

EVOLUTION OF ROMANIAN EXCHANGE MARKET

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Abstract

Intensification of international economic exchanges has resulted in the appearance and development of the currency market. Each country has its own currency, the international transactions are necessary to change the national currencies between countries. The foreign exchange market developed due to the rapid progress of communication, that allow prompt information and knowledge of currencies, therefore the possible transfer of deposits in a few minutes from a U.S. bank to London or Japanese one.

Key words: exchange rate, interest rate, inflation, gross domestic product, current account

JEL Classification: F31, E43, E31, F43, F32

1. Introduction

Setting up the foreign exchange market in Romania is a complex process related to: currency convertibility, liberalization of foreign exchange by establishing the interbank foreign exchange market on 1 August 1994.

Currently, in Romania, the foreign exchange market include: foreign exchange interbank market and exchange offices. In Romania, the forex market is the free market in the position where is direct sale transactions of currencies traded classes all day.

The national currency is following the internal convertibility regime that is limited to current account operations for businesses residents.

2. The emergence and development of the international currency market

In contemporary society, the daily volume of foreign exchange traded in London, New York, Tokyo exceeds what many industrialized countries produce in an entire year. Some people from "dealing room" are running higher amounts than the turnover of leading international companies. Currency exchange is a big business today, but as a profession has existed for thousands of years, dating back, in fact, during the emergence of money.

The nineteenth century was the rise of sterling currency to the rank of principal currency in international trade. The main factors that led to it were:

Rapid industrialization in Europe and North America that led to dependence on imports of goods from England, such as steel and iron.

Development of English transport and communication, which allowed expansion of international trade and capital flows involved in the transactions.

Unfortunately, with the development of trade, there had increased the scale of international conflicts. When the war started between the main colonial powers in 1914, no one imagined

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the devastating consequences that it will have on the global economy. Postwar economic collapse has hit the combatants in the First World War, and with the crash of Wall Street in 1929, the world has entered in a sharp economic recession, hyperinflation destroying the currency of some states, such as, the German mark.

In the late '30, when the economy began to show signs of recovery, Europe is facing another destructive conflict. The United States has "taken advantage" of situation created, in order to consolidate its position as the leading economic power. American industry had customers worldwide and payments were made in U.S. dollars. Gradually the dollar currency replaced the British currency and became the main currency in international trade.

After World War II, the Allied governments were keen to avoid future repetition of economic and monetary chaos of the '20s and '30s.

The first step was the reconstruction of the international monetary system. United Nations Conference on financial and monetary issues held at Bretton Woods in July 1944 led to the creation of the International Monetary Fund and the International Bank for Reconstruction and Development.

International Monetary Fund's objective was to create a monetary stability and replace restrictions that impede international trade. The new rules set maintenance and adjustment of exchange rates. The value of each national currency was expressed by a fixed quantity of gold, but everything was based on convertibility of the dollar (Turliuc, 2008).

Also, rebuilding the global economy occurred more quickly than after First World War mainly due to "Marshall Plan", an American program to support western and eastern Europe, that worth \$ 12 billion.

Since the end of the Second World War, most countries honor their commercial debts by selling or buying various currencies against the dollar.

The exchange between the two currencies, ' dollar passing through "is called" cross ". Given that 90% of international trade was based on such exchanges, the dollar remains after WWII most used currency in international trade.

3. Evolution of exchange rate

Exchange rate is an expression of the ratio value of coins, ie the price of a foreign means of payment expressed in the currency of a country. It is considered "the synthetic price" of an economy, because it influences the economic, social and political relationships, being also an important instrument of economic policy.

Exchange rate has two modes of expression:

- ▶ the ratio of $n = \text{foreign currency} / \text{domestic currency}$, where a unit is defined as the value of foreign currency denominated in international monetary unit: $= n * \text{foreign currency}$ (eg in Romania);
- ▶ the ratio of $m = \text{domestic currency} / \text{foreign currency}$, where is defined as the value of a national currency units by another foreign currency: $\text{currency} = m * \text{foreign currency}$ (eg in England).

This latter form is used only in the markets of Great Britain and Canada, all other countries are using the first shape.

Market exchange rate formation mechanism knows three stages that lead to a smoothing of it:

- First uniformity occurs in each bank, by supply and demand for currency at its counters;
- The second uniformization of rate is taking place on the domestic market, by interbank compensation;
- Third international standardization occurs at international level, through compensation between markets.

Factors that influence the exchange rate

In the current conditions, the exchange rate volatility is influenced by an important number of factors. Any change in the economic or political domestic or international context is reflected by changes in currency exchange rates.

A. Inflation rate

The exchange rate of a currency is determined by the inflation rate in that country course variations between two currencies depends on the difference between the inflation rates in the economy of both countries. Exchange rates tend to quantify the relative purchasing power of each currency. A product that cost 1.0 monetary units in country A and 2.5 monetary units in country B should theoretically determine a rate of 0.4 units A / 1 unit B.

In the study of foreign exchange rates, there are distinguish between the real and nominal variations of exchange rate. Nominal variations are the total observed changes of exchange rate. Real variations are nominal variations modified with inflation factor (usually the consumer price index). The question is whether the inflation of a country is higher or lower than that of countries trading partners (Dardac and Barbu, 2006). Currency trend with higher inflation rate is to depreciate against the partner's currency. Quantifying inflation indicators are the production price index and the consumer price index. Real variations of rate affect the relative price and demand for provided goods and services.

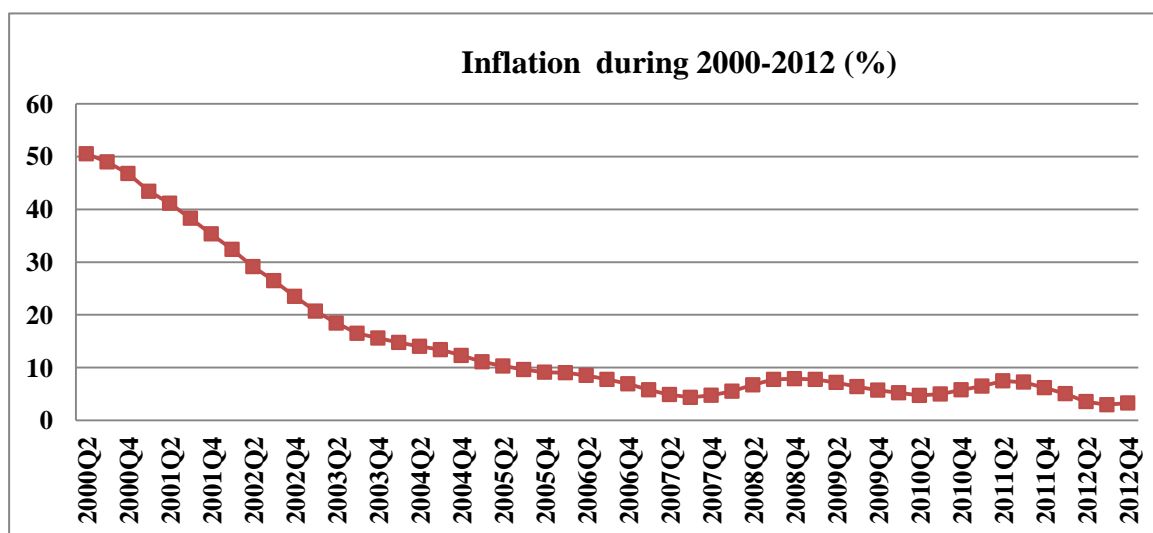


Chart 1: Evolution of inflation rate

Source: NBR

B. Interest Rate

Interest rate changes are consequential on the exchange rate immediately. In the short term, an increase in interest rates will attract international investors, tempted to liquidate assets in other currencies to buy foreign currency monetary instruments which now offers a higher yield - Treasury bills, bonds, certificates of deposit (Opritescu et al., 2008). Growing demand for local currency is determining its appreciation, ie its growth rate relative to other currencies. Conversely, a decrease in interest rate leads investors to liquidate assets in that currency to make investments in other currencies. Local currency sales and purchases of foreign currency will generate the depreciation of domestic currency.

In the medium and long term, the relationship between strongest currency and low interest rate, respectively low currency and high rate of interest is generally checked. Also, there are relationships more complex due to the multitude of involved factors, such as the correlation between strong currency and high interest rate, encountered at the U.S. dollar in the period 1980-1985.

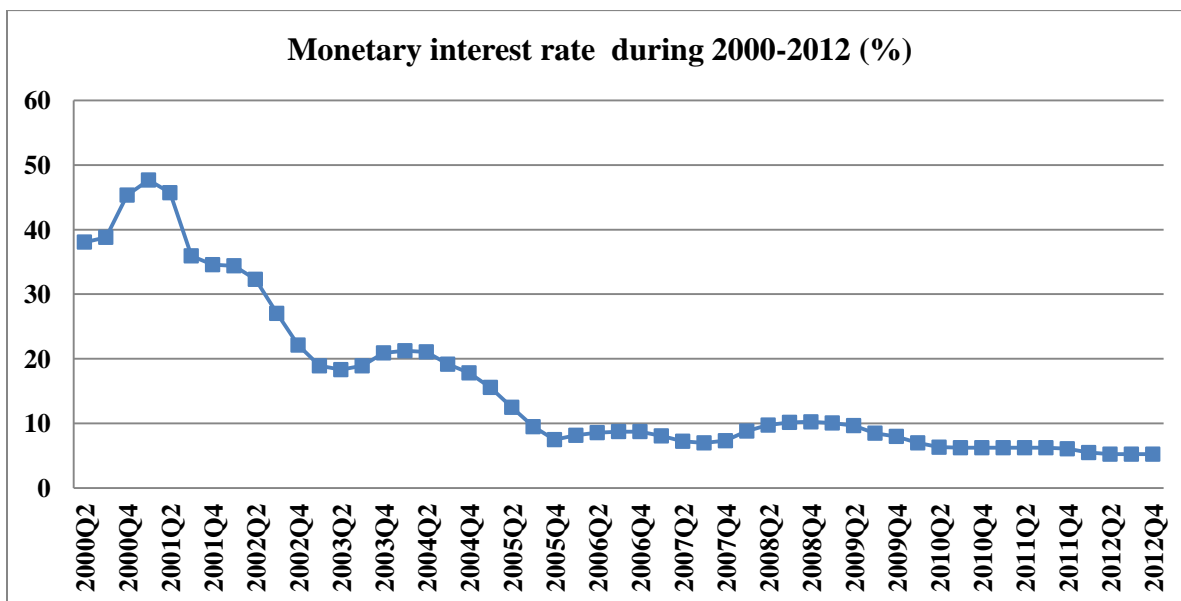


Chart 2: Evolution of monetary policy rate
Source: NBR

C. Balance of payments

Credit transactions on the account balance of payments have the effect of an increased demand for domestic currency. These transactions include exports, unilateral inflows, external loans that are converted to local currency, increasing foreign investments in the domestic market, interest rates or dividend receipts from investments in other countries. Debit positions lead to selling domestic currency in exchange for foreign currency purchase. The result is an increase in domestic currency supply and foreign currency demand, with effect on the depreciation of local currency.

The current account is the most important element of balance of payments, it provides information on the economic situation of a country, its position relative to trading partners with immediate effect on the exchange rate of the national currency.

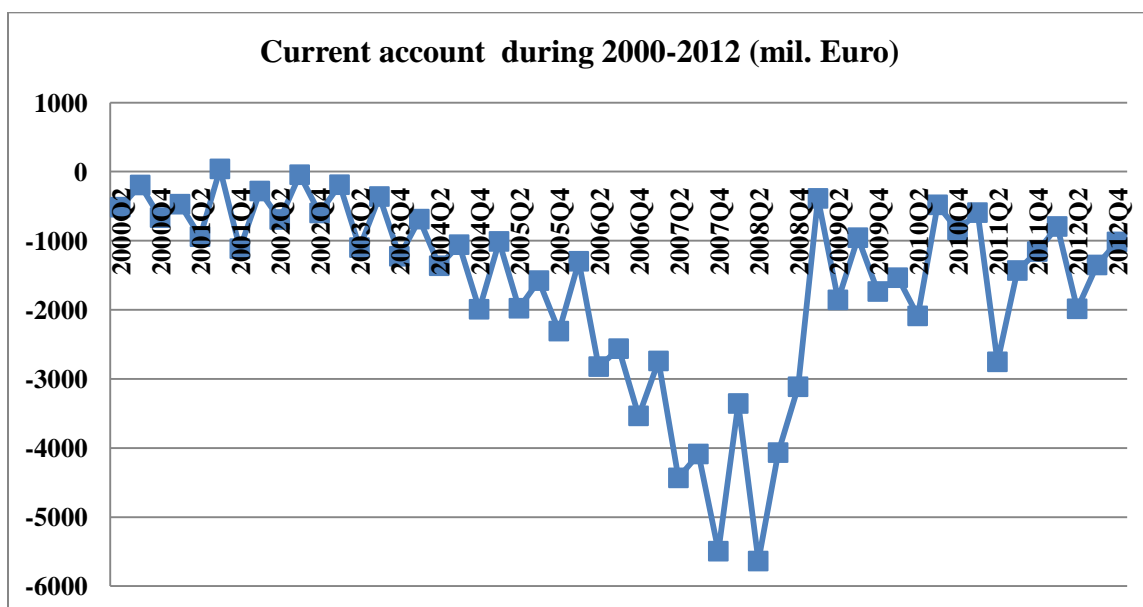


Chart 3: Current account evolution
Source: NBR

D. Speculative and arbitrage operations

Currency speculations, presently representing most of the transactions, consisting in buying of one currency in order to resale them at a higher price, without being based on a commercial or investment operation. Because of trading volumes and mass psychology which drives a large number of speculators in the same direction operations, their influence is significant on the exchange rate. Arbitrage operations aimed to correct discrepancies arising between different markets that trade the same asset. Profits came from adjustment delays of these markets, such as the spot and forward markets, or differences between forward prices and futures contracts.

E. Overall performance of the economy

Economic performance is periodically quantified, based on a range of indicators: staffing, growth, personal incomes and spending. Stock exchanges are a relatively good indicator of a country's economic situation. Strong and sustained upward movements of the stock exchange indicates growth and prosperity. Analysis on the whole, a strong and healthy economy will generate domestic investment trust, so there will be an increase in demand for domestic currency of that country and an appreciation of national currency.

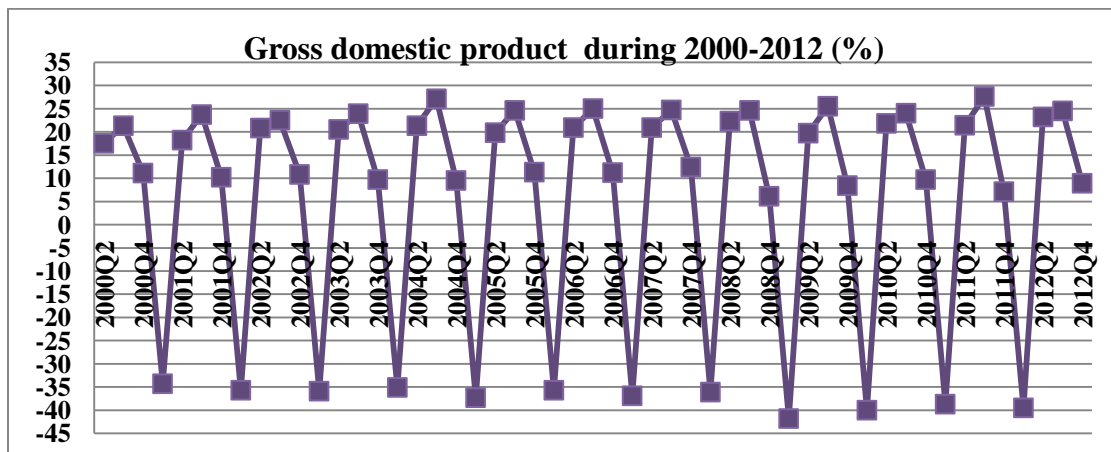


Chart 4: Gross Domestic Product
Source: EUROSTAT

Exchange rate volatility due to influence of factors mentioned above can be illustrated by analyzing the evolution of the RON/USD in the period after 1989.

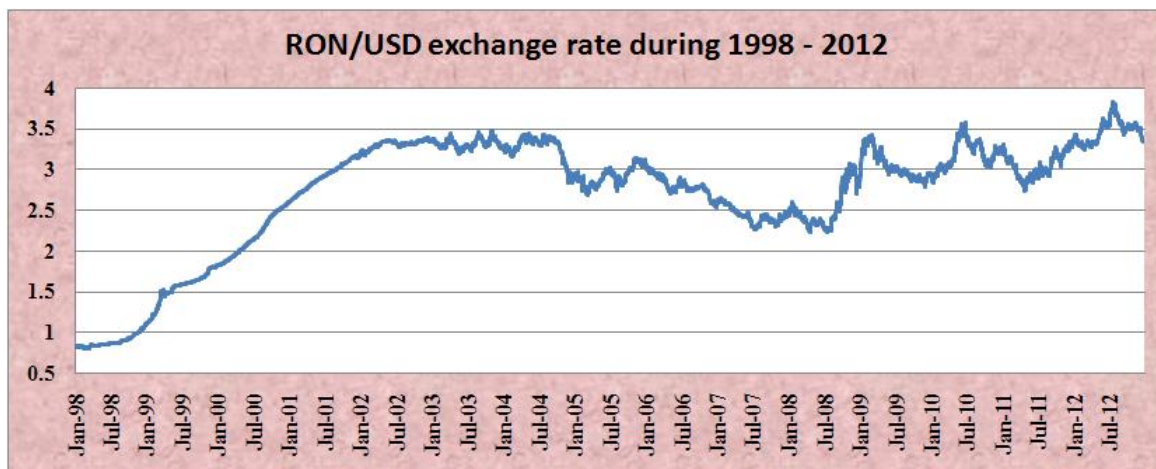


Chart 5: Evolution of RON/USD
Source: NBR

4. Research methodology

In this paper we intend to analyze the impact of influencing factors on the exchange rate (RON/USD) between 2000 to 2012 in Romania. The independent variables that we have chosen are inflation rate, monetary policy rate, gross domestic product (the growth factor) and current account (the most important factor in the balance of payments).

Data are collected quarterly from the site of the National Bank of Romania and the Eurostat database.

So we built the following regression in Eviews program to explain the impact of certain factors on the exchange rate:

$$\text{USD} = c + \beta_1 * \text{CC} + \beta_2 * \text{I} + \beta_3 * \text{RD} + \beta_4 * \text{GDP} + \varepsilon_t$$

where:

USD - the RON / USD exchange rate

CC - current account expressed in million Euro

I - the inflation rate as a percentage

RD - monetary policy interest rate expressed as a percentage

GDP - Gross Domestic Product (percentage increase from one year to another)

5. Data used

The data used in this case study are quarterly and are collected on the website of the National Bank of Romania and the Eurostat database. In table 1 are the descriptive statistics of the analyzed variables.

Note that GDP shows a negative average value in the analyzed period 2000-2012. Also the exchange rate, current account and GDP register negative minimum values during this period.

Analyzing Kurtosis and asymmetry coefficients we find that the analyzed series do not follow the normal law. Thus according Skewness coefficient, we find that the current account series and the GDP shows an elongation to the left (the coefficient is negative). Other data series shows a right tail. Regarding the Kurtosis coefficient, we find that all variables analysis shows higher values of 3, which means that the distributions are leptokurtic.

	USD	CC	I	GDP	RD
Average	0.013883	0.061818	14.74641	-1.67607	15.97059
Mediana	0.010264	-0.19177	7.9	-0.75203	9.67
Maximum	0.213945	12.31111	50.5	0.302198	47.66667
Minimum	-0.08195	-29.6154	2.966667	-7.85246	5.25
Standard Deviation	0.058976	4.733488	13.43529	2.042633	12.30683
Skewness	0.835257	-4.57744	1.439773	-1.21939	1.232694
Kurtosis	4.170308	32.47769	3.794558	3.570319	3.295275
Jarque-Bera	8.840505	2024.585	18.96161	13.32993	13.10132
Probability	0.012031	0	0.000076	0.001275	0.001429

Table 1: Descriptive statistics

Source: Own processing in Eviews

6. Empirical results

In the table below are the results of empirical testing. It is found that the independent variables do not have a significant impact on the exchange rate. Also, there are other variables influencing the RON / USD rate, because R^2 is only 18%.

Dependent Variable: USD
 Method: Least Squares
 Included observations: 51

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.006748	0.015334	-0.440085	0.6619
CC	-0.000854	0.001685	-0.506997	0.6146
I	0.003984	0.002419	1.646988	0.1064
RD	-0.002574	0.002640	-0.975032	0.3346
GDP	-0.001811	0.003907	-0.463605	0.6451

Table 2: Empirical results
 Source: Own processing in Eviews

Thus, we realized correlations between the exchange rate and the analyzed factors.

In the chart it is found that there is a weak relationship between the current account and exchange rate, only 30%. If the current account increased by 0.8%, it will cause a 1% increase in the exchange rate.

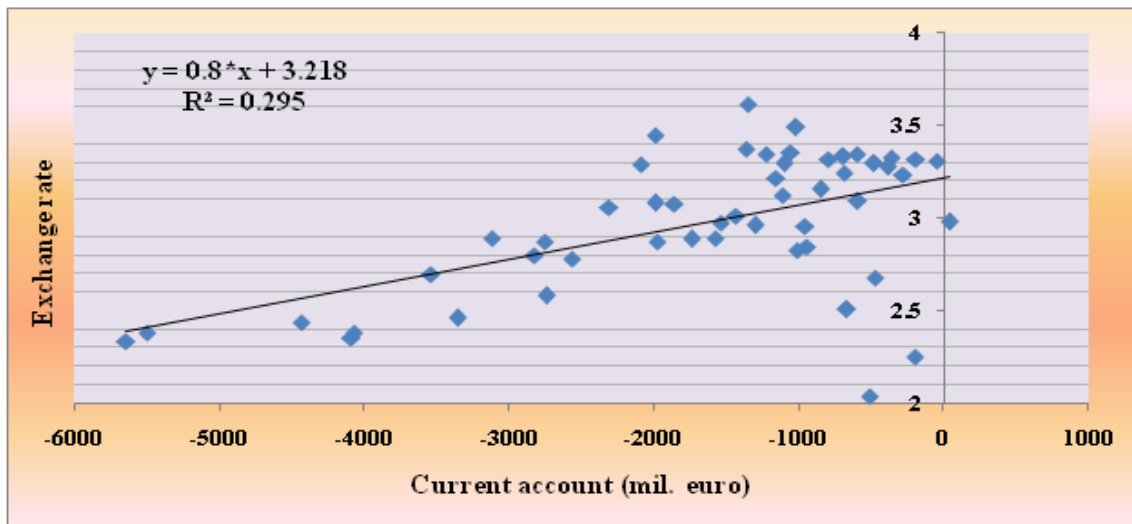


Figure 1: Correlation current account – exchange rate during 2000-2012
 Source: Own processing

In the table we find that inflation does not influence the exchange rate for the analyzed period, R^2 is only 4.8%, and therefore we have a very weak relationship between the two variables.

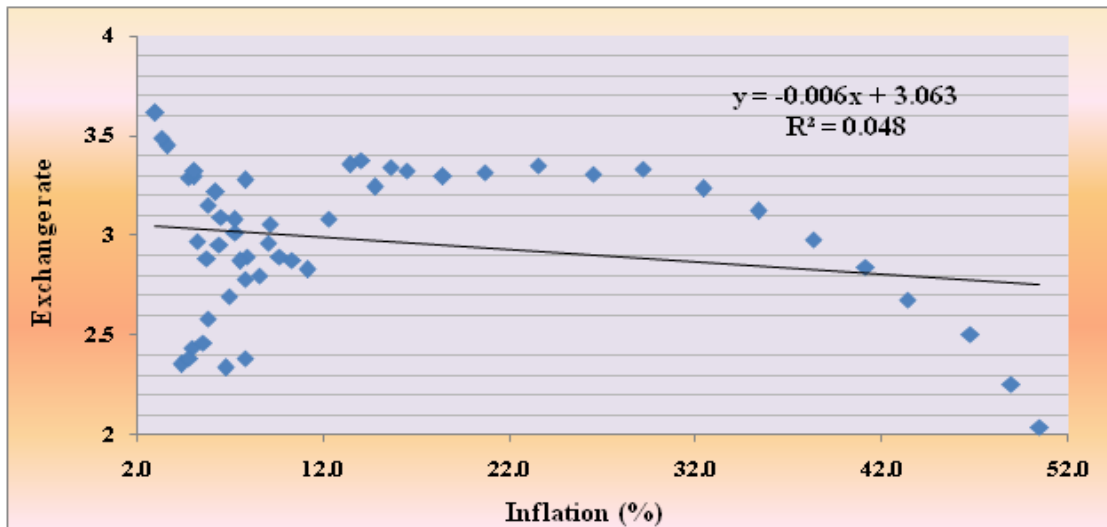


Figure 2: Correlation inflation – exchange rate during 2000-2012

Source: Own processing

Weak relationship is maintained between the monetary policy interest rate and the RON / USD. In the following analysis we should see the relationship between interest rates on loans and foreign exchange. It is possible here to have a stronger relationship.

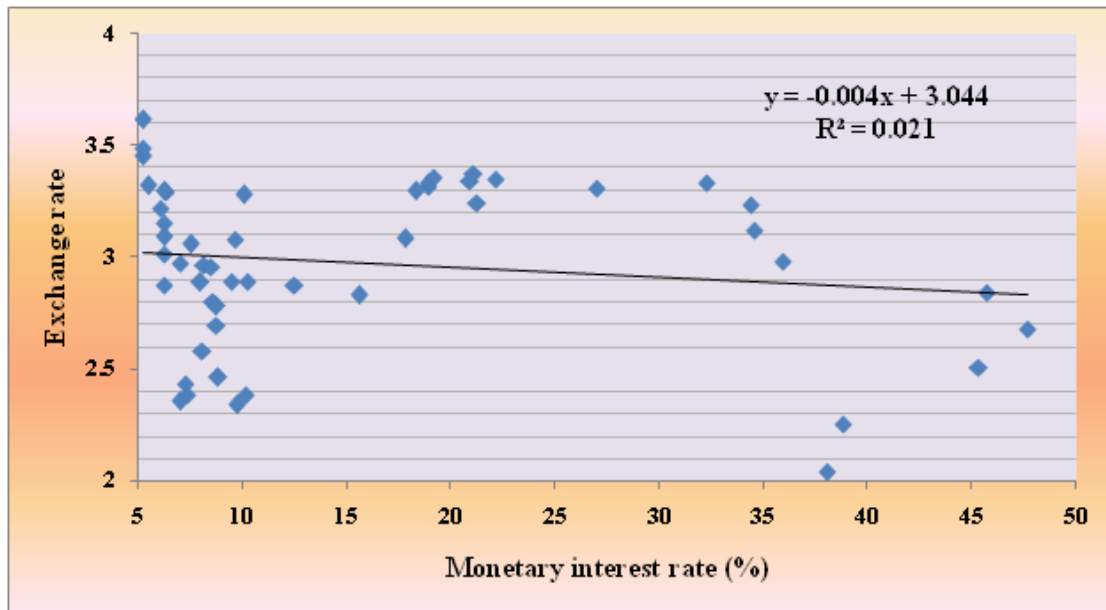


Figure 3: Correlation interest rate – exchange rate during 2000-2012

Source: Own processing

Figure 4 presents a semi-strong relationship between GDP and foreign exchange rate. The correlation is 32%, so a decrease by 0.12% of gross domestic product will increase by 1% rate of EUR / USD.

