Euro Adoption in Romania: An Exploration of Convergence Criteria

Georgiana-Loredana Schipor
"Ovidius" University of Constanta, Faculty of Economic Sciences, Romania
georgiana-loredana.schipor@365.univ-ovidius.ro

Abstract

The aim of this paper is to analyze the position of Romania towards the Maastricht criteria, starting from the assumption that meeting the nominal convergence criteria is no longer enough for the Romanian adoption of euro. The most significant risks that the artificially integrated countries must face after the accession to the Euro Area were identified, using a large number of economic indicators that were distilled in order to design the Romanian progress in the process. The Romanian entrance into the Eurozone emphasize its major cost: the loss of monetary policy independence. The current methodological approach is twofold. First, the nominal and real convergence criteria were examined based on one-point-in-time approach. Second, it was considered the Romanian people perception about the adoption of the euro currency in accordance with a sequence of key-events suggesting a significant change due to multiple abandoned adoption targets, Brexit event or the pandemic context.

Key words: nominal convergence, real convergence, Euro Area, Romania
J.E.L. classification: F15, F44, E52

1. Introduction

The European monetary integration is subject to a permanent debate in the Romanian context, the opinions being in the direction that meeting the nominal convergence criteria is no longer enough for the Romanian adoption of euro. If the cyclical economic events are not correlated among the Member States, the catalysts efforts transform into a significant risk the artificially integrated countries. In 2019 the euro currency celebrated its 20th anniversary, paving the way for the third Eurozone enlargement. Joining the Eurozone represents an important milestone for Romania, in its journey to achieve a long-lasting stability, but this decision must be well-founded and sustained by financial stability and sustainability of the Romanian fiscal position.

Thus, the main aim of the current paper is twofold. First, the nominal and real convergence criteria were examined based on one-point-in-time approach, assessing the present Romanian macroeconomic context and its readiness to join the Euro Area comparative with other candidate countries. In this sense, Croatia and Bulgaria have already reached the middle target regarding their participation in the EU's Exchange Rate Mechanism (ERM II), stage that is often seen as the euro waiting room. Second, it was considered the Romanian people perception regarding the adoption of the euro currency in accordance with a sequence of key-events in order to provide an analytical framework for the third Euro area enlargement based on the general people support and their potential to influence the political actors.

Until now, three euro-adoption targets were already abandoned (2014, 2015 and 2019) and the updated deadline assumed by the Government was 2024, according to the Convergence Program for the period 2019-2022. The current evolution of the macroeconomic context suggests that it is an optimistic scenario, due to the fact that the convergence criteria were seriously deteriorated in the last year, while the political support for the euro adoption remains mainly declarative without a fixed euro adoption calendar. The main results show the deteriorating perceptions of Romanian citizens regarding the euro adoption and the lack of confidence in the process, but also difficult economic circumstances that summarize a risky path based on unsustainable integration achievements.

2. Theoretical background

The first countries that have adopted the single euro currency in 1999 (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain) were followed by Greece in 2001, preparing the ground for the second round of enlargement: Slovenia (2007), Cyprus and Malta (2008), Slovakia (2009), Estonia (2011), Latvia (2014) and Lithuania (2015). Currently, there are 19 EU Member States comprising the Euro Area, with seven other countries that are outside the area as Member States with derogation (Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Sweden) and one state (Danemark) with an opt-out clause to the existing protocol. At the time of the EU accession, Member States with derogation did not meet the conditions to enter the Euro Area, but have committed themselves to adopt the common currency when the Maastricht criteria will be reached. Bulgaria and Croatia have been accepted to the EU's Exchange Rate Mechanism (ERM II), which is seen as the euro waiting room. Although a voluntary action, the participation in ERM II prepare the countries for the Euro Area enabling exchange rate fluctuations within set limits for at least two years prior to adopt the euro currency.

The third enlargement of the Euro Area is expected to take place in the near future, but the EU representatives intensified the discussions about the necessity to prove stable macroeconomic conditions not only prior to joining the area, but mainly in the post-accession time. The major economic cost of the euro adoption is the loss of monetary policy independence (Alesina et al., 2002) causing a scenario in which the National Central Banks (NCBs) cannot use the monetary policy instruments to absorb the economic shocks. The Romanian entrance into the Eurozone corresponds with a transfer of responsibilities from the National Bank of Romania in the field of the monetary policy, without neglecting the fact that the Euro Area economic evolutions will prevail towards the national particularities.

In this context, it must be considered the optimum currency area (OCA) theory (Mundell, 1961) in order to analyze the correlation of the economic shocks between the Euro Area and Romania, with their similarities and policy responses to the shocks. According to the OCA theory, if the economic shocks between a monetary union are sufficiently coherent, thus the cost of giving up the independent monetary policy should not provide significant negative impacts because the economic activities in these countries are driven by the same determinant factors. The situation is different if there are some country-specific shocks that make less effective or counter-productive the common monetary policy mechanism, causing significant costs for the related countries. Conducting a study on Romania, Bulgaria and Croatia, Deskar-Škrbić et al. (2020) have stressed the strong integration with the Euro Area in terms of synchronization of business cycles and GDP growth. In the same extent, Bădîrcea at al. (2017) have tested the business cycle correlation between Romania and the Euro Area, finding a high level of correlation by applying the Hodrick-Prescott filter (HP) on GDP and a weak correlation by using the Industrial Production Index (IPI).

In the Romanian context, a number of indicators have been put forward to assess the degree of the economy's real convergence, such as the openness of the economy (Szeles and Marinescu, 2010), the sectorial structure of the national economy (Duhnea et al., 2012), the share of the EU exports and imports in foreign trade (Bădîrcea at al., 2017) or the evolution of GDP per capita (Dumitru, 2009). Figuet and Nenovsky (2006) use the unconditional β convergence approach in order to investigate the Romanian convergence to the EU common policy in relation with three other countries included in the panel: Bulgaria, Hungary and Czech Republic. Overall, the opinions converge on the idea of finding an optimum timing for Romania to enter the Euro Area (Dragan and Pascariu, 2008), without rush or unjustified delays, because a faster adoption of the euro currency in the case of missing the real convergence criteria would be not feasible, while a late adoption process would significantly decrease the Romanian public support.

In terms of Romanians' confidence in the euro currency, the paper analyzes the current perceptions of the euro adoption process, using the data provided by the European Commission through the Flash Eurobarometer reports. A similar approach was conducted by Floroiu (2020a), whose findings suggest that most Romanians are in favour of the idea of joining the Euro Area, although they don't think that Romania is completely prepared to introduce the euro. The same author has related the COVID-19 pandemic effects with the Romanian public opinion regarding the euro adoption through an online survey with a sample of 1000 Romanian residents, concluding that the majority of the respondents are less confident that “the positive effects will overpower the negative ones” (Floroiu, 2020b, p. 105) in the case of the euro introduction in Romania. The Romanian public does not seem to be attached by the symbolic value of the national currency, looking at the inclusion in the Euro Area from a more pragmatic perspective that indicates a slight decreasing trust as result to the uncertainty framework designed by the pandemic conditions.

3.Research methodology

The present paper focus on exploring the nominal and real convergence criteria for Romania, basing the real convergence investigation on the GDP per capita indicator, Intra and Extra-EU trade by Member State and the Global Competitiveness Index 4.0 evolution. Both qualitative and quantitative analysis were employed, the data processing being made by using the SPSS software. First, the present fulfillment of the Maastricht criteria was emphasized by the one-point-in-time approach, corresponding to the updated figures for the year 2020. Second, the dynamism of the general public support for the adoption of the euro currency was highlighted through an analytical Eurobarometer framework adjusted to the period 2015-2020, in order to catch the social and political influence on a specific number of key-events, like Brexit, global crisis recovery, COVID-19 pandemic or election periods. In this sense, we have explored the recent economic developments related to the COVID-19 pandemic in order to identify the existing correlations between the health news and the RON/EUR exchange rate, focusing on a large sequence of data. A Pearson correlation coefficient was used to test the relationship between the COVID_19 (number of daily reported COVID-19 cases in Romania) and RON_EUR (the daily exchange rate RON/EUR value) variables, while the reference period was split into the following sections: the entire year 2020 and the period February 2020 – April 2020, the maximum panic point of the health crisis in Romania.

4. The nominal convergence criteria

The nominal convergence criteria, which were expressed and agreed by the Member States in 1991 in the Maastricht Treaty are non-negotiable conditions to be achieved for the candidate countries to the Euro Area. In order to ensure the successful integration into the Eurozone, the Member State must comply with the following criteria: (1) the price stability – the inflation rate should not be more than 1.5 percentage points above the average rate of the three best performing Member States; (2) sound public finance – the Government deficit should not be more than 3% of GDP; (3) sustainable governmental debt – the Government debt should not be more than 60% of GDP; (4) the long-term interest rate - should not be more than 2 percentage points above the average rate of the three best performing Member States (related to the price stability factor); (5) the exchange rate stability – participation of the country in ERM II for at least 2 years without significant deviations. Moreover, the candidates to the Euro Area must also ensure that their national legislation is compatible with the Maastricht Treaty, with the Statute of the European Central Bank (ECB) and of the European System of Central Banks (ESCB), claiming the independence of the central banks.

Table no. 1: Nominal convergence criteria - Romania

Criteria	Indicator	Target	2020
Inflation rate	*HICP Inflation (%)*	1.8	3.7
Public finances	*Government deficit (% of GDP)*	3	4.3
	Government debt (% of GDP)	60	35.2
Durability of convergence	*Long term interest rates (%)*	2.9	4.4
Exchange rate stability	*ERM II*	Yes	No
Legal convergence	*Legal compatibility with the Treaty*	Yes	No

Source: processed data from https://ec.europa.eu/info/publications/convergence-report-2020_en

According to the European Commission Convergence Report published in June 2020, Romania no longer meets any nominal convergence criteria (Table no. 1), being the only EU state subject to the excessive deficit procedure. Romania has registered a major setback in the euro adoption process, although in 2015 all the nominal convergence criteria were met. The explanations can be compressed into two major causes: the huge governmental instability and the fiscal turmoil of the last period. Given the pandemic conditions, there is a high degree of uncertainty on the global market that can be transposed into a negative evolution of the most significant indicators in the next months, despite the comprehensive fiscal, macro-prudential and monetary policy measures adopted by the national authorities to counter these macroeconomic consequences. The registered Harmonised Index of Consumer Prices (HICP) was 3.7% in Romania, well above the reference value (1.8%) calculated by adding the 1.5 percentage points to the average of the HICP registered in Portugal (0.2%), Cyprus (0.4%) and Italy (0.4%).

The sustainability of the Romanian government financial position is defined by two main indicators: the government deficit (as % of GDP) and the government debt (as % of GDP). Even if the government debt (35.2% of GDP) maintains under the limits established by the Maastricht Treaty, the government deficit (4.3%) significantly increased above the 3% of GDP reference value, being driven by the current expenditure's levels and the rebound of the public investments from the historically minimum levels of the last period. On April 2020, the Excessive Deficit Procedure (regulated by the art. 126 of the Maastricht Treaty) has been initiated for Romania after the increasingly diverging trajectory from the Medium-Term budgetary Objective settled by Regulation 1466/97.

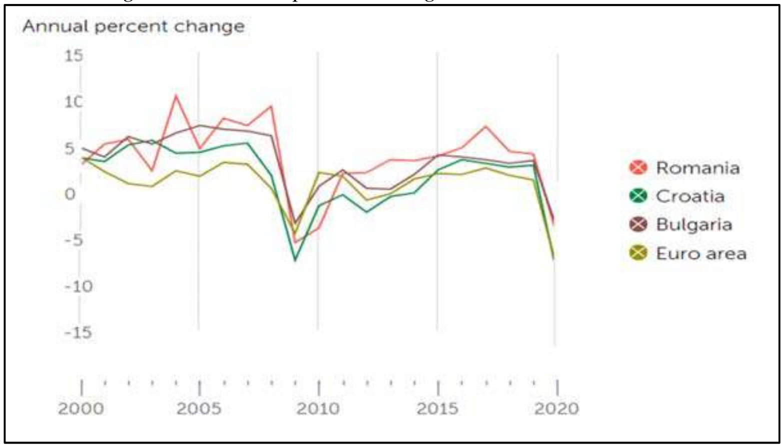
The COVID-19 pandemic has plunged the Romanian public finances into an unprecedented crisis, with a revised budget deficit to 9.1% of the GDP and huge public debts, while the European Commission projects a general government deficit of around 11.4% of GDP in the time horizon of 2021. Thus, the current economic context makes the implementation of the measures imposed by the Excessive Deficit Procedure even more difficult, claiming reduced public spending and fiscal reforms as necessary adjustments able to ensure the major correction of the excessive deficit. The pandemic has caused the suspension of the Stability and Growth Pact provision for all Member States (March 2020), which was until now the economic backbone of the European Union, providing the inside mechanism of the European budgetary responsibility. However, The European Commission has sent a reconfirmation of the launch of the excessive deficit procedure to Romania (April 2020), strengthening that the budgetary deviations took place before the outbreak of the pandemic, as a result of the inefficient fiscal framework.

The 12-months moving average long-term interest rate was 4.4% in Romania, above the reference value (2.9%) calculated by adding the 2 percentage points to the average of the best performing states under the durability of convergence criterion: Portugal (0.5%), Cyprus (0.8%) and Italy (1.6%). While Bulgaria and Croatia were included in the EU's Exchange Rate Mechanism (ERM II), the Romanian leu is still waiting for its moment as a result of the unfavorable evolution of the key convergence indicators over a relevant number of years. Moreover, the Romanian legislation does not meet all the requirements regarding the independence of the National Bank of Romania (NBR), the monetary financing conditions and the legal integration of the NBR into the Eurosystem. The risky paths of the nominal convergence criteria suggest multiple divergence points between Romania and the Euro Area, the successful euro adoption being a far away objective as a result of the negative economic impact of the COVID-19 pandemic predicted for the next period.

5. The real convergence criteria

In the broadest sense, the real convergence refers to the process of adjusting the economic and social structures to those from the Euro Area, one of the main indicators used to assess the extent of the economic development gaps being the Gross Domestic Product (GDP). According to the Eurostat data, the real GDP per capita in Romania was 9.120 euro per capita, which is approx. 31,87% of the EU28 average and 29,22% of the average reached by the 19 countries forming the Euro Area. Croatia and Bulgaria, which were included in the ERM II and are much closer to achieving the euro adoption goal, have reached 12.450 euro per capita in the mentioned period, respectively 6.840 euro per capita. The dynamics of real GDP growth rates in Romania was higher than in the other countries in the period 2000-2020, accelerating its convergence to the EU average after 2012, while Bulgaria has recovered more slowly. A soft improvement was also in the case of Croatia, whose real GDP per capita in 2019 was exceeding with 8.63% the pre-crisis value (Figure no. 1).

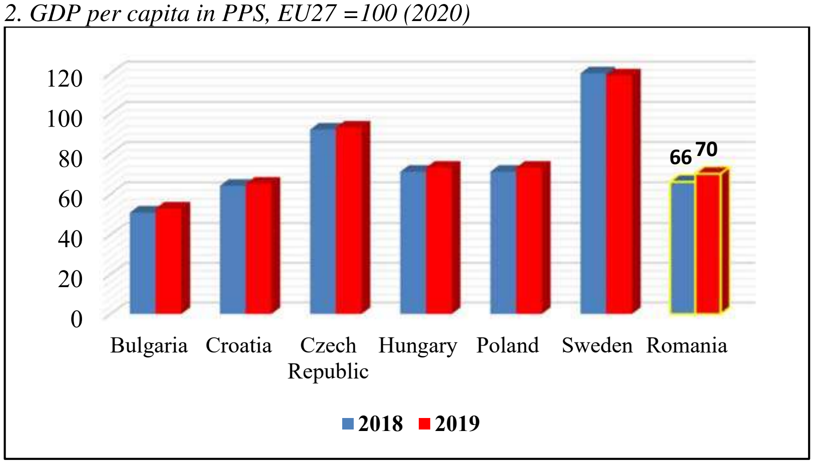
Figure no. 1. Real GDP growth - Annual percent change



Source: processed data from https://www.imf.org/external/datamapper/

According to the Figure no. 2, Sweden and Czech Republic had the highest GDP per capita in Purchasing Power Standards (PPS) in relation to the European Union average set to equal 100, while the general trend was positive in the last two years for all the Non-euro Area State Members without an opt-out. The Central and Eastern European (CEE) group is still vulnerable in terms of real convergence, despite the common efforts towards the process of catching up with the former European Union members. Figure no. 2 suggests that we can find more strong convergence points within the CEE region than with the rest of the EU27 countries, requiring a more prudential supervision of the CEE countries adhesion to the Eurozone in line with the increasing concerns about the right timing of the process.

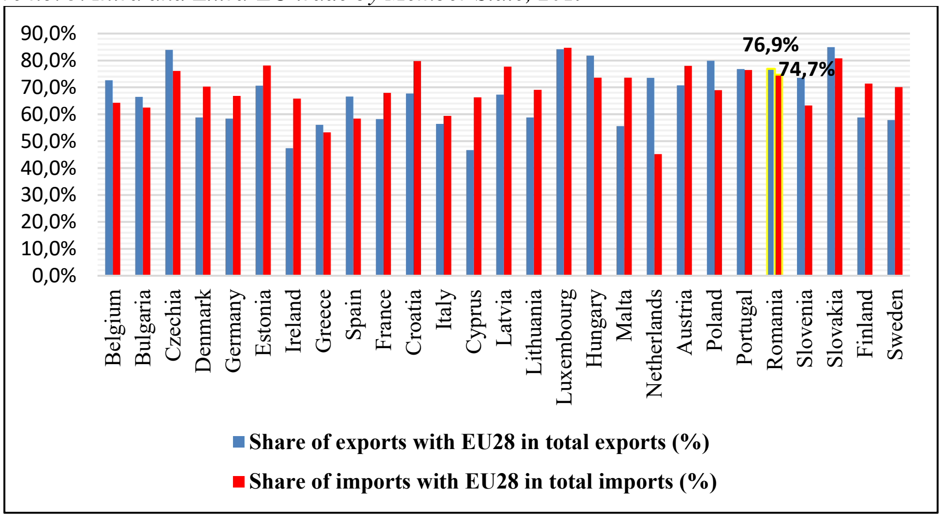
Figure no. 2. GDP per capita in PPS, EU27 =100 (2020)



Source: processed data from https://ec.europa.eu/eurostat/

The trade integration of Euro Area Member States and Non-Euro Area Member States with EU - 28 countries (2013-2020) in terms of exports / imports (Figure no. 3) reveals that Romania had superior shares of Intra- and Extra-EU trade from the total exports/imports, well above the EU's average. The data provided by the Romanian National Institute of Statistics for the period 01.01.2019 – 30.09.2019 describe the main structural changes of the Romanian international trade compared to the same period of the previous year. The FOB exports decreased in the mentioned interval with 13.6%, totalizing EUR 44811.2 million, while the structure of exports according to the sections comprised in the Combined Nomenclature suggests that 6 main sections hold 73% of the total exports. The section machinery and mechanical appliances, electrical equipment, sound and image recorders and reproducers registered 29.5% of the total exports, holding the first place in 2019. The exports to the other EU countries decreased by 12,9% from the previous period. The main partner countries from this group are: Germany, Italy, France, Hungary, Poland, Bulgaria, Netherlands, United Kingdom, Turkey and Czech Republic.

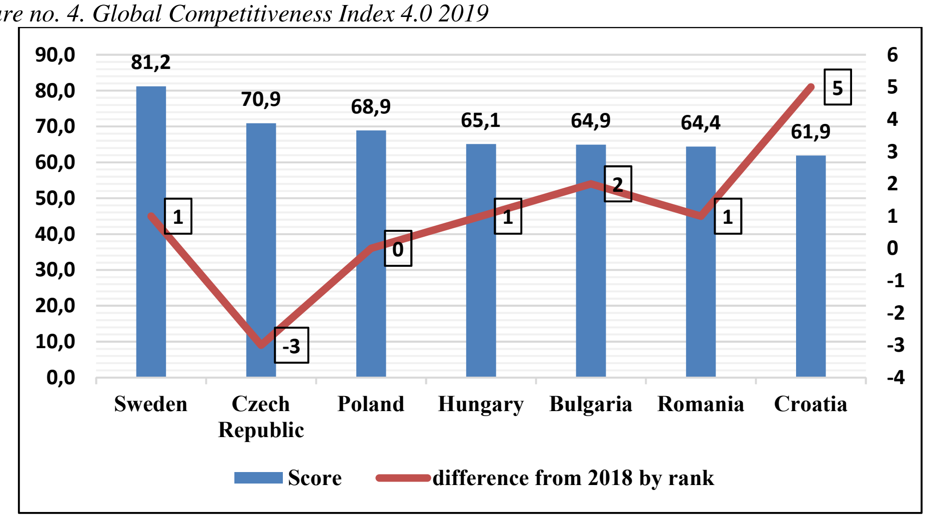
Figure no. 3. Intra and Extra-EU trade by Member State, 2019



Source: processed data from https://ec.europa.eu/eurostat/

The structure of CIF imports by the first three groups of goods according to the Combined Nomenclature was as follows: machinery and mechanical appliances, electrical equipment, sound and image recorders and reproducers (27,5% of the total imports), chemicals products (11,6%) and base metals and articles of base metals (9,9%). Similar to the export's evolution, the imports with the other EU countries decreased by 8,8% from the same period of the previous year. The main 10 commercial partners from the EU area were: Germany, Italy, Hungary, China, Poland, France, Turkey, Netherlands, Austria and Bulgaria. Totalizing EUR 57871.1 million in the period 01.01.2019-30.09.2019, the Romanian CIF imports decreased by 9,4%. The FOB-CIF trade deficit increased with EUR 1000.2 mill. in the reference period compared with the same interval of the previous year, to a total value of EUR 13059.9 million. Based on the World Bank primary data, the Romanian trade openness was 84,56% of GDP in 2019, while Croatia reached 102.28% of GDP and Bulgaria 122,58% of GDP.

Figure no. 4. Global Competitiveness Index 4.0 2019



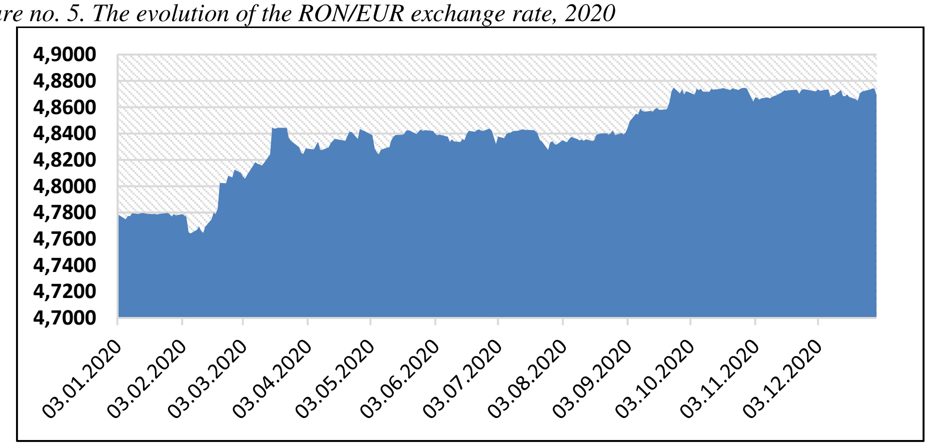
Source: processed data from http://www3.weforum.org/

In order to determine the Romanian level of productivity, it was analysed the Global Competitiveness Index 4.0 2019, which covers 141 economies around the world and measures both the microeconomic and macroeconomic pillars of the national competitiveness grouped in 12 main categories: institutions (rank 52), infrastructure (55), ICT adoption (32), macroeconomic stability (56), health (83), skills (72), product market (64), labour market (57), financial system (86), market size (41), business dynamism (72), innovation capability (55). The most significant difference from 2018 by rank was registered by the Czech Republic, although the advance from the other CEE countries included in the Figure no. 4 allows it to maintain its leading position. Romania ranks 51 in this top (total score 64.4), advancing one position from the previous year. The country performed well at the macro-economic stability and health criteria, while the innovation capabilities was the critical point. Unfortunately, the Global Competitiveness Report confirms the serious gap between Romania and the other EU Member States, placing the country in a strong unfavorable position with limited tools to accelerate the achievement of the real convergence criteria in the near future.

6. Romanians' perceptions about the euro adoption process

The present section is focused on the general public opinion regarding the euro adoption process, taking into consideration the last year deterioration of the most economic indicators under the COVID-19 pandemic circumstances. First, as can be observed from the Figure no. 5, the evolution of the RON/EUR exchange rate during the year 2020 was marked by a significant volatility after the COVID-19 pandemic outbreak (February 2020). Despite the extreme conditions generated by the health crisis, the overall dynamics of the RON/EUR volatility highlights only a minor depreciation of the national currency against the euro. Thus, the RON/EUR exchange rate has rose by 1,89% in 2020, from 4,7789 RON/EUR (03.01.2020) to 4.8694 RON/EUR (31.12.2020). The provisions for 2021 suggest a gradual depreciation of the Romanian leu, of about 2-3% per year and a slow transition to the value 5.00 RON/EUR at the end of the year.

Figure no. 5. The evolution of the RON/EUR exchange rate, 2020



Source: processed data from https://www.bnr.ro/Raport-statistic-606.aspx

Then, we have tested the hypothesis of a positive correlation between the COVID-19 reported cases and the RON/EUR exchange rate. In order to test the hypothesis, the period was split into the following sections: the entire year 2020 and the period February 2020 – April 2020, the beginning of the health crisis in Romania, and there were used COVID_19 and RON_EUR variables. A Pearson correlation coefficient was used to test the relationship between the two variables, the findings suggesting the negative effects of the pandemic conditions for the RON/EUR exchange rate, materialized in the deterioration of the national currency against euro. The test results revealed a quite strong positive correlation between the two variables for the period January 2020 – December 2020 ($r = 0.630$, Table no. 2) and a medium correlation for the beginning of the COVID-19 pandemic, $r = 0.554$, $n = 62$, while the correlation is significant at the 0.01 level.

Table no. 2. Correlation between COVID_19 and RON_EUR, 2020

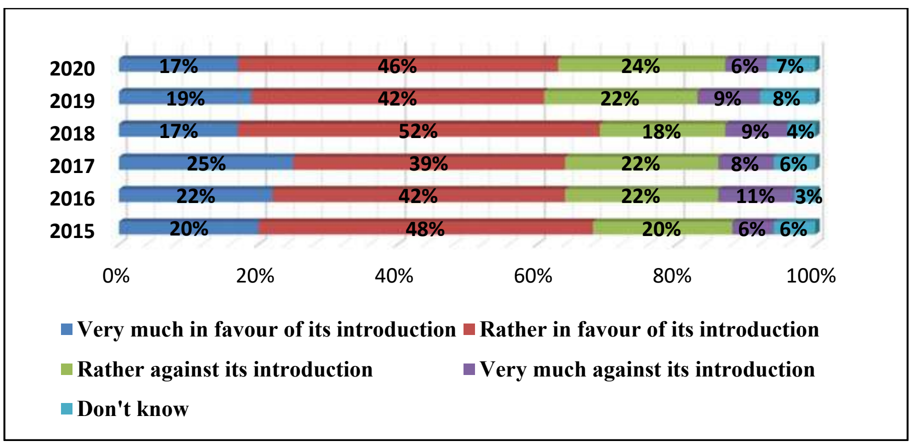
		COVID_19	RON_EUR
COVID_19	Pearson Correlation	1	.630**
	Sig. (2-tailed)		.001
	N	246	246
RON_EUR	Pearson Correlation	.630**	1
	Sig. (2-tailed)	.001	
	N	246	246

**. Correlation is significant at the 0.01 level (2-tailed).

Source: author's compilation using the data provided by https://www.bnr.ro/Home.aspx and www.worldometers.info

Considering these results, the present section is devoted to the pandemic challenges on the Romanians' confidence in the euro currency by exploring the European Commission Eurobarometer from 2015 to 2020. In order to understand to what extent, the Romanians' trust in the Euro currency has been affected by the COVID-19 pandemic, we investigate the survey item: *Generally speaking, are you personally more in favour or against the idea of introducing the euro in Romania?* The large majority of Romanians are in favour of introducing the euro (63% of the respondents), with a slight increase by 2 percentage points compared to the year 2019. However, it must be noticed a decrease by 5 percentage point in the Romanians support for euro in 2020 compared to the first year included in the analysis (2015). The highest level of overall approval for the euro adoption process was achieved in 2018 (69%), by 8 percentage points fall in support in the next year (61%, 2019). Among the other candidate countries, the opinions were most positive in Hungary (66%, 2020), while most negative in Czechia (63%, 2020).

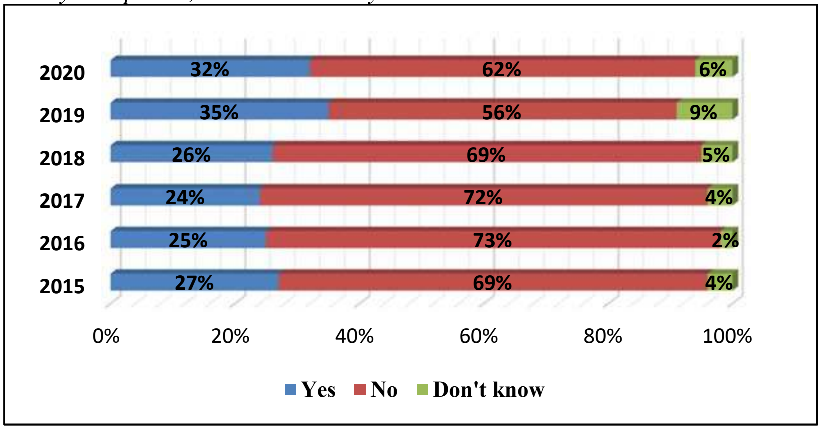
Figure no. 6. Generally speaking, are you personally more in favour or against the idea of introducing the euro in Romania?



Source: processed data from https://ec.europa.eu/info/index_en

Compared to 2019, the number of Romanian residents who believe that the country is not yet ready for the successful euro adoption has risen by 6 percentage points (to 62% of the respondents) in 2020 (Figure no. 7). This situation was amplified by the uncertain COVID-19 pandemic context and national political framework, the poor nominal convergence performance of our country and the destabilizing effects generated by Brexit. The Euro Area vulnerabilities are more actual than ever, being stressed by the unpredictable nature of the pandemic and the concerns regarding the large economic gaps between the new Euro Area candidate countries and the other Member States. Even if there are no signs of symbolic attachment to the national currency, a firm majority of the population perceive the measures taken to introduce the euro as less effective due to the poor fulfillment of the convergence criteria.

Figure no. 7. In your opinion, is Romania ready to introduce the euro?



Source: processed data from https://ec.europa.eu/info/index_en

7. Conclusions

Romanian economy suffers serious damages after the COVID-19 pandemic, but the multifaceted euro adoption process reveals prior frictions in the system. While Bulgaria and Croatia have already a significant milestone by participating in the EU's Exchange Rate Mechanism (ERM II), the Romanian path to joining the Euro Area is still waiting its moment. The in-depth analysis of the Romanian economic position reveals that such an achievement can be counterproductive in the absence of the real convergence criteria fulfillment due to the fact that artificially integrated countries can disrupt the catalyst efforts. Exploring the nominal convergence criteria in 2020, we have found a major setback in the Romanian euro adoption process, even if in 2015 all the nominal convergence criteria were met. The political instability and the fiscal turmoil of the last period could explain this negative evolution, suggesting a sluggish advancement towards euro currency mainly due to political causes. The significant budgetary deviations from the reference criteria have plunged the Romanian economy into an unprecedented crisis, doubled by the COVID-19 pandemic conditions which made the situation worse.

In order to complete the picture, the real convergence criteria revealed multiple gaps between Romania and the Euro Area, in line with the other CEE countries which remain vulnerable, despite the common efforts towards the process of catching up with the former EU members. There are more convergence points within the CEE region than with the rest of the EU27 countries, the results requiring an increased concern about the right timing of the euro adoption process. The one-point-in-time analysis focused on the COVID-19 pandemic, highlighting the pandemic challenges on the Romanians' confidence in the euro currency. The SPSS analysis outlines the negative effects of the pandemic news for the RON/EUR exchange rate, transposed into a significant deterioration of the national currency against euro. There is a quite strong positive correlation between the reported number of daily registered COVID-19 cases in Romania and the RON/EUR exchange rate. Moreover, the European Commission Eurobarometer strengthens the same result, being noticed a decrease by 5 percentage points in the general public support for the euro currency in Romania in 2020 compared to 2015. Even if the majority of Romanians' citizens are in favour of introducing the euro currency, the number of Romanian residents who believe that the country is not yet ready for the successful euro adoption has risen by 6 percentage points.

The euro adoption remains a far away objective for Romania, neglected by the political factors which proclaim their declarative support, without fixing the necessary milestones. With several euro-adoption targets already abandoned, the euro currency seems to be lost the public support as well. The deteriorating perceptions of Romanian citizens regarding the euro adoption is more related to the process, as they perceive the euro adoption from a more pragmatic perspective, irrespective of their symbolic attachment to the symbolic value of the national currency. Without a sustainable fiscal position and correlated business cycles the euro adoption will translate into a huge economic cost equivalent to the loss of monetary policy independence.

8. References

- Alesina, A., Barro, R.J., Tenreyro, S., 2002. Optimal currency areas. *NBER Working Paper*, Available at: https://www.nber.org/system/files/working_papers/w9072/w9072.pdf
- Bădîrcea, R., Pîrvu, R., Manta, A., 2017. Possible Risks of a too Early Adoption of Euro in Romania. *Finance - Challenges of the Future*, XVII(19), pp. 53-70.
- Dragan G., Pascariu G., 2008. Romania and the Euro's Adoption. Between Real and Nominal Convergence. *The Romanian Economic Journal*, XI(27), pp. 27-48.
- Duhnea, C., Ghita-Mitrescu, S., Vancea, D.P.C., 2012. Euro adoption – The illusion of the monetary integration of Romania. *CES Working Papers*, IV(2), pp. 152-163.
- Dumitru, I., 2009. Euro adoption in Romania, *MPRA Paper*, Available at: https://mpra.ub.uni-muenchen.de/18612/
- Figuet, J., Nenovsky, N., 2006. Convergence and Shocks in the Road to EU: Empirical Investigations for Bulgaria and Romania. *William Davidson Institute Working Paper*, Available at: https://deepblue.lib.umich.edu/bitstream/handle/2027.42/40196/wp810.pdf;sequence=3
- Floroiu, O.G., 2020a. Euro Adoption in Romania: For or Against?. *Ovidius University Annals, Economic Sciences Series*. XX(1), pp. 350-355.
- Floroiu, O.G., 2020b. How has the Covid-19 Pandemic Affected Incomes and Euro Perceptions in Romania. *Journal of Danubian Studies and Research*, 10(2), pp. 96-106.
- Deskar-Škrbić, M., Kotarac, K., Kunovac, D., 2020. The third round of euro area enlargement: Are the candidates ready?. *Journal of International Money and Finance*, 107(C), 102205.
- Mundell, R., 1961. A Theory of Optimum Currency Areas. *American economic Review*, 51, pp. 657-665.
- Raileanu Szeles, M., Marinescu, N., 2010. Real convergence in the CEECs, euro area accession and the role of Romania. *The European Journal of Comparative Economics*, 7(1), pp. 181-202.
- The International Monetary Fund, https://www.imf.org/external/index.htm
- The Romanian National Institute of Statistics, https://insse.ro/cms/en
- The National Bank of Romania, https://www.bnr.ro/Home.aspx
- https://ec.europa.eu/info/index_en
- http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf
- www.worldometers.info