

RON EXCHANGE RATE DETERMINANTS

Professor Ph.D., Marius GUST

”Constantin Brancoveanu” University of Pitesti, Romania

E-mail: mariusgust@yahoo.com

Abstract: The exchange rate of the leu has been very stable in recent years, with fluctuations approaching zero. At the same time, there have been opinions in the public debate that the deficits in the trade balance and the current account could be explained, at least in part, by an appreciation of the exchange rate. This last assertion has been supported, verbally, but also through studies and analyses, not only by economists present in the media, but even by representatives of the Romanian currency authority (BNR). Therefore, this communication aims to connect the exchange rate variations of the last 20 years with the demand and supply of foreign exchange on the Romanian market and to analyze the impact of other variables (inflation, interest rate differential between the Romanian market and other markets) on the exchange rate of the leu.

Key words: exchange rate, depreciation, current account, inflation, interest.

JEL Classification: F31.

1. Introduction

A glance at the annual evolution of the exchange rate of the RON over the last ten years shows a remarkable stability (Table 1).

Table no. 1. RON exchange rate (1999-2024)

Year	RON/EUR exchange rate		RON/EUR exchange rate depreciation (-)/ appreciation (+) (%)		RON/USD end of period	depreciation (-)/ appreciation (+) RON /USD (%)		exchange rate USD/EURO	depreciation (-) / appreciation (+) USD/euro (%)	
	Average value	Value at end of period	Compared to the average rate	Compared to the course at end of period		Compared to the course at end of period	Value at end of period		Compared to the course at end of period	
1999	1,6296	1,8331	-	-	1,5333	-	1,0658	-	-	-
2000	1,9956	2,4118	-22,46	-31,57	2,1693	-29,32	0,9236	13,34		
2001	2,6027	2,7881	-30,42	-15,60	2,9061	-25,35	0,8956	3,03		
2002	3,1255	3,4919	-20,09	-25,24	3,3055	-12,08	0,9456	-5,58		
2003	3,7556	4,1117	-20,16	-17,75	3,3200	-0,44	1,1312	-19,63		
2004	4,0532	3,9663	-7,92	3,54	3,2637	1,73	1,2439	-9,96		
2005	3,6234	3,6771	10,60	7,29	2,9137	12,01	1,2441	-0,02		
2006	3,5245	3,3817	2,73	8,03	2,8090	3,73	1,2556	-0,92		
2007	3,3373	3,6102	5,31	-6,76	2,4383	15,20	1,3705	-9,15		
2008	3,6827	3,9852	-10,35	-10,39	2,5189	-3,20	1,4708	-7,32		
2009	4,2373	4,2282	-15,06	-6,10	3,0493	-17,39	1,3948	5,17		
2010	4,2099	4,2848	0,65	-1,34	3,1779	-4,05	1,3257	4,95		
2011	4,2379	4,3197	-0,67	-0,81	3,0486	4,24	1,392	-5,00		
2012	4,4560	4,4287	-5,15	-2,52	3,4682	-12,10	1,2848	7,70		
2013	4,4190	4,4847	0,83	-1,26	3,3279	4,22	1,3281	-3,37		
2014	4,4446	4,4821	-0,58	0,06	3,3492	-0,64	1,3285	-0,03		
2015	4,4450	4,5245	-0,01	-0,95	4,0057	-16,39	1,1095	16,48		
2016	4,4908	4,5411	-1,03	-0,37	4,0592	-1,32	1,1069	0,23		
2017	4,5681	4,6597	-1,72	-2,61	4,0525	0,17	1,1297	-2,06		
2018	4,6535	4,6639	-1,87	-0,09	3,9416	2,81	1,181	-4,54		
2019	4,7452	4,7793	-1,97	-2,47	4,2379	-6,99	1,1195	5,21		
2020	4,8371	4,8694	-1,94	-1,89	4,2440	-0,14	1,1422	-2,03		
2021	4,9204	4,9481	-1,72	-1,62	4,1604	2,01	1,1827	-3,55		
2022	4,9315	4,9474	-0,23	0,01	4,6885	-11,26	1,053	10,97		
2023	4,9465	4,9746	-0,30	-0,55	4,5743	2,50	1,0813	-2,69		
2024	4,9746	4,9741	-0,57	0,01	4,5984	-0,52	1,0824	-0,10		

Source: www.bnro.ro, database

The evolution of the RON/EUR exchange rate between 1999 and 2024 shows that the stability in recent years has not been constant. Thus, at the end of the 1990s and the beginning

of the 2000s, the RON depreciated annually by 20-30%, and in the years before joining the European Union and in the year of integration the RON started to appreciate, in some years the annual appreciation rate being close to or exceeding 10%. During the financial crisis, in 2008 and 2009, the RON returned to a depreciation process, losing about a third of its value cumulatively in those two years. The following period, 2010-2015, was one of mixed performance, the years in which the exchange rate depreciated alternating with those in which it appreciated, but the values were modest, below one percent (the exception being 2012, when depreciation exceeded 5%). From 2016 until the last year analyzed, 2024, there is a period of continuous depreciation of the RON/EUR exchange rate, but if in the first six years of this interval the depreciation percentages are between 1 and 2%, in the last three years, 2022, 2023, 2024, the depreciation percentages are below 0,5%, if we refer to the annual average exchange rate, and if we look at the exchange rate at the end of the period, in two years, 2022 and 2023, we even witness a more than modest appreciation of 0.01% (i.e. the year ends with a RON/EUR exchange rate arithmetically lower than the one at which the year started).

If we look at the RON/USD exchange rate, in recent years we observe a higher volatility, appreciations and depreciations following one another from one period to another, but the percentages of these variations (except for the one in 2022) are not absolutely large. If we also look at the evolution of the USD/EUR exchange rate, we see that this is in fact the cause of the RON/USD exchange rate variations and we also see that many times the USD variations against the euro have not been integrated into the RON/USD exchange rate, and in three of the last five years the USD movements against the euro have been even different from the movement of the RON against the USD.

These developments and, in particular, those of the last few years, raise concerns, in the sense that they come against the backdrop of an inflationary crisis, both in Romania and globally, a deterioration of our country's trade balance and, last but not least, disappointing economic growth performance (especially in the last year, 2024), that is to say, causes that should have caused a stronger depreciation of the RON. But at the same time the inflows of foreign currency into our country, through debt, foreign investments, remittances from abroad, as well as the level of deposit interest rates on the Romanian banking market have had values that have annihilated a good part of the depreciation pressures and have led to the modest movements observed in the RON/EUR exchange rate

2. Exchange rate determinants in the literature

In economies where the exchange rate of the currency is flexibly determined, it is determined by the supply and demand for foreign exchange, and will therefore depend on the causes that define the size of the two variables: the size of the gross domestic product, the part of it that is exported, the size of imports (the latter, considered cumulatively, forming the trade balance), changes in domestic prices relative to international prices, labor productivity, foreign exchange inflows and outflows as a result of that country's participation in international financial flows (foreign direct or portfolio investment, credits/loans and placements, including foreign exchange reserve fluctuations, elements that form the financial account of the balance of payments), but also monetary factors, such as interest rates or the volume of money issuance (Dornbusch, Fischer, Startz, 2007; Wheelen, 2016; Jackson, 2022).

Recent studies confirm that many of the determinants in the classical literature maintain their impact on the exchange rate, but some complement the theory with other factors.

Thus, Ramasamy and Karimi Abar (2015) state that the results of their studies indicate that all macroeconomic variables significantly influence the exchange rate except employment and budget deficit, and that psychological factors such as investor confidence dominate over economic variables, determining the exchange rate fluctuation.

Another study (Fraz, Fatima, 2016), explores the relationship between gross domestic product growth (GDP growth), consumer price index (inflation) and interest rate with the exchange rate for developed and developing countries, and the results show that they have a strong influence on the exchange rate for both categories of countries.

Chavez (2020), analyzing data from a long period, 1980-2019, finds that inflation, economic growth, fiscal and monetary policy have positive effects on real exchange rate values, while money supply and terms of trade have a negative impact on the real exchange rate.

Kappler, Reisen, Schularick, and Turkisch (2011), using a large dataset covering nearly 50 years of international economic history between 1960 and 2008, find that (1) the current account balance typically deteriorates sharply in response to appreciation and revaluation shocks, and three years after exchange rate strengthening the current account balance declines by about three percentage points of GDP, (2) the effects on output are limited (the negative effect on the level of output amounts to 1% after six years), (3) export growth declines significantly after appreciation and revaluation, (4) most of these effects appear to be more pronounced in developing countries.

Longaric (2022) finds that an appreciation of the domestic currency against the USD can be expansionary depending on the strength of the financial channel (the size of foreign exchange inflows) and that it amplifies the effects of foreign monetary policy shocks.

Chinn (2013) analyzes how unconventional monetary policy measures implemented in recent years (such as quantitative easing) have affected asset prices, with particular reference to exchange rates, and concludes that these measures have introduced more volatility in global markets.

Karahan (2020) argues that especially in developing countries, production depends on imported capital and intermediate goods, and hence an increase in exchange rates makes imported production inputs more expensive and thus negatively affects economic growth.

Zhao (2020) observes that while there is a concomitance between labor productivity and currency appreciation (higher productivity leads to a stronger domestic currency, but the reverse is also true), and that high productivity also plays a role in compensating for the loss of international competitiveness

Finally, Dăianu, Dumitru, and Uzum (2025) find that *"a 1 percentage point appreciation of the real effective exchange rate (increase) brings about a fall (deterioration) in the current account balance of between 0.08 and 0.14 pp of GDP. But this does not necessarily imply a deliberate depreciation of the RON to improve competitiveness, which would again boost inflation"*, the authors believe that the solution would be *"a wage policy in line with productivity dynamics and investment in efficiency/productivity gains, which would not lead to an increase in unit labor costs [...]"*.

3. Correlations between the RON/EUR exchange rate and other economic variables

We will proceed to analyze the impact of the main variables that affect the exchange rate of the RON.

The exchange rate of a currency is determined by the demand and supply of foreign exchange, and the latter is influenced by the inflows and outflows of foreign exchange as a result of:

a) trade relations with foreign countries, quantified in the trade balance (exports and imports of goods and services, respectively);

b) the primary income that a country receives from abroad or transfers abroad (receipts/payments of wages, dividends, interest, taxes, subsidies, rents);

c) the secondary income that a country receives from abroad or transfers abroad (EU structural funds receipts/payments or contribution to the EU budget, remittances of national workers abroad). Components a, b, c form the first part of the balance of payments, called the current account;

d) capital account (Export/Import of natural resources, licenses, trademarks, goodwill, debt forgiveness, capital taxes, investment grants).

The balance resulting as the difference between the receipts and payments in foreign currency included in the current account and the capital account, respectively, shall have the meaning:

- either of financing capacity (a surplus/credit/positive balance), when receipts are higher than payments, in which case the surplus of foreign currency entering the country leads to an appreciation of the national currency;
- or of necessary to finance (a deficit/debit/negative balance), when receipts are lower than payments, and in this case the shortage of foreign exchange to be paid abroad leads to depreciation of the domestic currency.

Looking at the trade balance, current account, and cumulative current and capital account figures shows a chronic deficit for Romania over the period 2005-2024, which means a continuous demand for foreign currency to cover it. Our country has recorded surpluses only in the combined current and capital account and only in four years, 2013-2016, and this is because in those years the deficits of the trade balance and the current account had the lowest values, which could be offset by surpluses in the capital account, mainly resulting from capital inflows from European funds, earmarked for investment. Depending on the economic environment, the absolute value of deficits followed the following trend:

- The deficits increased in the pre-accession period and immediately after accession until the financial crisis, which began to manifest itself in Romania in the latter part of 2008 and reached impressive figures of 18-19 billion EUR for the trade balance and 16-17 billion EUR for the current account and the combined current and capital account. I say impressive because the share of deficits in our country's GDP at its peak reached between 20% and 25%, and as a share of annual foreign exchange transactions they approached 100% at the beginning of the period, when the reporting base was modest, and fell below 50% as the volume of foreign exchange transactions increased.

- Starting in 2009, with the recession that accompanied the financial crisis and the contraction in external trade, deficits fall, reaching their best performance in terms of the smallest deficit in 2014 on the trade and current account and the largest surplus on the combined current and capital account in 2015. After that, deficits resume their upward trend,

reaching around 10 billion EUR in the year of the pandemic crisis. The share of deficits in GDP fell to around 1-2% and 2-6% in annual foreign exchange transaction volumes, respectively, and increased to 10-15% as a share of GDP and 20-30% in annual foreign exchange transaction volumes, respectively.

- From 2021 onwards, the deficits increase sharply: the trade balance deficit is between 15 and 20 billion EUR, the current account deficit exceeds 20 billion EUR, and the combined current and capital account deficit is approaching 20 billion EUR. The shares in GDP of these deficits have been between one-fifth and one-third, and the share in the volume of annual foreign exchange transactions is between 30-60%.

Table no. 2. Trade balance, current and capital account (2005-2024)

Year	Trade balance (bn euro)			Total current account (bn euro)			Total current and capital account (net lending (+) / net borrowing (-)) (bn euro)		
	Export	Import	Difference	Credit/ Collections	Debit/ Payments	Sold	Credit/ Collections	Debit/ Payments	Difference
2005	19,4	27,6	-8,2	24,7	31,7	-6,9	25,4	31,7	-6,3
2006	24,0	35,8	-11,8	31,3	41,5	-10,2	32,0	42,2	-10,3
2007	31,5	49,5	-18,0	40,9	58,1	-17,3	42,0	58,6	-16,5
2008	38,3	57,4	-19,1	49,2	66,0	-16,8	50,1	66,4	-16,2
2009	32,6	40,6	-8,1	40,4	46,2	-5,8	41,3	46,5	-5,2
2010	40,6	48,7	-8,1	47,3	53,8	-6,4	47,9	54,1	-6,3
2011	48,8	56,5	-7,7	55,7	62,3	-6,6	56,9	62,7	-5,9
2012	49,8	56,6	-6,8	56,7	63,1	-6,4	59,0	63,5	-4,5
2013	57,3	58,4	-1,1	65,2	66,7	-1,5	68,3	66,8	1,5
2014	61,9	62,6	-0,7	68,8	69,8	-1,0	72,8	69,9	2,9
2015	65,7	66,7	-1,0	73,8	75,7	-1,9	77,8	75,9	2,0
2016	70,2	71,7	-1,5	78,0	81,5	-3,5	82,4	81,7	0,8
2017	77,9	81,9	-4,0	85,6	91,6	-6,0	87,9	91,6	-3,8
2018	85,6	92,1	-6,4	95,3	104,2	-9,0	97,9	104,3	-6,4
2019	90,1	98,9	-8,8	102,0	112,5	-10,5	105,2	112,9	-7,6
2020	81,3	90,8	-9,5	93,1	104,0	-10,9	97,5	104,3	-6,8
2021	98,1	111,8	-13,7	110,3	127,8	-17,5	82,8	92,2	-9,4
2022	123,0	141,9	-19,0	137,1	163,1	-26,0	144,9	163,9	-19,0
2023	126,5	142,0	-15,5	142,7	165,2	-22,5	150,7	166,6	-15,9
2024 I-IX	93,6	108,0	-14,4	106,1	125,9	-19,8	108,8	126,1	-17,3

Source: www.bnro.ro, interactive database and author's own calculations

Table 3. Trade balance, current account and capital account balances compared with gross domestic product and foreign exchange market turnover (2005-2024)

Year	GDP (bn euro)	Balance sheet balance share commercial, current account and crt. act. + capital share in GDP (%)			Annual volume of transactions market currency billion euro	share of trade balances, current account and current + capital accounts in foreign exchange turnover (%)		
		Commercial balance	Current account	Current account + capital account		Commercial balance	Current account	Current account + capital account
2005	79,5	-10,3	-8,7	-8,0	8,1	-101,2	-85,5	-78,4
2006	97,7	-14,9	-12,8	-12,9	13,9	-85,0	-73,5	-73,9
2007	123,7	-22,6	-21,8	-20,8	29,7	-60,6	-58,2	-55,7
2008	139,7	-24,0	-21,1	-20,4	38,7	-49,3	-43,4	-41,9
2009	118,3	-10,1	-7,3	-6,6	29,4	-27,4	-19,8	-17,7
2010	124,1	-10,2	-8,1	-7,9	33,2	-24,5	-19,4	-18,8
2011	131,5	-9,7	-8,3	-7,4	36,7	-21,1	-18,0	-16,0
2012	133,9	-8,5	-8,0	-5,7	34,6	-19,6	-18,5	-13,0
2013	144,7	-1,4	-1,9	1,9	32,3	-3,4	-4,8	4,6
2014	150,8	-0,8	-1,3	3,7	30,2	-2,2	-3,4	9,7
2015	159	-1,3	-2,4	2,5	32,0	-3,1	-6,1	6,1
2016	167,5	-1,9	-4,4	1,0	29,8	-5,1	-11,7	2,6
2017	187,8	-5,0	-7,5	-4,7	32,9	-12,1	-18,1	-11,4
2018	204,5	-8,1	-11,3	-8,1	31,9	-20,2	-28,1	-20,2
2019	223,3	-11,0	-13,2	-9,6	34,2	-25,7	-30,6	-22,3
2020	221,1	-12,0	-13,7	-8,6	30,7	-31,0	-35,5	-22,2
2021	242,3	-17,2	-22,0	-11,8	32,8	-41,8	-53,3	-28,6
2022	281,7	-23,9	-32,8	-23,9	43,2	-43,9	-60,3	-44,1
2023	324,4	-19,5	-28,3	-20,0	44,6	-34,8	-50,5	-35,6
2024 I-IX	366,3	-18,1	-24,9	-21,8	47,3	-30,5	-41,8	-36,6

Source: www.bnro.ro, interactive database and author's own calculations

The conclusion is that the deficits of the trade balance and the current account and the combined current and capital account have exerted a strong pressure on the foreign exchange market in the sense of depreciation of the RON, and if they were not reflected in exchange rate changes, it is because other factors acted contrary, the financing needs of the balance of payments being covered by foreign currency inflows through the financial account.

Table no. 4. Evolution of direct, portfolio and other investments and comparisons with the depreciation/appreciation of the exchange rate of the RON, current and capital account balance, gross domestic product and foreign exchange reserve (2005-2024)

An	Direct investment (ownership of min. 10% of shares in a company by a non-resident investor)			Portfolio investments (bonds, investment funds, equities <10%)			Other investments (deposits, loans, insurance, SDRs)			Total investments (direct, portfolio, other investments)			Depreciation (-) / Appreciation (+) RON/EUR exchange rate (%) (annual average)	% of the balance crt. and cpt. of cap. in total investments	% of total investment balance in Romania's GDP	Movements in reserve assets (gold, foreign reserve, SDRs) <i>Thousand euro</i>	Romania's foreign exchange reserve <i>Euro mil.</i>
	<i>Assets = residents' foreign holdings/placements/purchases; Liabilities = non-residents' domestic purchases/obligations vis-à-vis non-residents; million euro</i>																
	Active	Passive	Difference	Active	Passive	Difference	Active	Passive	Difference	Active	Passive	Difference					
2005	275	5.256	-4.981	123	902	-779	1.006	6.593	-5.587	1.404	12.751	-11.347	10,60	56,0	-8,0	5.434	18.300
2006	383	8.700	-8.317	650	456	194	893	7.568	-6.675	1.926	16.724	-14.798	2,73	69,4	-10,5	5.159	23.200
2007	470	7.377	-6.907	104	378	-482	597	14.662	-14.065	963	22.417	-21.454	5,31	77,1	-13,4	4.504	27.200
2008	165	9.186	-9.021	212	-351	563	655	9.657	-9.002	1.032	18.492	-17.460	-10,35	92,9	-11,6	-37	28.300
2009	-11	3.416	-3.427	140	656	-516	1.969	5.451	-3.482	2.098	9.523	-7.425	-15,06	70,3	-4,4	2.117	30.900
2010	195	2.496	-2.301	388	1.262	-874	-91	5.728	-5.819	492	9.486	-8.994	0,65	69,5	-5,0	3.487	36.000
2011	4	1.723	-1.719	40	1.717	-1.677	-691	1.633	-2.324	-647	5.073	-5.720	-0,67	102,8	-4,5	897	37.300
2012	-183	2.395	-2.578	468	4.014	-3.546	-41	4.135	4.094	244	2.274	-2.030	-5,15	221,9	-3,4	-1.453	35.400
2013	-27	2.897	-2.924	224	5.656	-5.432	127	-7.795	7.922	324	758	-434	0,83	-345,9	1,0	2.143	35.400
2014	227	2.930	-2.703	105	2.964	-2.859	1.130	-8.759	9.889	1.462	-2.865	4.327	-0,58	68,0	2,0	-1.236	35.500
2015	929	3.884	-2.955	300	305	-5	932	-4.931	5.863	2.161	-742	2.903	-0,01	67,4	1,2	-601	35.500
2016	1.143	5.656	-4.513	351	1.327	-976	1.253	-3.490	4.743	2.747	3.493	-746	-1,03	-101,9	0,5	2.257	37.900
2017	350	5.233	-4.883	510	3.497	-2.987	3.122	-1.207	4.329	3.982	7.523	-3.541	-1,72	106,0	-2,0	424	37.100
2018	1.259	6.204	-4.945	422	3.302	-2.880	1.830	-1.532	3.362	3.511	7.974	-4.463	-1,87	144,4	-3,2	-771	36.800
2019	1.723	6.572	-4.849	1.368	3.804	-2.436	698	-1.757	2.455	3.789	8.619	-4.830	-1,97	158,0	-3,4	-255	37.500
2020	115	3.073	-2.958	38	13.461	-13.423	6.035	3.047	2.988	6.188	19.581	-13.393	-1,94	50,8	-3,1	5.601	42.500
2021	1.112	9.933	-8.821	1.582	5.056	-3.474	-1.253	3.551	-4.804	1.441	18.540	-17.099	-1,72	54,8	-3,9	2.251	45.800
2022	2.090	10.897	-8.807	1.470	6.412	-4.942	-1.165	7.404	-8.569	2.395	24.713	-22.318	-0,23	85,3	-6,8	6.574	52.300
2023	1.611	8.252	-6.641	1.487	15.260	-13.773	-488	4.860	-5.348	2.610	28.372	-25.762	-0,30	61,6	-4,9	13.270	66.000
2024	644	5.994	-5.350	992	15.184	-14.192	921	1.465	-544	2.557	22.643	-20.086	-0,57	86,2	-4,7	5.669	73.700

Source: www.bnro.ro, interactive database and author's own calculations

If the deficits of the trade and current account balance and the combined current and capital account would represent the demand for foreign exchange to cover them, the inflows of foreign exchange through direct investment, portfolio investment, other investment (loans received, opening of deposits, etc.), items appearing in the financial account of the balance of payments would represent the supply of foreign exchange.

In Romania's case, direct investment, portfolio investment and other categories of financial investment had consistent values, which covered demand in most years, in a few years this was covered by movements in foreign exchange reserves.

In the first four years of the analyzed interval they were on the rise, dominated by direct investments and other investments (loans received, opening of deposits, etc.), being 25% to 50% higher than the deficits of the trade balance and current account and the current and capital account, which is why part of the capital surplus was taken up by the foreign exchange reserve and led to an appreciation of the exchange rate.

In the financial crisis years (2008-2010) and the five post-crisis years that followed, financial flows declined sharply, with direct investment falling by up to a quarter compared to previous values. During the crisis years, the main categories of financial capital inflows into Romania were loans from international financial organizations (their repayment since 2012, negatively affecting the balance of financial flows) and after the crisis years, portfolio capital

inflows (the latter peaking in 2012 and then contracting sharply). In the post-crisis years, financial inflows into Romania were insufficient to cover the trade balance and current account deficits. For these reasons, the exchange rate of the RON depreciated quite steeply during the crisis and afterwards in 2012, and the country's foreign exchange reserves contracted significantly.

Since 2016 (and until 2019) the financial situation started to improve and cash flows started to increase. Thus, capital investments, which were on the rise, approached pre-crisis values, as did portfolio investments, while the other investment category was affected by repayments of foreign loans (or withdrawals of non-resident deposits). As a result, financial flows were no longer sufficient to cover the deficits of the trade balance and current account, which is why the foreign exchange reserve either remained stagnant or even contracted, and the exchange rate of the RON entered a period of steady depreciation of around 2%.

After the pandemic year, from 2021 onwards, we see a financial boom, with financial flows reaching around 30 billion EUR in 2023, coming mainly from direct investments in 2021 and 2022 (10 billion EUR or more), then in 2023 and 2024 from portfolio investments (over 15 billion EUR). For this reason, the coverage of the trade and current account deficits did not pose a problem, with sufficient capital remaining to increase the foreign exchange reserve, while the exchange rate depreciated, albeit by negligible percentages.

There are also a number of economic reasons for exchange rate depreciation or appreciation. The impact of price changes and interest rate differentials will be analyzed below.

Table 5. Comparison between price deflator in Romania and other countries (2010-2023)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Austria	0,9	1,8	2,1	1,7	2,0	2,3	1,8	1,0	1,8	1,5	2,6	1,9	4,8	6,6
Czech Republic	-0,5	-0,2	1,3	1,3	2,7	1,2	1,5	1,7	2,8	3,8	4,5	4,0	8,7	8,1
France	1,1	0,9	1,1	0,7	0,6	1,1	0,5	0,6	1,1	1,2	3,0	1,2	3,2	5,3
Germany	0,7	1,2	1,4	2,0	1,9	1,7	1,3	1,5	1,9	2,0	1,8	2,8	6,1	6,1
Italy	0,6	1,7	1,7	1,1	0,9	0,8	1,2	0,7	1,1	1,0	1,6	1,3	3,6	5,8
Poland	1,6	3,1	2,2	0,3	0,5	1,3	0,1	1,8	1,2	3,0	4,2	5,3	10,7	9,5
Romania	5,9	4,0	3,8	1,4	1,7	3,3	2,6	4,7	6,2	6,9	4,1	5,6	12,1	12,8
Hungary	2,5	1,9	2,9	2,8	3,7	2,8	1,3	4,0	4,8	4,8	6,4	6,3	14,2	14,6
United Kingdom	1,6	2,2	1,5	2,1	1,3	0,7	2,0	1,9	1,9	2,1	5,0	0,1	5,4	7,1
United States	1,2	2,1	1,9	1,7	1,7	0,9	1,0	1,8	2,3	1,7	1,3	4,6	7,1	3,6
Turkey	7,0	8,2	7,4	6,3	7,4	7,8	8,1	11,0	16,5	13,9	14,8	29,0	96,0	68,2
How much higher was the price deflator in Romania														
Austria	5,0	2,2	1,7	-0,3	-0,3	1,0	0,8	3,7	4,4	5,5	1,5	3,7	7,3	6,1
Czech Republic	6,4	4,2	2,5	0,1	-1,0	2,0	1,1	3,0	3,4	3,1	-0,4	1,6	3,4	4,6
France	4,8	3,1	2,7	0,6	1,1	2,1	2,1	4,1	5,1	5,7	1,1	4,4	8,9	7,5
Germany	5,2	2,8	2,4	-0,6	-0,2	1,6	1,4	3,2	4,3	4,9	2,4	2,8	6,0	6,6
Italy	5,3	2,3	2,1	0,3	0,8	2,5	1,4	3,9	5,1	5,9	2,5	4,3	8,5	7,0
Poland	4,4	0,9	1,6	1,1	1,2	1,9	2,5	2,9	5,0	3,9	-0,1	0,3	1,4	3,2
Hungary	3,4	2,1	0,9	-1,4	-2,0	0,5	1,3	0,6	1,3	2,2	-2,3	-0,7	-2,1	-1,8
United Kingdom	4,3	1,8	2,3	-0,7	0,4	2,6	0,7	2,8	4,3	4,8	-0,9	5,5	6,6	5,6
United States	4,7	1,9	1,9	-0,3	0,0	2,3	1,7	2,9	3,9	5,3	2,8	1,0	5,0	9,2
Turkey	-1,1	-4,2	-3,6	-4,9	-5,7	-4,6	-5,5	-6,3	-10,3	-6,9	-10,7	-23,4	-83,9	-55,5

Source: <https://data.imf.org> and author's calculations

Domestic price dynamics is another factor influencing the exchange rate of the national currency. Domestic price developments also change the ratio in which a national currency is exchanged for a foreign currency unit. If this ratio did not change we would see a change in the competitiveness of domestic goods and services on international markets. Rising domestic

prices should lead to a depreciation of the national currency, just as falling domestic prices should lead to an appreciation of the national currency. Except as domestic prices change, so can prices in other countries, and therefore the exchange rate should take into account the difference between the price changes in the domestic markets whose currencies enter into the exchange ratio. Thus, the currency of the country with a positive price increase differential should depreciate and the currency of the country with a negative price differential (the market in which prices increase less relative to others) should appreciate.

This study compares the evolution of prices in Romania with other European countries, in the European Union, or outside the European Union and the United States of America, using two indicators that quantify price changes: the GDP deflator (GDP deflator), which takes into account all prices of goods and services included in the gross domestic product, and the harmonized index of consumer prices (HICP), which is limited to the prices of goods and services consumed by the population.

A simple comparison of the price dynamics in Romania with those of the compared countries shows that for both GDP and HICP, our country has had much higher increases, except for Turkey and, in recent years, Hungary, and for HICP, Poland. On average, GDP in Romania was 2.6% higher than in countries with which the comparison was made, while for HICP prices in Romania were 1.4% higher (excluding Turkey), while in the same period the RON depreciated against the euro by only 1% on average.

Table no. 6. Comparison between the harmonized index of consumer prices in Romania and other countries (2010-2023)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
European Union	2,1	3,1	2,6	1,5	0,6	0,1	0,3	1,7	1,9	1,5	0,7	2,9	9,2	6,4	2,6
Euro area	1,6	2,7	2,5	1,4	0,4	0,2	0,2	1,5	1,7	1,2	0,2	2,6	8,4	5,4	2,4
Austria	1,7	3,6	2,6	2,1	1,5	0,8	1,0	2,2	2,1	1,5	1,4	2,8	8,6	7,7	2,9
Czech Republic	1,2	2,2	3,6	1,3	0,5	0,2	0,7	2,4	1,9	2,6	3,3	3,3	14,8	12,0	2,7
France	1,7	2,3	2,2	1,0	0,6	0,1	0,3	1,2	2,1	1,3	0,5	2,1	5,9	5,7	2,3
Germany	1,2	2,5	2,1	1,6	0,7	0,7	0,4	1,7	1,9	1,4	0,3	3,2	8,7	6,1	2,5
Italy	1,6	2,9	3,3	1,3	0,2	0,1	-0,1	1,4	1,2	0,7	-0,2	1,9	8,8	5,9	1,2
Poland	2,7	3,9	3,6	0,8	0,1	-0,7	-0,2	1,6	1,2	2,1	3,6	5,2	13,2	10,9	3,6
Romania	6,1	5,8	3,4	3,2	1,4	-0,4	-1,1	1,1	4,1	3,9	2,3	4,1	12,0	9,7	5,8
Hungary	4,7	3,9	5,7	1,7	0,0	0,1	0,5	2,4	2,9	3,4	3,4	5,2	15,3	17,0	3,7
United Kingdom	3,2	4,5	2,9	2,5	1,5	0,0	0,7	2,7	2,4	1,8					
United States	2,4	3,8	2,1	1,3	1,3	-0,8	0,6	1,8	2,2	1,4	0,8	5,3	8,7	3,0	2,0
Turkey	8,6	6,5	9,0	7,5	8,9	7,7	7,7	11,1	16,3	15,2	12,3	19,6	72,3	54,0	58,5
How much higher was the harmonized index of consumer prices in Romania															
European Union	4,0	2,7	0,7	1,7	0,8	-0,5	-1,3	-0,6	2,2	2,4	1,6	1,2	2,8	3,4	3,2
Euro area	4,5	3,1	0,9	1,8	1,0	-0,6	-1,3	-0,5	2,3	2,7	2,1	1,5	3,6	4,3	3,5
Austria	4,4	2,3	0,8	1,1	-0,1	-1,2	-2,0	-1,1	2,0	2,4	0,9	1,3	3,4	2,0	2,9
Czech Republic	4,9	3,7	-0,2	1,9	0,9	-0,6	-1,8	-1,3	2,1	1,3	-1,0	0,8	-2,7	-2,2	3,1
France	4,3	3,5	1,2	2,2	0,8	-0,5	-1,4	-0,1	2,0	2,6	1,8	2,0	6,1	4,1	3,5
Germany	4,9	3,3	1,3	1,5	0,7	-1,1	-1,5	-0,6	2,2	2,5	2,0	0,9	3,3	3,7	3,4
Italy	4,4	2,9	0,1	1,9	1,2	-0,5	-1,0	-0,3	2,9	3,2	2,5	2,2	3,3	3,9	4,7
Poland	3,4	1,9	-0,3	2,4	1,3	0,3	-0,9	-0,5	2,9	1,8	-1,3	-1,1	-1,2	-1,1	2,2
Hungary	1,4	1,9	-2,3	1,5	1,4	-0,5	-1,5	-1,3	1,2	0,5	-1,0	-1,1	-3,3	-7,3	2,1
United Kingdom	2,8	1,4	0,5	0,7	-0,1	-0,4	-1,8	-1,6	1,7	2,1	2,3	4,1	12,0	9,7	5,8
United States	3,7	2,0	1,3	1,9	0,1	0,3	-1,6	-0,7	1,9	2,5	1,6	-1,2	3,3	6,7	3,8
Turkey	-2,5	-0,6	-5,6	-4,3	-7,5	-8,2	-8,7	-10,0	-12,3	-11,3	-9,9	-15,5	-60,3	-44,2	-52,7

Source: Eurostat and author's calculations

The interest rate also influences the exchange rate of the domestic currency, i.e. the difference between the interest rate on the domestic market and that on foreign markets. In

other words, capital will try to find the best return by migrating to the markets with the highest interest rate.

Taking the interest rate on bank term deposits as an example, we observe that in Romania, both compared to the Eurozone and to the interest rates on the markets of other EU countries located in Eastern Europe, the interest rates on deposits have always been much higher. Thus, the interest rate differential is consistently higher when comparing Romania - Euro Area, Romania - Czech Republic, Romania - Poland (except for the years in the middle of the second decade, but with minor differences), Romania - Hungary (except for the last two years of the inflationary crisis). These positive and large differences in our country's favor explain the large capital inflows in the second decade, which led to the coverage of trade and current account deficits and the relative stability of the RON .

Table 7. Comparison between deposit interest rates in Romania and other countries (2010-2023)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Romania	11,99	7,31	6,30	5,51	4,55	3,02	1,89	1,11	0,89	1,30	1,79	1,93	1,58	4,19	6,44
Euro area	1,67	2,25	2,76	2,71	1,56	0,97	0,65	0,45	0,34	0,31	0,21	0,16	0,15	1,39	3,29
Hungary	8,14	4,93	5,49	6,27	3,77	1,78	1,11	0,58	0,12	0,06	0,10	0,47	1,01	8,36	13,12
Czech Republic	1,27	1,08	1,04	1,02	0,86	0,70	0,53	0,37	0,28	0,28	0,39	0,30	0,23	1,40	2,41
Poland	4,80	4,10	4,34	4,78	2,68	2,43	1,71	1,56	1,48	1,57	1,55	1,61	1,67	1,73	1,79
Turkey	17,65	15,27	14,11	17,19	15,30	16,94	14,92	14,61	15,29	23,28	25,41	13,36	20,70	27,04	51,33
How much higher interest rates were in Romania															
Euro area	10,32	5,06	3,54	2,80	2,99	2,05	1,24	0,66	0,55	0,99	1,58	1,77	1,43	2,80	3,15
Hungary	3,85	2,39	0,81	-0,77	0,78	1,24	0,78	0,53	0,77	1,24	1,68	1,46	0,57	-4,18	-6,68
Czech Republic	10,72	6,23	5,26	4,48	3,69	2,32	1,36	0,74	0,61	1,03	1,40	1,62	1,35	2,79	4,03
Poland	7,19	3,21	1,96	0,73	1,87	0,59	0,18	-0,45	-0,59	-0,27	0,24	0,32	-0,09	2,46	4,65
Turkey	-5,66	-7,96	-7,81	-11,69	-10,74	-13,92	-13,03	-13,50	-14,40	-21,98	-23,62	-11,43	-19,12	-22,86	-44,89

Source: Database: World Development Indicators and author's calculations

4. Is the RON/EUR exchange rate overvalued (conclusions)?

Thus, although Romania's trade and current account and combined current and capital account deficits are chronically in deficit, they are now being offset by substantial financial inflows, which cancel out depreciation pressures.

The element that acts in the sense of depreciation of the RON remains the domestic prices / inflation in Romania, which is significantly higher and which is normal to be taken into account because if it were not taken into account, even partially, by the exchange rate, it would lead to a decrease in the competitiveness of exports. In fact, if we look at the evolution of Romania's exports in 2024, we notice that they are already affected by the stability of the exchange rate of the RON in the last 2-3 years.

Also, the interest rates attached to deposits in RON, at least over a time horizon of 1-2 years, maybe even longer, lead to the prolongation of the current situation of stability of the RON, in the sense of annual depreciation of the RON by 1%, 2% at most. So, somewhere around 5 bani per year.

At the same time, we must not forget that a good part of the capital flows entering our country are more or less debt and any change in the international economic environment or deterioration of Romania's position (country ratings, political turmoil, social tensions, the worsening of military conflicts in the region) may result in a reversal of these flows and depreciation pressures on the RON, especially since Romania's foreign exchange reserve covers only a quarter of Romania's international position (in September 2024 our country's

foreign exchange reserve was 73.7 billion EUR, while the liabilities of Romania's international position amounted to 280 billion EUR).

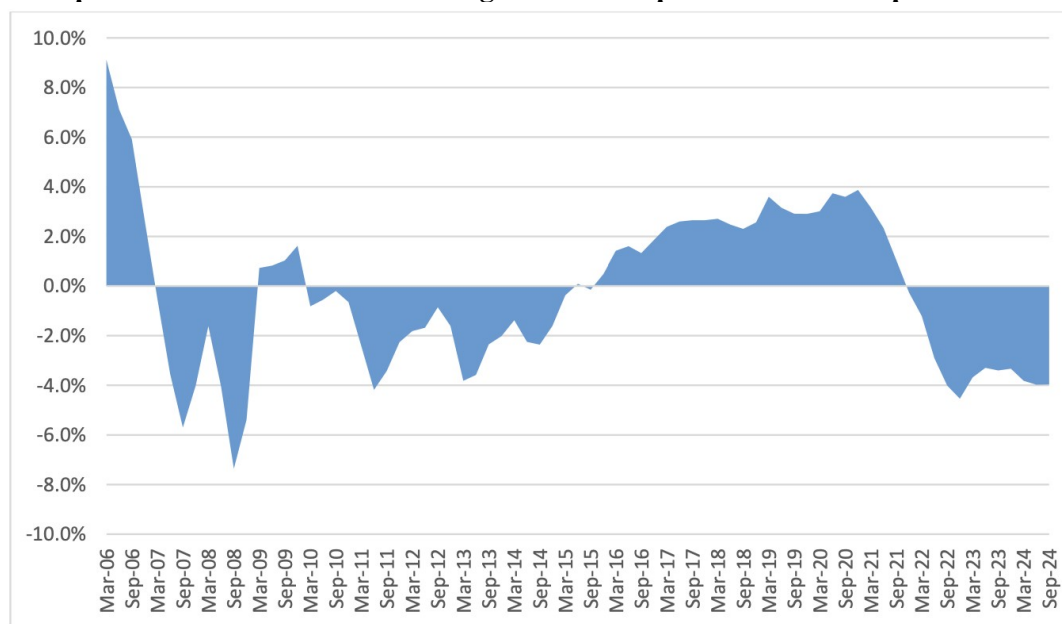
The claim that the overvaluation of the RON is several percent is confirmed by other positions or specialized studies. Thus:

- Dăianu, Dumitru and Uzum, (2025) consider that *"in the period 2006-2024 periods of undervaluation alternated with periods of overvaluation"* and that the overvaluation of the RON was approx. 4% *"in recent years"*.

- The NBR Governor, Mr. Mugur Isărescu, stated that, based on the calculation of the real effective exchange rate of the RON, it is overvalued by up to 5%, which does not explain the high external deficit (Popa, 2024).

- In the same article, the author (Popa, 2024), citing an analysis of the Romanian Commercial Bank, *"a report assumed by the chief economist of the institution, Ciprian Dascalu"* states that *"The overvaluation of the currency affects in particular sectors with low profit margins, which depend on low-skilled labor. Our models indicate that the RON is overvalued in real terms by 6-7% against the EUR. We anticipate a gradual depreciation of the nominal RON over time, with improving fundamentals leading the currency towards its fair value"*.

Graph 1. Deviation of the real exchange rate from equilibrium over the period 2006-2024



Sursa: estimările autorilor

Notă: Valorile pozitive ale deviației de la echilibru ale cursului de schimb reprezintă o subevaluare, în vreme ce valorile negative reprezintă o supraevaluare.

Source: Dăianu, D., Dumitru, I., Uzum, L.,

- Gheorghe (2024), citing an analysis carried out by economists at Erste Bank, notes that among its conclusions were: (a) the RON at the time of the analysis is overvalued by 6%; (b) *"the highest over- and undervaluation was around 11.6% (in 2007, just before the great*

financial crisis) and 8.4% in Q1/2005, respectively; (c) between Q1/2013 and Q4/2022, the real exchange rate was correctly valued most of the time, with the deviation ranging in the range of $\pm 2.25\%$ [...]; (d) in the period analyzed (2005 - 2023), the deviation was, on average, 0.2% and (e) "the degree of overvaluation of the real exchange rate has a downward trend in the medium term (2 years), assuming a reduction in the inflation differential vis-à-vis the euro area and a gradual nominal depreciation of the RON, in line with its historical norm".

- Sandrina (2024) mentions that the chief economist of the NBR, Valentin Lazea, emphasized during the 5th edition of the Romanian Economic Forum that "although there is an appreciation of the RON in real terms, this is not the main obstacle to boost Romanian exports." and that "although the appreciation of the RON has an impact on competitiveness, this is not significant enough to have a major impact on exports".

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