0.274873	0.527257	-0.329133	0.028506
	(0.02984)	(0.59577)	(0.42909)	(0.20681)	(0.02020)
	[1.51218]	[-0.46137]	[1.22877]	[-1.59147]	[1.41106]
GEXCH(-2)	-0.052511	-1.100325	-0.626691	0.084137	0.005342
	(0.03101)	(0.61901)	(0.44583)	(0.21488)	(0.02099)
	[-1.69345]	[-1.77757]	[-1.40567]	[0.39156]	[0.25451]
GEXCH(-3)	0.027178	-0.759873	0.116900	0.135159	0.019025
	(0.03069)	(0.61269)	(0.44128)	(0.21268)	(0.02078)
	[0.88551]	[-1.24023]	[0.26491]	[0.63550]	[0.91576]
GEXCH(-4)	-0.067140	-1.310365	-0.970559	-0.017416	-0.008434
	(0.02965)	(0.59179)	(0.42623)	(0.20543)	(0.02007)
	[-2.26478]	**[-2.21423]**	**[-2.27708]**	[-0.08478]	[-0.42030]

Vector Autoregression model result is summarized in Table 4.3. The results in the table shows the impact of exchange rate with different lags until four on selected macroeconomic indicators. The result indicates that US$/Alb Lek exchange rate has no significant impact on selected macroeconomic variables for the first, the second and the third lag. This mean, that exchange rate does not gives any significant effect in the three months on consumer price index, exports, imports, interest rates and unemployment. However, US$/Alb Lek exchange rate has significant negative impact on CPI, exports, and imports in lag four. It means that the impact takes four months, and not for first three months. In this period is noticed as well that US$/Alb Lek exchange rate has no significant impact on unemployment and interest rate.

CHAPTER 5

CONCLUSIONS

5.1 Overall Conclusions

This research empirically examines the impact of exchange rate over macroeconomic variables in Albania. Selected variables taken in considerate for this study are the main indicators that play an important role in macroeconomic performance of a country. Variables that are being considered in the study are the US$/Alb Lek exchange rate, inflation that is measured by using consumer price index, interest rate, unemployment, exports and imports. To begin with the results of data obtained from vector auto-regression result table, that indicates the negative significant impact of US$/Alb Lek exchange rate on consumer price index, exports and imports in fourth month, and this means that the impact over this three variables take four months. Since the US$/Alb Lek exchange rate cause a decrease of inflation, this is a good thing because low inflation reduces uncertainty and improves the well-being of the population, by bringing so the growth of the overall economy. One of the main reason that have played an important role in keeping the inflation low for most of the transition period are external influences by contributing to exchange rate stability. Our preliminary conclusion suggests that the drop on inflation comes from supply shocks, which mostly originate from developments in the international markets. Also the drop in fuel prices abroad and at home had caused inflation to drop, as well the low food prices in four of Albania's trade partners influenced the inflation drop.

According the results achieved by VAR, is noticed that US$/Alb Lek ER may have negative impact on exports as well, causing so a low level of products exports.The main reason of this is because of the fall in the quality of a country's products relative to other country's products, and low exports are influenced as well by the effectiveness of domestic firms in marketing their products. Also one the biggest issue in fall of exports is the high domestic demand that may encourage some domestic firms to switch from the foreign to the domestic market. Also a negative impact of exchange rate on imports is seemed from the table of auto-regression model, causing so the imports to decrease. This is a good impact for the economy because the level of imports is in a low level than the level of exports, and this may reduce the current account deficit, causing so a country's balance in exports and imports. However is important the role of Bank of Albania in stabilizing the economy through the prudent monetary policies and exchange rate managements to smooth out shocks.

5.2 Implications

The finding of this study have good implications for policy makers who are responsible for sustainable economic development. In the long period, exchange rate can be used as a tool to control inflation. Since the all study is based on trustful information in gathering the data, this is a positive thing for the researchers to use the results of this study and to make further studies according this topic.

5.3 Limitations of the study

Since this study offer an overview of performance of Albanian economy, it may be considered an important issue to investigate for. But, there are limited data necessary for the investigation about this topic, including so the short-time period taken in consideration. A better thing would be that the data to include a longer time period, but after many researches this data was no available for a long-period. Also one limitation that should consider during this study was and a lack of researches about this topic, limiting so in comparing my results with the other results.

5.4 Further studies

As mention before, this study investigates the impact of exchange rate over macroeconomic variables of Albania. This does not mean that is not necessary to make other researches in this kind of topic, and especially for Albanian case that is a developing country, and surprise always with economic rules. Is suggested that in continuous years to make such kind of study related this topic. Is better that in coming studies in focus of this topic to include and the exchange rate of Euro/Lek since the euro is one of the main of foreign currencies. But, because of the lack of information about Euro/ Lek exchange rate this data was not able to include it in the study. Also is important that this studies to be done in periodic time from the government institution such as Bank of Albania, since the components taken into analysis are directly responsibilities of this institution, and is obligated in order to reflect the Albania result.

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APPENDIX A

Monthly data for US$/Alb Lek and selected macroeconomic variables for Albania, during 10th month of 1998 until 11th month of 2016 period.

Month	Exchange rate(US$/ALL)	CPI	Unemp. rate	Exports	Imports	Int. rate
1998M10	142.47	73.91	17.397	21.32	74.79	19.41
1998M11	141.13	74.07	17.622	22.99	78.63	17.20
1998M12	140.11	75.59	17.672	18.65	91.03	16.51
1999 M1	139.93	76.27	17.703	20.98	64.78	16.50
1999 M2	140.48	75.81	17.75	17.90	56.49	16.31
1999 M3	142.33	75.59	17.812	26.77	69.61	15.48
1999 M4	144.72	75.60	17.874	20.61	135.99	15.02
1999 M5	141.42	75.12	17.937	26.69	170.02	14.83
1999 M6	141.42	73.41	17.98	26.69	137.87	14.30
1999 M7	135.55	72.45	18.028	19.85	101.87	12.64
1999 M8	132.87	72.25	18.08	13.19	69.95	11.05
1999 M9	135.36	72.32	18.142	21.50	79.21	10.54
1999M10	132.53	72.60	18.199	21.74	82.98	10.09
1999M11	134.39	73.17	18.253	22.14	84.07	9.45
1999M12	135.31	74.81	18.21	21.69	86.68	9.14
2000 M1	136.62	75.28	18.211	19.49	64.24	8.89
2000 M2	139.52	74.82	18.159	25.43	79.28	8.59
2000 M3	140.81	73.99	17.993	21.87	84.57	8.62
2000 M4	142.44	74.52	17.823	20.04	87.28	8.59
2000 M5	147.37	75.12	17.647	21.75	86.79	8.60
2000 M6	140.75	73.45	17.575	26.79	89.53	8.31
2000 M7	140.60	71.49	17.495	24.91	92.97	8.12
2000 M8	143.58	71.77	17.408	16.35	82.47	8.17
2000 M9	148.38	72.99	17.265	22.61	90.85	8.16

2000M10	149.01	73.91	17.117	20.85	100.35	8.07
2000M11	149.35	74.54	16.963	20.99	103.08	7.77
2000M12	146.08	77.96	16.591	20.40	129.43	7.74
2001 M1	141.74	76.94	16.193	22.42	89.19	7.73
2001 M2	142.84	75.91	15.814	27.44	91.86	7.79
2001 M3	144.33	76.13	15.645	29.06	106.88	7.77
2001 M4	145.48	76.77	15.473	31.89	106.46	7.68
2001 M5	146.53	76.93	15.298	28.22	107.10	7.72
2001 M6	148.56	76.42	15.199	28.63	112.29	7.68
2001 M7	147.82	75.50	15.097	18.02	107.51	7.69
2001 M8	143.25	74.75	14.991	14.83	91.87	7.71
2001 M9	142.67	75.57	14.877	14.83	118.15	7.71
2001M10	141.39	75.23	14.762	25.35	130.22	7.72
2001M11	140.16	76.65	14.647	31.80	139.65	7.74
2001M12	137.04	80.70	15.105	21.64	129.52	7.76
2002 M1	140.18	81.94	15.547	23.70	101.22	7.75
2002 M2	141.57	81.77	16.002	24.70	104.31	7.72
2002 M3	141.97	81.89	16.052	27.62	115.99	7.75
2002 M4	144.06	81.81	16.099	25.32	116.20	7.76
2002 M5	144.91	80.48	16.144	18.85	118.90	8.64
2002 M6	142.93	79.28	16.123	27.95	128.88	8.63
2002 M7	138.28	80.38	16.1	35.11	138.94	8.74
2002 M8	138.06	78.85	16.077	22.02	117.99	8.78
2002 M9	139.28	79.66	16.005	29.02	129.95	8.90
2002M10	138.65	79.82	15.937	29.76	144.43	9.21
2002M11	137.00	79.82	15.872	37.95	134.13	9.33
2002M12	134.97	82.40	15.709	28.29	152.79	9.25
2003 M1	131.66	82.17	15.523	38.55	133.53	9.26
2003 M2	130.18	83.04	15.362	36.63	134.88	9.22
2003 M3	129.64	83.45	15.305	33.35	143.44	9.24

2003 M4	129.17	84.09	15.251	35.14	134.11	9.17
2003 M5	121.32	83.69	15.199	40.51	170.65	8.80
2003 M6	119.00	82.30	15.152	38.07	169.48	8.25
2003 M7	120.31	82.00	15.108	42.64	153.99	7.85
2003 M8	119.93	82.04	15.068	20.56	140.48	7.85
2003 M9	119.93	81.91	15.136	39.55	159.23	7.83
2003M10	116.34	81.91	15.207	42.74	178.96	7.81
2003M11	115.52	82.21	15.282	40.90	164.48	7.61
2003M12	108.69	84.76	15.107	39.29	180.85	7.62
2004 M1	106.22	84.58	14.99	42.57	143.67	7.33
2004 M2	105.13	86.19	14.817	47.40	161.31	7.09
2004 M3	106.36	86.27	14.814	46.30	170.61	7.03
2004 M4	106.84	86.34	14.812	51.90	176.93	6.93
2004 M5	106.20	84.85	14.813	51.17	177.02	6.76
2004 M6	102.90	83.64	14.776	53.45	186.10	6.96
2004 M7	101.29	83.52	14.728	61.98	200.55	6.39
2004 M8	102.58	83.33	14.67	36.32	181.13	6.27
2004 M9	102.42	83.37	14.567	52.45	200.49	6.26
2004M10	100.60	83.53	14.464	54.75	238.32	6.13
2004M11	98.24	84.01	14.36	53.78	202.88	6.13
2004M12	94.58	86.60	14.39	53.14	269.82	5.99
2005 M1	96.80	87.32	14.379	49.96	165.04	5.81
2005 M2	97.33	87.73	14.406	50.45	183.51	5.72
2005 M3	95.91	87.73	14.373	58.36	197.91	5.44
2005 M4	97.34	87.48	14.341	57.30	222.72	5.22
2005 M5	98.30	86.52	14.31	55.93	219.45	4.87
2005 M6	101.65	86.03	14.295	66.78	230.34	3.89
2005 M7	101.28	85.06	14.281	63.88	211.40	4.06
2005 M8	99.17	85.22	14.268	38.39	219.69	4.42
2005 M9	101.03	85.95	14.219	60.64	233.51	5.28

2005M10	102.25	86.35	14.169	51.53	234.08	5.32
2005M11	104.06	86.52	14.119	50.79	229.51	5.45
2005M12	103.33	88.37	14.074	54.21	270.88	5.57
2006 M1	102.05	88.53	14.011	55.73	195.16	5.50
2006 M2	102.56	88.94	13.968	54.60	203.79	5.34
2006 M3	102.06	89.02	13.947	63.43	251.27	5.28
2006 M4	100.26	89.54	13.925	64.44	225.47	5.10
2006 M5	96.31	89.18	13.902	72.65	252.81	5.08
2006 M6	97.18	88.16	13.88	71.24	285.92	5.05
2006 M7	96.69	87.81	13.865	75.19	256.26	5.08
2006 M8	95.54	87.65	13.857	47.34	244.74	5.12
2006M9	96.76	88.18	13.87	72.47	260.58	5.19
2006M10	97.66	88.27	13.883	77.02	273.69	5.20
2006M11	96.50	89.04	13.897	71.12	284.30	5.33
2006M12	93.67	90.62	13.762	72.50	324.50	5.46
2007 M1	96.04	91.05	13.647	69.71	252.13	5.59
2007 M2	95.80	91.51	13.513	80.65	283.39	5.59
2007 M3	95.32	91.42	13.508	87.90	332.18	5.48
2007 M4	93.36	91.23	13.504	84.88	326.57	5.22
2007 M5	92.71	90.48	13.502	93.81	346.11	5.39
2007 M6	91.76	89.92	13.423	103.97	340.91	5.73
2007 M7	89.18	89.62	13.346	104.47	345.01	5.56
2007 M8	89.68	91.30	13.268	73.14	326.01	5.56
2007 M9	89.19	92.09	13.244	93.22	382.17	5.70
2007M10	86.05	92.00	13.221	95.55	393.00	5.71
2007M11	83.01	92.18	13.198	109.98	442.53	6.03
2007M12	83.03	93.38	13.113	80.31	417.51	6.33
2008 M1	83.39	93.82	13.033	90.14	372.24	6.49
2008 M2	83.89	94.75	12.951	105.25	393.40	6.10
2008 M3	80.32	95.63	12.86	114.55	413.40	6.11

2008 M4	77.79	95.26	12.768	131.35	448.42	6.41
2008 M5	78.45	94.32	12.676	129.70	466.93	6.72
2008 M6	78.46	93.55	12.681	146.15	463.89	6.55
2008 M7	77.24	93.01	12.686	142.97	486.41	7.72
2008M8	81.12	93.57	12.692	95.42	438.21	7.71
2008 M9	85.65	94.55	12.689	125.13	432.78	7.25
2008M10	92.62	94.60	12.687	103.32	459.59	6.90
2008M11	96.84	94.56	12.684	94.38	401.56	6.82
2008M12	90.96	95.40	12.941	76.47	473.77	6.82
2009 M1	94.62	95.80	13.193	70.25	294.33	6.93
2009 M2	100.65	96.50	13.447	74.63	331.70	6.68
2009 M3	100.50	97.11	13.482	79.55	333.15	6.57
2009 M4	98.83	97.04	13.518	79.55	341.89	6.67
2009 M5	96.80	96.30	13.553	85.17	389.45	6.92
2009 M6	93.59	95.71	13.569	100.63	376.33	6.80
2009 M7	92.08	95.06	13.588	105.34	399.56	6.74
2009 M8	91.89	95.62	13.607	78.56	367.05	6.79
2009 M9	92.05	96.37	13.621	104.01	441.83	6.80
2009M10	92.42	96.97	13.635	104.24	406.10	6.85
2009M11	92.34	97.39	13.649	103.74	409.11	6.77
2009M12	93.98	98.96	13.622	104.92	459.53	6.75
2010 M1	96.84	99.89	13.59	98.63	296.06	6.77
2010 M2	101.34	100.99	13.564	111.45	301.04	6.74
2010 M3	101.34	101.08	13.583	141.99	355.66	6.60
2010 M4	103.02	100.63	13.602	121.30	354.58	6.59
2010 M5	108.73	99.44	13.62	162.45	362.74	6.46
2010 M6	111.89	98.73	13.707	147.71	349.88	6.39
2010M7	106.63	98.23	13.795	126.69	397.36	6.39
2010 M8	105.59	99.00	13.884	92.06	366.10	6.29
2010 M9	104.81	99.71	13.865	131.26	378.49	6.27

2010M10	99.60	99.91	13.852	139.55	401.04	6.31
2010M11	101.33	100.10	13.845	140.59	396.52	6.15
2010M12	104.95	102.29	13.78	130.93	446.48	6.07
2011 M1	103.84	103.15	13.746	142.61	338.33	5.98
2011 M2	102.27	105.51	13.688	195.60	368.87	5.89
2011 M3	100.17	105.42	13.618	169.33	428.97	5.80
2011 M4	97.89	104.79	13.545	145.05	467.69	5.90
2011 M5	98.79	103.65	13.467	163.65	466.38	5.87
2011 M6	98.65	102.54	13.328	163.78	472.95	5.71
2011 M7	97.98	101.81	13.185	181.22	487.42	5.82
2011 M8	97.48	102.07	13.04	138.05	474.19	5.87
2011 M9	102.02	102.50	13.095	166.17	444.27	5.92
2011M10	102.76	102.94	13.148	166.55	461.07	5.89
2011M11	103.82	103.00	13.198	161.90	454.24	5.85
2011M12	105.08	104.01	13.164	157.13	531.27	5.82
2012 M1	107.10	104.75	13.103	125.71	345.97	5.80
2012 M2	105.32	106.13	13.064	144.22	354.20	5.62
2012 M3	105.97	106.52	13.047	158.15	419.42	5.68
2012 M4	106.35	106.46	13.029	169.21	375.68	5.57
2012 M5	108.96	105.66	13.012	177.56	407.28	5.70
2012M6	110.48	104.77	12.964	160.22	418.19	5.50
2012 M7	111.77	104.58	12.919	175.10	426.96	5.33
2012 M8	110.79	104.98	12.874	156.96	412.08	5.06
2012 M9	108.10	105.2	12.897	177.74	430.23	5.19
2012M10	107.79	105.41	12.923	176.55	432.66	5.24
2012M11	109.01	105.61	12.952	178.52	420.14	5.25
2012M12	106.57	106.55	12.909	168.04	439.45	5.17
2013 M1	104.96	107.58	12.896	172.71	325.44	5.07
2013 M2	104.61	108.76	12.845	151.77	318.82	5.25
2013 M3	107.81	109.04	13.033	179.03	354.59	5.36

2013 M4	107.86	108.9	13.22	190.98	384.74	5.04
2013 M5	108.56	107.83	13.405	213.72	415.72	5.11
2013 M6	106.89	107.18	13.654	194.22	388.24	4.59
2013 M7	107.27	106.29	13.899	226.43	451.07	4.26
2013 M8	105.2	106.2	14.139	172.58	403.07	3.83
2013 M9	105.31	107.02	13.947	202.83	399.97	3.41
2013M10	103.27	107.17	13.748	216.01	451.99	2.95
2013M11	103.91	106.66	13.543	202.18	431.89	2.65
2013M12	102.38	108.52	13.641	209.14	576.75	2.45
2014 M1	103.24	109.39	13.748	173.07	338.25	2.39
2014 M2	102.75	110.84	13.842	197.61	381.45	2.46
2014 M3	101.55	111.4	13.686	197.61	418.30	2.16
2014 M4	101.35	110.73	13.525	224.17	437.17	2.21
2014M5	101.89	109.5	13.358	248.47	473.45	1.94
2014 M6	103.09	108.83	13.165	218.17	478.74	1.76
2014 M7	103.26	108.16	13.039	221.89	456.71	1.9
2014 M8	104.58	108.28	12.907	177.69	426.50	1.83
2014 M9	108.41	108.61	12.985	196.70	437.26	1.59
2014M10	110.01	108.72	13.054	202.43	476.66	1.65
2014M11	111.99	108.5	13.113	190.92	429.34	1.57
2014M12	113.64	109.28	13.183	169.74	476.12	1.51
2015 M1	120.73	110.73	13.267	147.13	291.94	1.42
2015 M2	123.46	113.4	13.328	148.98	315.01	1.57
2015 M3	129.66	113.85	13.464	171.05	342.71	1.46
2015 M4	129.97	113.29	13.595	159.91	336.20	1.45
2015 M5	126.19	111.51	13.718	190.96	351.70	1.59
2015 M6	125.61	110.28	13.481	192.33	389.75	1.45
2015 M7	126.99	109.61	13.337	177.50	412.73	1.42
2015 M8	125.39	110.39	13.184	122.62	320.00	1.04
2015 M9	124.19	111.06	13.146	164.29	354.52	1.27

2015M10	124.21	111.06	13.09	162.66	404.55	1.34
2015M11	128.5	110.73	13.015	151.50	381.44	1.44
2015M12	126.64	111.4	12.646	140.69	419.86	1.27
2016 M1	127.37	112.4	12.209	128.60	273.84	1.18
2016 M2	124.7	113.62	11.814	141.08	335.54	1.14
2016 M3	124.56	114.18	11.389	155.43	376.83	1.07
2016M4	122.21	113.62	10.96	172.96	425.34	0.93
2016 M5	122.35	112.29	10.529	167.76	423.42	0.83
2016 M6	122.76	111.62	10.201	184.13	423.61	0.71
2016 M7	123.37	111.62	9.969	182.42	405.85	0.69
2016 M8	121.79	112.62	9.728	134.92	381.94	0.54
2016 M9	122.5	113.07	9.457	167.97	392.77	0.72
2016M10	124.04	112.73	9.168	174.79	401.68	0.69
2016M11	125.77	112.84	8.859	181.83	393.57	0.69

Source: Monthly Reports, data from International Monetary Fund