The effect of exchange rate volatility in economic growth: a literature review.

Ph.D. (c) Enida Zhugri (Istrefi) 
Email: enidaistrefi@uamd.edu.al

PhD Rovena Vangjel
Email: rovenatroplini@uamd.edu.al

Abstract
The globalization process brings so many changes to economic factors all over the world. According to the economists, exchange rate fluctuation is one of the indicators of a country’s economy that is directly affected by economic integration or international trade. The study of exchange rates fluctuation, especially in fragile economies like Albania, has a large interest to see why this country has fluctuated sharply in recent decades, and the most important is to find the factors that have led to these movements. Generally, a devaluation of the domestic currency facilitates the growth of exports of domestic goods and services by making our goods cheaper in foreign markets and reduces the demand for imported goods in the country. While the strengthening of the domestic currency certainly has the opposite effect, as it makes exports more expensive, import products become more competitive and this will also affect the deepening of the country's trade deficit. Albania is a country with a small and open economy, and in this case the exchange rate of the local currency plays an important role in the level of prices, in the level of productivity, in the volume of foreign assets held in the country as well as in attracting investments. According to researchers, exchange rate stability helps the country’s financial stability in the short term and the long term. The study of exchange rate behavior is the object of our study, in terms of the impact that exchange rate fluctuations have on the economy especially in Foreign Direct Investment, international trade, and macroeconomic factors. This paper is presented an extensive literature review to analyze the impact of exchange rate fluctuations in the economy, from the perspective of different authors.

Keywords: Exchange rate volatility, macroeconomic development, imports, exports.

I. Introduction
Since the fall of the Bretton Woods system about thirty years ago first, the problems brought about by exchange rate fluctuations are back on one of the hottest topics of policymakers' discussions in open economies, both developed and non-developed in progress. These issues have also been present in the countries of transition in Eastern Europe, as excessive exchange rate volatility exchange that with the start of the liberalization process, has caused significant costs to the well-being of these countries. In Albania, too, the frequent fluctuations of the lek during the year, with large seasonal amplitudes have created a contingent environment for domestic exporters and importers. Albania has a small and open economy, therefore, the lek exchange rate plays an important role in the impact of the price level in Albania and the balance of payments in the country. Also, the opening of the Albanian economy more and more to foreign markets, is of particular interest regarding the competitive position of Albanian businesses in trade at home and abroad. For this reason, different measurements of the effective exchange rate highlight different aspects of the effects that the exchange rate has on the economy, so it is often necessary to consider several measurements to have an overview. If the goal is to see the effect of the exchange rate on the price level, then the best measure is the one that has the strongest correlation with inflation. Whereas, if the focus is on the influence of the exchange rate on the real economy, then the exchange rate should be seen as a variable that affects competition in foreign trade, economic activity, and the balance of payments stability in the medium term.

1 Lecturer at University “Aleksander Moisiu”, Business Faculty, Finance and Accounting Department
Ph.D. student at University of National and World Economy

2 Head of Finance and Accounting Department, University “Aleksander Moisiu”, Business Faculty,
In this research, two main related issues are discussed: central bank policy on inflation targeting. First, we want to address the effect of exchange rate tracking on inflation and second, to comment on the monetary policy response to changes in the exchange rate. These are two issues important, which relate to the pressures they may have developments in foreign exchange markets on inflation and expectations of inflation, as well as on the way the monetary authorities choose to address these pressures. We think the exchange rate has been an important determinant of inflation developments and simultaneously, a shock absorber. Our results also show that the power of this monetary transmission channel has declined during periods of low and stable inflation. Surprisingly, our results show that monetary policy is vigorously responding to exchange rate changes. This result causes ambiguity and further research needs to be done and a intensive communication.

The attitude towards stabilizing inflation and the exchange rate has changed significantly, especially over the last decade. In the beginning of the 90s many economists thought that developing countries and in transition, must adopt fixed course regimes of exchange as a reliable means of stabilization. Fear of the regime fluctuating, as described in Calvo (1999) and Calvo and Reinhart (2002), gives a strong argument in favor of these regimes. However, many of the success stories of the 90’s are gone towards currency crises later in the decade or early 2000s, adding to the problems of inflation and by shown that such stabilization can only be short-term. Consequently, in an increasing number of cases, economies have tried to address the issue of stabilization by adopting inflation targeting as the remaining solution (has previously been the monetary targeting model that was subsequently replaced by exchange rate targeting). They have even equated one such regime with the floating exchange rate regime.

This new regime raises important policy questions about exchange rate research. Inflation targeting as an objective final does not differ much from other monetary policy regimes seeking the stabilization of the economy, focusing on price stability, as all regimes have stability pricing the ultimate goal of their policy. Substantial change lies in the choice of the intermediate objective, as it changes from the lek exchange rate to money and later to expectations e inflation, respectively in the exchange rate, the monetary target and inflation targeting.

Albania undertook an exchange rate regime fluctuating, as the best solution and automatic mechanism for improve high and rising trade deficit and deficit e current account in early transition levels; and to be adjusted for capital flows. This solution was also conditioned by lack of international reserves. At the same time, this regime enabled an independent monetary policy, which relied on quantitative monetary objectives and in direct control instruments monetary. In this role, her movements have been a predictor of good of expected inflation developments. The policy of intervention was designed to protect the foreign exchange market from speculative shocks and / or sudden short-term fluctuations of the exchange rate, due to special seasonal developments regarding remittance flows; to reach the appropriate level with international reservations; and intervene, in case the course of exchange was not supported by basic economic indicators. This rules, clearly stated that the Bank of Albania will not intervene in the foreign exchange market to hedge any exchange rate in equilibrium or to change its course. Anyway, regardless clear exchange rate policy, operational scheme u relies more on judgments than on rules. Time, size and the direction of the intervention reflected the position of the Bank of Albania for exchange rate developments.

Often, exchange rate modeling focuses on the real effective exchange rate, which is calculated as the nominal exchange rate, adjusted for the inflation rate at home and abroad. The main reason behind this is that due to different levels of inflation, the nominal exchange rate does not accurately reflect the purchasing power of the domestic currency for foreign goods and services. If the value of the exchange rate set in the market is not consistent with the rate implied by an economic model, then economists would anticipate the possibility of some adjustments in the market. The first theory, the earliest, used to determine whether a coin was overvalued or undervalued, known as Purchasing Power Parity (PPP). Purchasing Power Parity is one condition that says that, if we ignore transportation costs, changes of taxes and trade restrictions, due to arbitrage benefits and tradable services must have the same price in it both countries, after converting their prices into a currency of common.

But despite that PPP theory has been known for centuries with in recent decades this way of measuring has been the subject of many criticisms and discussions both from a theoretical point of view as well also from the practical one (see for example Levich, 1998; Dornbusch, 1988; Samuelson, 1964; and Rogoff, 1996). Lafrance and Schembri (2002) list some reasons which oppose the usability of PPP theory as a determinant of the exchange rate.

First, the existence of non-tradable goods and services prevents the simultaneous sale in several markets (otherwise called arbitration). Second, the presence of large trade costs, such as transportation costs, taxes and fees, the cost of information, other non-tariff barriers, etc., increase the cost of arbitration. Finally, the basket of consumer goods is different from one country to another, and because production prices are different compared to consumer prices. As conclusion the real exchange rate can not be constant, because price levels usually resist falling, while the exchange rate is also affected by short-term and real shocks (in the long run) in the money and capital markets.
In an already well-known exchange rate study, Rogoff (1996) showed that even in the long run, PPP or it is not ascertained in reality, or in those cases when it is evidenced, it seeks a long enough time for the price difference to be neutralized in accordance with PPP. He suggested at least three important changes to the PFb theory, such as the Balassa-Samuelson effect (referred to in material as B-S), current account trends and the role of public spending. Though not all of these changes were unknown in the literature, the latter being otherwise known as the effect on the demand side similar to the B-S effect.

While Albania is committed to exploring inflation targeted, as the next possible policy regime monetary, we are trying to understand in detail the elements of this regime, examine the relationship and evaluate the impact of the variables economic on inflation and the course of monetary policy. At the same time, it is important to understand the implication of this regime in other policy variables. Between these variables of politics, the exchange rate is very important, influential directly on inflation and / or inflation expectations. Consequently, considering the relationship between these two variables is necessary for the success of this regime. The Albanian authorities should understand the role of the exchange rate in price behavior and at the same time, design a clear policy for the course of exchange rate, to cope with foreign exchange inflows, without intervened in the context of inflation targeting.

The empirical literature on the effect that exchange rate fluctuations have on economic development is mainly focused on the channels through which the exchange rate affects the economy. A significant proportion of studies have failed to find positive correlations between RER and its impact on economic growth. While according to Schnabl (2008), in his analysis he concluded that exchange rate fluctuations can have an impact on a country's economy in three main directions, such as international trade, foreign direct investment and economic development.

After the failure of the Bretton Woods system in 1970, the regime of the exchange rate changed across all the countries in the world. According to studies conducted by Levy-Yeyati and Sturzenegger (2005), an increase in the use of floating exchange rates has been observed and most countries have adopted a flexible intermediate regime and in some cases a fixed exchange rate. Many countries have also chosen not to allow their exchange rates to fluctuate freely. Thus, in countries where the fixed exchange rate is adopted, it is the responsibility of the central bank of the world's major economies to maintain the exchange rate, fixed by buying and selling currencies to correct the demand and supply of the money in the market. The proponents of the exchange rate regime argue that this process of maintaining fixed exchange rate regimes is difficult but keeping a stable exchange rate along with macroeconomic stability boosts international trade and investment that in turn enhance growth. The transaction cost of international trade has become more expensive and reduces the gains of investors as it constrains their decisions to develop their activity.

Exchange Rate Regime in Albania

The exchange rate in economic terminology is defined as an indicator of the value of the domestic currency against foreign currencies, thus reflecting the economic situation of a country compared to other economies. In a country with an open economy, the exchange rate is considered a key variable in terms of its interaction with other internal and external economic variables. It is also estimated that its fluctuations can affect the economic performance of the country as well as the economic-political developments in the country, the monetary policy decisions of the Bank of Albania, etc. The importance of the role played by the exchange rate in the economic factors in the country is quite high because these factors are interrelated and affect the economic performance of the country and because the dynamics of the exchange rate impact these economic factors are long-term. Usually in developing economies, as in Albania, many foreign currency transactions are conducted more in a free market than through official exchange channels.

Albania has adopted a flexible exchange rate regime since the beginning of the transition period during 1990 years, after the communist regime fall. This means that the price of foreign currencies, for example, the euro currency against the Albanian lek is determined by the conditions of the foreign exchange market. A flexible exchange rate regime was introduced in August 1992, as part of an International Monetary Fund (IMF)-supported stabilization program. Today, the country has an independent float: the exchange rate is formed based on supply and demand for foreign currency. The Bank of Albania calculates and announces the daily exchange rates for the US$, Euro, and other currencies. Since exchange rate stability has been a primary goal of the central bank, effectively the lek has been informally pegged to the US$, despite the EU being its most important trading partner. Until recently, almost 60% of foreign reserves and domestic deposits in foreign currency were held in US$, but the euro has quickly been replacing the US$ after 2002.

Albania is a small country and generally receives product prices from the international market. In this way, the exchange rate directly affects the prices of imported products, which domestic consumers buy. However, exchange rate fluctuations can also affect the prices of products produced by the domestic economy. An undervalued RER can increase the cost of imported inputs, increase the marginal cost, and, consequently, prices. According to (Mancellari, Mytkolli, and Kola, 1999) as well as in the work of Kola and Liko (2011), the relationship between inflation and exchange rates was analyzed and in the case of Albania the flexible exchange
rate serves as an important indicator for explain inflation fluctuations. A real balanced exchange rate helps to create a stable macroeconomic environment, thus helping to absorb foreign capital, which is very important in economic development, especially for small countries like Albania. According to Frenkel, (2004), in some developing countries the fluctuation of exchange rate is the main factor that affect aggregate demand and investment expansion. Another study made by Hua, (2011) conclude that an overvalued currency has a negative affect on employment (Hua, 2011).

II. Literature review

There exists abundant literature on the relationships between RER volatility and economic growth in developing and developed countries. While there are empirical studies that have established a significant negative relationship between them (Musyoki et al 2012; and Schnabl (2007), other studies have instead concluded a positive relationship (Aliyu et al 2009). While other studies conducted by (Barguellitl et al., 2018; Edwards and Levy-Yeyati, 2005; Levy-yeyati and Sturzenegger, 2003), came to the conclusion that if a country follows a flexible exchange rate, this can lead to growth economic because it is easier for these countries to adapt more easily to shocks. However, some other studies have discovered the presence of negative effects of exchange rate volatility on some macroeconomic indicators that may affect economic growth such as Gross Domestic Product, employment, investment, international trade, and inflation (Belke and Setzer, 2003).

According to Frankel (2003), there are four advantages of fixing exchange rate as follow: providing a nominal anchor to monetary policy, encouraging trade and investment, precluding competitive depreciation, and avoiding speculative bubbles. In this study the author emphasizes that flexible exchange rates have several advantages over fixed ones: the Central Bank maintains the autonomy of monetary policy; ease of adapting to different shocks; as well as shun gain losses from speculative fluctuations.

According to Korkmaz (2013), if a country decides to implement a flexible exchange rate regime, then the monetary policy strategy can be based on: targeting the money supply or targeting the inflation rate. But regardless of the choice of the monetary regime, in many emerging market economies, as in the case of Albania, exports, imports, and international the distribution of capital inflows as they occupy a significant share of GDP are also very sensitive to exchange rate fluctuations. So exchange rate fluctuations can cause economic instability.

The main finding of the study made by Ghosh et al (1996), is that there was a weak link between exchange rate fluctuations and output growth. In his study, countries that maintained pegged exchange rates achieved higher investment, yet attained lower productivity compared to countries with floating exchange rates.

Another study made by De Grauwe and Schnabl (2004), conclude that higher output occurred under peg regimes in Central and Eastern Europe because of two main reasons. The fixed exchange rate stimulates international trade and the division of labor, and can bring positive results in lowering interest rates and thus bring economic growth and the rate of investment.

The investigation of the differences in RER volatility between developing and industrialized countries is study also by Dornbusch (1989). The results show the fact that volatility is higher in developing countries when comparing to industrialized countries. This study identified three times higher volatility in developing countries than in industrialized countries but failed to explain explicitly why such differences in volatility between the industrialized countries and developing countries exist.

According to Qian and Varangis (1994), exists a positive relationship between exchange rate volatility and exports for some countries, and a negative relationship for other countries. They suggest that the effect on exports is dependent on the currency of the invoice. If exports are invoiced in the exporter’s currency, there is a positive effect of exchange rate volatility on exports. In the same study, seems that floating and more volatile exchange rates can have a positive effect on exports when the invoices are denominated in the exporter’s domestic currency. However, when the invoices are denominated in the importer's currency, there is a negative relationship between exchange rate volatility and exports.

The empirical work which has been undertaking to explore possible links between exchange rates and macro-economic variables are based on the analytical framework developed by Kamin (1997), in his study conducted in Latin and Asian countries, as well as in some industrialized countries, concluded that there is a link between the inflation rate and the exchange rate in these countries. In assessing the impact of the exchange rate regime on growth, Levy, and Yeyati (2003) conducted a study for a sample of 183 countries over the post-Bretton wood period (1974-2003). They used the OLS technique for their estimation and de-factor classification of the exchange rate regime. That result indicated that there is a significant implication of the choice of a particular exchange rate regime on economic growth. They found out that fixed exchange rate regimes have a negative impact on economic growth especially for developing countries as opposed to flexible exchange rate regime which is associated with higher economic growth. Many other studies have argued that there is a negative relationship between some macroeconomic variables and exchange rate volatility. This is because the volatile exchange rate can negatively affect economic growth because it can negatively affect FDI inflows,
employment, inflation and the level of imports and exports. Regarding these points, numerous studies have shown that a volatile exchange rate often leads to a reduction in the volume of international trade (Hooper and Kohlhagen, 1978). According to Sekkat and Varoudakis (2000), in their study they used econometric methods, they concluded that there is a negative relationship between the export of textile products and chemicals on the one hand and the fluctuation of the exchange rate on the other. Also, Tenreyro (2007) and Arize et al. (2000) found a negative relationship between exchange rate volatility and exports in new emerging countries.

Very few studies have been conducted with a specific focus on the Albanian economy during the last twenty years. The studies that have been conducted in Albania on RER behavior focus on investigating the determinants of exchange rate behavior.

According to Cakrani (2014), Albania's main trade partner is the Eurozone, and for reason, the real exchange rate index was constructed against the euro. Using the VEC model, in the long term only trade openness seems to significantly affect economic growth in Albania, while the real exchange rate has a very small coefficient, suggesting an insignificant impact of real exchange rate on economic growth in Albania in long term. Also, short-term coefficients resulted statistically insignificant. In conclusion, this study summarizes that the real exchange rate has no significant impact on economic growth in Albania. This means that real exchange rates should not be used as a policy instrument for promoting economic growth in Albania.

Another study that has in focus Albania economy made by Dinoshi and Fortuzi (2020) during the period 2005-2015 concluded that: the exchange rate volatility had a statistically significant impact (with a 95% confidence level) on two important factors: firstly on the total production in the country and secondly on the level of exports of goods and local products. While a 10% level of the significant exchange rate has had a significant impact on the level of money supply in the market and the level of lending in foreign currency from the banking sector.

In conclusion, the effect of exchange rate volatility on the economic growth of a country or a region is unstable and complex. This is because exchange rate volatility does not directly affect the economic growth itself, but affects the factors that are influence the macroeconomic growth to indirectly affect the economic growth. Though the constituting factors of economic growth are many and the affected relationship by the exchange rate are mixed, therefore the impact of changes in the exchange rate on economic growth needs the in-depth analysis of various factors of economic growth to reveal changes in the exchange rate, to systemically determine the precise effects for the fluctuations of the exchange rate (Wang et al., 2016).

**Economic growth in Albania**

The economic growth indicator and the per capita income growth indicator are commonly used to assess a country's economic development.

**Graph 1. Economic growth of Albania during the period 2010-2020**

![Graph 1](image)

Source: Bank of Albania, 2020

Albania has had stable economic growth, in contrast to the economies of neighboring countries which have had significant fluctuations in economic development.

The economic growth indicator in the case of Albania can be classified into three main periods: the period 2010-2013 is known as the most difficult phase for the Albanian economy - the one after the financial crisis; the period 2014-2018 is known as the recovery phase; and the third period 2019-2021 post-Covid 19. The economic performance has followed a positive trend for the period 2014-2018 where the maximum value of this indicator reached 2018 with about 4.1%. As in any other country, the Covid-19 pandemic in Albania brought a significant slowdown in the economy.

Given that Albania has always had a flexible exchange rate, it is understood that the price of foreign currencies, the euro against the Albanian lek is determined by the conditions of the foreign exchange market. The graph below shows the performance of the nominal exchange rate during the period 2010-2020. According
to this presentation, the real exchange rate has had relatively stable fluctuations during the last 10 years against the European currency. The same trend has been followed by the fluctuation of the local currency against the US dollar. The situation in the foreign exchange market was calm in the third quarter of 2020, which was characterized by the relatively stable performance of the exchange rate against the euro. Also, the bias indicator has fluctuated close to the equilibrium value, testifying to the balance of demand and supply for currency. All this situation has reflected the reduction of market uncertainties with the gradual lifting of restrictions imposed by states on the spread of the pandemic.

### Graph 2. Fluctuations of the nominal lek/euro and lek/USD exchange rate in the years 2010-2020.

[Graph showing fluctuation of nominal lek/euro and lek/USD exchange rate from 2010 to 2020.]

**Source:** Bank of Albania, 2020

On the other hand, the increase of the current account deficit, mainly due to the contraction of tourism activity, has led to a slight weakening of the lek against the euro, compared to 2019. For the period 2010 until the beginning of 2015, the average exchange rate was 1 euro = 140 lek, causing the national currency to take a depreciating position against the European currency. The fall in the value of the lek against the euro was also influenced by the global crisis of 2008, which brought fluctuations in some key macroeconomic indicators. According to the report of the Central Bank of Albania, during this period the domestic currency depreciated by an average of 7.7 percent against the euro, thus leading to an increase in imported inflation, which affects the inflation rate in the country. While since 2015 and in the following years marked an appreciation of the national currency against the euro. The surplus of the lek against the euro and the US dollar in recent years, as well as the growing pace of domestic exports, has affected the stability of the index of the nominal effective exchange rate.

### III. Conclusions:

As I mentioned at the beginning of the paper, the special treatment of this topic is the fact that many researchers have study the impact that exchange rate fluctuations have on the economic performance of a country, but due to various economic developments that countries have, the results vary from one paper to another.

In the case of Albania, studies have been conducted by local authors to see the impact that exchange rate fluctuations have on various macroeconomic developments, but still, the number of these studies is small. For this reason, this paper will serve as a theoretical and empirical basis by updating with the latest data on this field of study.

As a conclusion of this paper, we can conclude that: both in theoretical and empirical studies, the effects of exchange rate volatility on economic growth did not show any clear-cut relation between them. The theoretical and empirical studies made on both developed and developing countries show mixed results between exchange rate fluctuation and economic growth.

### Bibliography


The effect of exchange rate volatility in economic growth: a literature review.


