
HIGHLIGHTS REGARDING THE IMPACT OF CRISES ON ROMANIA'S ECONOMIC EVOLUTION

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Abstract

The economic evolution of Romania in the last period of time is under the impact of crises that act together. In this sense, the COVID 19 pandemic crisis triggered the economic-financial crisis, which deepened due to the effects determined by the war in Ukraine. In this context, the energy crisis has particular effects on the price of energy (electricity, gas and oil), which deepened as a result of the measures imposed on each other by the European Union and the other states of the world, as well as the reaction of the Russian Federation, which imposed major restrictions which determined the increase in energy prices. The objective of this article was to highlight the effects that the current crises have on the evolution of Romania's economy. It is found that the correlated action of these crises has a disastrous effect on the evolution of Romania's economy. At the same time, the effect reverberates on the quality of life in that purchasing power parity has increased, resulting in limited resources for the population of Romania, as well as for that of other states in the European Union as well as on a wider, global level, which predict a decrease in quality life. In the creation of this article we used the data provided by the National Institute of Statistics in Romania, as well as by Eurostat. We also used the interpretative, comparative analysis, highlighting the effects that certain crises have on Romania's economic growth, population incomes and, finally, the quality of life.

Keywords: economic evolution, crises, restrictions, standard of living, data series.

JEL classification: C10, E20

Introduction

The combined COVID 19 pandemic crisis, the food crisis and the energy crisis have had and continue to have negative effects on national economies, at least those in Europe.

The armed conflict in Ukraine led to the emergence of other crises. Thus, through the imposed restrictions, military spending has increased, the number of refugees who create destabilization in the countries they go to has increased, national economies have been disrupted which leads to destabilization, the reduction of international trade in oil, natural gas and other products necessary for life. At the same time, there is a deep global financial disruption in which there are concerns of a rapid global reset, which will ultimately result in an alarming drop in living standards.

The hotel and HoReCa industry in Romania suffered the most in the sense that many hotels, restaurants and cafes were closed, a lot of employees were laid off, through the abolition of jobs, gross and net salaries did not increase and keep at a low level in the context in which the inflation rate that affects prices in Romania has increased.

Tourism and agriculture, two fields that for Romania represented a level of refuge in the recovery of the losses caused by the COVID 19 pandemic, have suffered the most. Thus, the tourist activity degraded, and agriculture, without consistent subsidies from the European Union and even from the national budget, combined with the climate factor, suffered and continues to suffer a lot.

Industry, transport and other sectors also suffer. Orders in the manufacturing industry for export fell sharply, resulting in a negative effect on the trade balance. Extractive production also decreased, and some sectors, such as coal production, mineral extractions for raw materials decreased because the possibility of processing decreased primarily, by reducing the activity of some branches of the national economy.

The market and the fundamental law of the market no longer work due to the reduction of resources to consumers. Thus, the fundamental law regarding the ratio between supply and demand turned into the law of the ratio between income and supply.

All this leads to the reduction of the possibilities of a decent living, in the context where prices know no dam, and energy resources (natural gas and electricity) will further affect the level of income of the population and, as a consequence, its quality of life.

In this article, to exemplify and highlight more clearly the evolution of Romania's economy under the impact of the crises, we have used a series of graphic representations and tables containing reference data on this topic.

Literature review

Macroeconomic stability and maintaining economic growth are a particularly important topic that has been considered by many researchers in the field. First of all, we mention the work of Anghelche C. and others (2022) who highlight the important role of consumer prices in maintaining macrostability. Anghelache C. and others (2020) studied the main elements of the European Union strategy in the agricultural branch. Anghelache, C. (2019) conducts and publishes a study on the evolution of Romania's industry, in a domestic and international context, analyzing the change in the structure of the industry by enterprise groups. Anghelache C. and others (2020) analyzed the evolution of the Gross Domestic Product starting with the resources and uses that this indicator had in obtaining the results. In 2018, Anghel M G. carried out an analysis on the evolution of tourism activity in Romania. Armantier et al. (2015) addressed a number of issues regarding inflation forecasts. Erosa, A. and Cabrillians, A. (2008) carry out a study in which they treat the economic evolution against the background of the development of industrial branches in the context of the domestic and international market. Deschénes O. and Greenstone M. (2012) conduct a study on the impact of climate change on economic growth, and Goodwin, N.R. (2008) publish a paper in which they address these aspects, regarding the macroeconomic evolution in the 21st century. Mogues T. and others (2015) studied the role of public investments made in agriculture, and Quamrul A. and Michalopoulos S. (2015) analyzed how climate volatility influences agricultural activity. Tosun C. and others (2015) addressed a number of issues regarding the decisions of choosing the tourist destination and their impact on the economic evolution.

Methodology, data, results and discussion

The mentioned crises have a destructive effect on both the entire economic activity and the population at all levels. In Romania, the number of people over 65 years old is more important than the number of people under 15 years old. As a consequence, a continuous process of population aging results. Table number 1 shows the data on the average number of pensioners and the average pension both in total and by pension category.

Average number of retirees and average pension

Table 1

	Numărul mediu - mii persoane -			Pensia medie - lei lunar -		
	Trim.II 2021	Trim.I 2022	Trim.II 2022	Trim.II 2021	Trim.I 2022	Trim.II 2022
TOTAL	5085	5024	5003	1661	1846	1851
<i>din care, după nivelul de pensionare:</i>						
Asigurări sociale	5084	5023	5002	1661	1846	1852
din care, de asigurări sociale de stat	4657	4617	4604	1601	1772	1774
<i>din care, asigurări sociale după categorii de pensii:</i>						
A) Limită de vârstă	4023	3989	3982	1852	2052	2057
B) Pensie anticipată	14	11	10	2171	2477	2480
C) Pensie anticipată parțial	98	103	102	1751	2067	2100
D) Invaliditate	435	417	409	768	826	818
E) Urmas	514	503	499	893	996	995

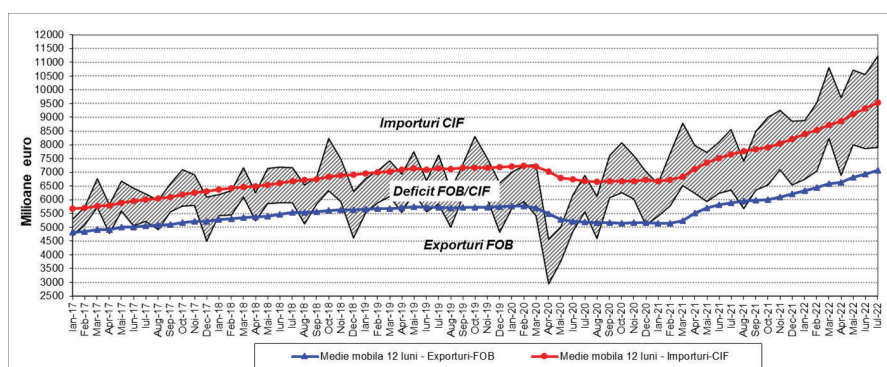
Source: INS

Analyzing the data presented in table number 1, we find that in the second quarter of 2022, the average monthly pension increased by 11.43% compared to the second quarter of 2021, well below the inflation level related to this period, which implies a decrease in the standard of living.

Next, graph number 1 shows the evolution of imports, exports and the deficit of the trade balance between January 2017 and July 2022.

Evolution of imports, exports and trade balance deficit in the period January 2017 – July 2022

Chart 1



Source: INS

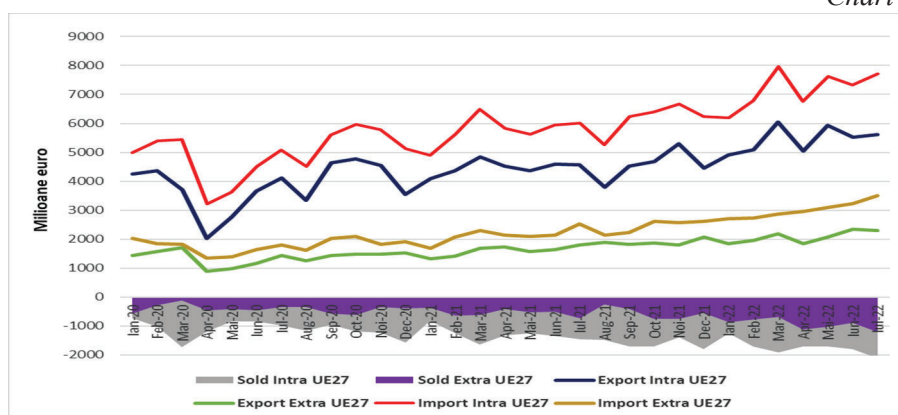
The trade balance deficit has increased: imports, although they have increased, have increased more than exports, which negatively affects the final

result of the national economy, represented by the most eloquent indicator, namely, the Gross Domestic Product. In the category of imports, we find a series of products, such as the agri-food products, which replace the domestic ones, thus inducing a negative perspective on the development of this sector in the Romanian economy.

Graph number 2 shows the evolution of imports and exports within and outside the EU27.

Evolution of imports and exports within and outside the EU27

Chart 2



Source: INS

We find that imports had an upward evolution both in the EU27 and extra-EU27 areas, while if we follow the evolution of exports, we find that in the last reference month there were even decreases in the extra-EU27 area.

Table number 2 shows the evolution of the Quarterly Gross Domestic Product in the period 2020 – 2022 (quarter II).

Evolution of Quarterly Gross Domestic Product

Table 2

		Trim. I	Trim. II	Trim. III	Trim. IV	An
- în % față de perioada corespunzătoare din anul precedent -						
Serie brută	2020	102,6	90,2	94,6	98,5	96,3
	2021	99,9	115,4	106,9	102,4	105,9
	2022	106,4	105,3	-	-	-
Serie ajustată sezonier	2020	102,6	90,2	94,6	98,5	-
	2021	99,9	115,4	106,9	102,4	-
	2022	106,4	105,3	-	-	-
- în % față de trimestrul precedent -						
Serie ajustată sezonier	2020	99,6	89,4	104,8	105,5	-
	2021	101,1	103,3	97,1	101,0	-
	2022	105,1	102,1	-	-	-

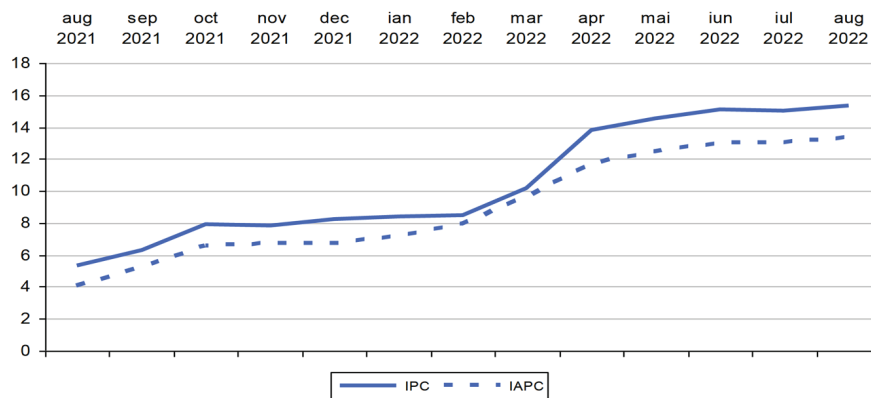
Source: INS

We note that the evolution of the Gross Domestic Product is lower in the second quarter of 2022, compared to the similar quarter of 2021, both as a gross series and as a seasonally adjusted series.

A significant problem facing Romania in the last year is the alarming increase in prices. Graph number 3 shows the evolution of the consumer price index and the harmonized consumer price index between August 2021 and April 2022.

Evolution of the consumer price index and the harmonized consumer price index

Chart 3



Source: INS

We see an alarming increase in the consumer price index between February 2022 and April 2022, after which the increase is smoother, although the upward trend is maintained.

A comparative analysis of the data related to inflation in Romania in August 2022, compared to August 2021, December 2021, July 2022 and that of the period 01.01.2022-31.08.2022 with the similar one of last year is presented in table number 3.

Evolution of inflation

Table 3

	august-22			Rata medie lunară a inflației,	
	față de:			în perioada 1 I - 31 VIII	
	iulie-22	decembrie-21	august-21	2022	2021
Mărfuri alimentare	101,82	114,08	118,22	1,7	0,4
Mărfuri nealimentare	99,81	111,80	115,98	1,4	0,8
Servicii	100,37	106,13	108,26	0,7	0,3
TOTAL	100,56	111,58	115,32	1,4	0,6

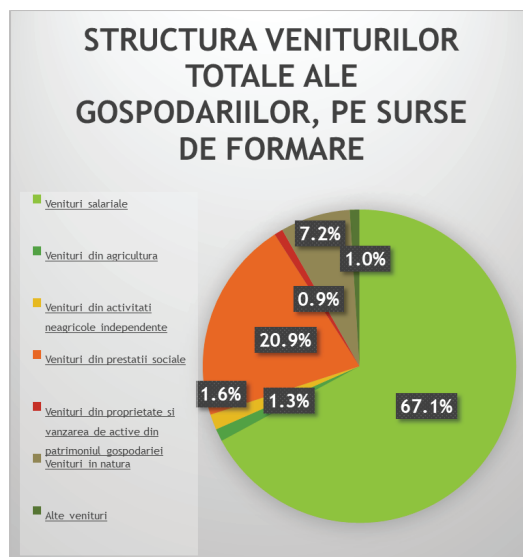
Source: INS

In the first eight months of 2022, compared to the similar period of 2021, we see significant increases in the average rate of inflation in all groups: food goods, non-food goods and services.

Chart number 4 shows the structure of total household incomes, by sources of training, in the first quarter of 2022.

Structure of total household incomes, by sources of training

Chart 4



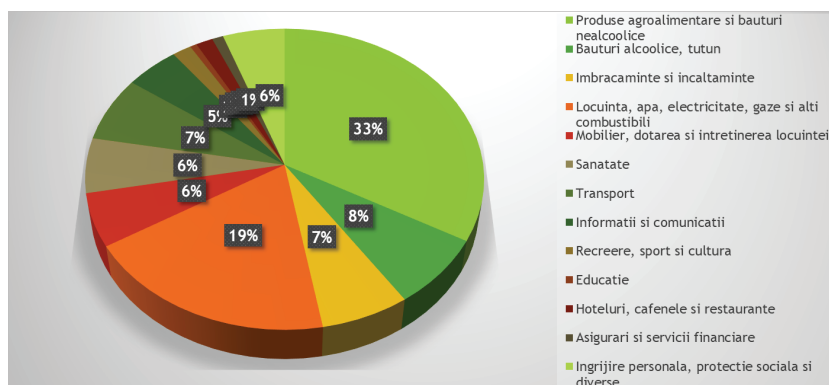
Source: INS

We note a positive change in total household income in the first quarter of 2022, respectively 6,227 lei/household and 2,476 lei/person, compared to 2021, respectively 5,683 lei/household and 2,243 lei/person. The largest share of income is salary income (67.1%), followed by income from social benefits (20.9%), and at the opposite pole are income from property and the sale of household assets (0.9%).

Chart number 5 shows the total consumption expenses by destination in the first quarter of 2022.

Total consumption expenditure by destination

Chart 5



Source: INS

The first quarter of 2022 does not record significant developments in total consumption expenses by destination compared to the third quarter of 2021. The largest share of expenses is related to agri-food products and non-alcoholic beverages and those for housing maintenance, water, electricity, gas and other fuels.

Table number 4 shows the situation of energy production both by resources and by destinations in the period 01.01.2022 - 08.31.2022.

Energy production in the first 8 months of 2022

Table 4

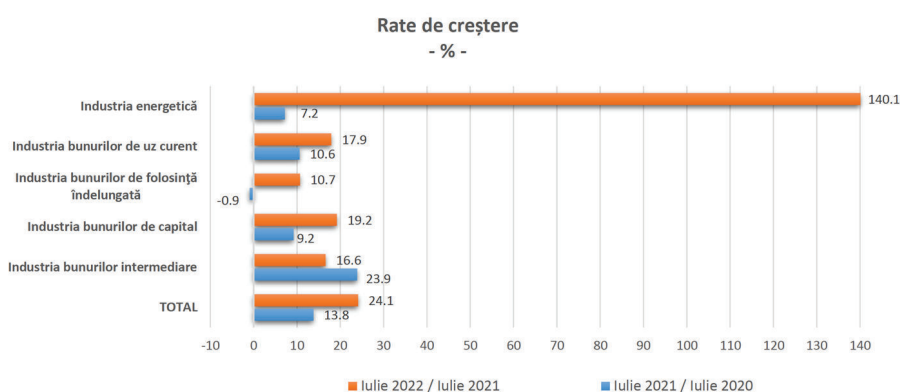
	1.I-31.VII.2022	1.I-31.VII.2022 față de 1.I-31.VII.2021	
	milioane kWh	Diferențe (±) - milioane kWh -	%
Resurse – total	37795,5	-2121,1	94,7
- Producție	33042,9	-2761,4	92,3
- în termocentrale clasice	12452,5	-182,7	98,6
- în hidrocentrale	8794,2	-3255,2	73,0
- în centrale nucleare-electrice	6193,4	-55,5	99,1
- în centrale electrice eoliene	4435,4	+654,2	117,3
- în centrale solare fotovoltaice	1167,4	+77,8	107,1
- Import	4752,6	+640,3	115,6
Destinații – total	37795,5	-2121,1	94,7
- Consum final	30873,4	-1589,4	95,1
- în economie	23062,1	-973,8	95,9
- iluminat public	333,2	+28,5	109,4
- populație	7478,1	-644,1	92,1
- Consum propriu tehnologic în rețele și stații	3169,2	-233,0	93,2
- Export	3752,9	-298,7	92,6

Source: INS

In the first seven months of 2022, compared to the same period of 2021, there were significant decreases (7.7%) in terms of electricity production, and more alarming is the increase in imports by 15.6%. Graph number 6 shows the rates of change in industrial production by category and in total in the periods July 2022 / July 2021 and July 2021 / July 2020.

Rates of change in industrial production

Chart 6



Source: INS

Against the background of this energy crisis, we note that the turnover in the energy industry increased in July 2022, compared to July 2021, by 140.1%, with the other industries having increases between 7.2% and 24.1%. Graph number 7 shows the evolution of economic activity, the number of employees and prices in the periods July - September 2022 and August - October 2022.

Evolution of economic activity, number of employees and prices

Graph 7

Evoluții	Industrie prelucrătoare		Construcții		Comerț cu amănuntul		Servicii	
	iul. - sept. 2022	aug. - oct. 2022	iul. - sept. 2022	aug. - oct. 2022	iul. - sept. 2022	aug. - oct. 2022	iul. - sept. 2022	aug. - oct. 2022
Activitatea economică	→	→	↗	→	↗	↗	↗	→
Numărul de salariați	→	→	→	→	↗	↗	→	→
Prețurile	↗	↗	↗	↗	↗	↗	↗	↗

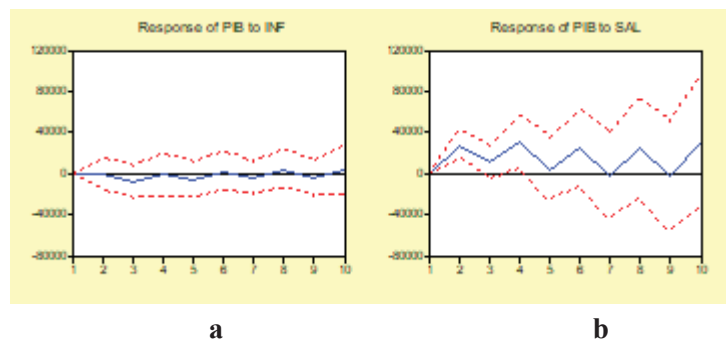
Source: INS

We find that during August-October 2022, economic activity in industry, construction and services had a constant evolution, while trade recorded increases. At the same time, prices recorded increases in all branches of the national economy.

Next, we will analyze the interdependence between the variables Gross Domestic Product (*GDP*), inflation (*INF*) and number of employees (*SAL*), thus using the data provided by the National Institute of Statistics for the period 2000-2021. Thus, we will illustrate in the following graph to what extent the evolution of the Gross Domestic Product is influenced by the application of shocks on inflation and the number of employees.

The impulse response

Graph 8



The analysis shows that a shock applied to inflation will have a moderate effect on the evolution of the Gross Domestic Product, which remains relatively constant throughout the 10-year period under analysis, having some oscillations from year to year (Chart 8a). What is interesting to note is the fact that a shock applied to the variable number of employees will also produce an immediate effect on the Gross Domestic Product, but which amplifies considerably throughout the period under study (Graph 8b).

We will deepen the study further by doing a VAR (Vector Autoregression Estimates) analysis in which we will consider the variables mentioned above, and the results are presented in the following table.

Results of the VAR analysis

Table 5

	GDP	INF	SAL
R-squared	0.996787	0.947705	0.914261
Adj. R-squared	0.995304	0.923569	0.874689
Sum sq. resids	5.59E+09	30.73315	2.00E+11
S.E. equation	20727.39	1.537559	124185.5
F-statistic	672.1391	39.26495	23.10387
Log likelihood	-222.8552	-32.67487	-258.6616
Akaike AIC	22.98552	3.967487	26.56616
Schwarz SC	23.33402	4.315993	26.91466
Mean dependent	593228.3	5.940000	5021531.
S.D. dependent	302462.8	5.561560	350814.0

Source: INS. Data processed by the authors.

We find that the strong connection between the three variables is confirmed by the values of the coefficients of determination close to the unit value. Also, the values of the F-statistic test are higher than those tabulated and confirm the validity of the model, being able to write the estimation equation of the Gross Domestic Product based on the regression parameters calculated as follows:

$$\text{GDP} = -0.4096 \cdot \text{PIB}_{t-1} + 1.3703 \cdot \text{PIB}_{t-2} + 1473.1024 \cdot \text{INF}_{t-1} - 918.6860 \cdot \text{INF}_{t-2} + 0.3364 \cdot \text{SAL}_{t-1} - 0.2320 \cdot \text{SAL}_{t-2} - 388041.8258$$

Based on the above equation, we can estimate the evolution of the Gross Domestic Product and we find that in 2022 the GDP value will register a decrease of 0.38% compared to 2021, the trend continuing in 2023, when the estimated decrease will be 1%, under the conditions in which we will not have positive developments in the other factorial variables that have influence on the formation and growth of the Gross Domestic Product.

Conclusions

From the study presented in this article, a series of conclusions emerge, especially practical ones. First of all, it was noted that the effect of the COVID 19 pandemic affected, and continues to affect, the economic results in our country.

This pandemic crisis has combined with the economic-financial crisis, the energy crisis, the food crisis and other crises that act in a correlated manner

on productive activity, which has decreased, which has imposed an increase in unemployment, an increase in prices and many other negative effects that will represent elements that they can destroy the standard of living (quality of life).

Some measures must be taken to effectively use the provisions of the National Recovery and Resilience Program, especially in those areas where funds from the European Union have already been allocated.

The national programs also require the provision of measures aimed at immediate support in those areas most affected by the level of the current crises (the COVID 19 pandemic crisis, with the economic-financial crisis, the energy crisis, the food crisis, the resource crisis, etc.) .

It is clear that the standard of living will suffer, a context in which some measures should be taken to use the resources, reimbursable and non-reimbursable, allocated from the European Union budget, but also for the judicious use of resources from the national budget.

The possibility of reducing these effects is long and, therefore, according to the forecasts made by a number of international institutions, a more careful and effective cooperation is required within the European Union by providing funds and facilitating loans with reasonable interest rates for all member states.

The initiation of major projects within the European Union is another possibility to reduce the effects of these crises with a particularly negative impact on Romania's national economy.

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