THE NATURAL MOVEMENT OF THE POPULATION UNDER THE EFFECT OF THE SANITARY CRISIS IN ROMANIA

Lecturer Ștefan Virgil IACOB, PhD *(stefaniacob79@yahoo.com)*
"Artifex" University of Bucharest
Ștefan Gabriel DUMBRAVĂ, PhD Student *(stefan.dumbrava@gmail.com)*
The Bucharest University of Economic Studies
Oana BÎRSAN, PhD Student *(oana.vilcu@fiscont.com.ro)*
The Bucharest University of Economic Studies

Abstract

The population of a country is an important indicator in the analysis of many aspects that start precisely from this element of population size. In this context, the population structured on the age pyramid expresses the labour force potential that exists expressed by the active population, the employed population and the employed labour force simultaneously with the highlighting of the unemployed population and the number of unemployed.

The health crisis also has direct effects on the evolution of the population. At the same time, we must take into account the living conditions that are provided to the population of a country, correlating the level of wages, incomes from other activities, incomes from individual households, as well as other sources underlying the incomes of the population. Finally, we can draw a conclusion about the standard of living that the population of a country has by synthesizing from a statistical-demographic point of view the quality of life in that country.

According to the authors, the health crisis has a non-essential effect on the evolution of the population as a whole, but it has an effect on the perspective of quality of life in that country, because the indicators that give meaning to living standards (Gross Domestic Product, average net wage of the average wage in the economy, the level of pensions, the consumer price index, the real value of labour results and many others) determine a certain state.

Because we are talking about the health crisis (coronavirus, COVID 19) we must specify that against this background there is an additional element in stopping the desire of couples to have many offspring. Incidentally, we ignore those jokes about the state of isolation at home with an effect on population change, because it is not a determining factor in the evolution of the population. It should be borne in mind first of all that female fertility in Romania is quite low about 1.47 children born per couple, which of course will be steadily declining because the income of couples and especially government

subsidies for the needs of these couples or even from the European Union are insignificant in the conditions given by this crisis.

We must not omit the fact that period in which they will act in conjunction with the health crisis with the financial-economic one, the effects on the preoccupations of the couples to have more heirs will be reduced. This would not be a particular problem and especially a negative one, if we did not take into account that the population from two or even three continents (Africa, Asia and South America) would not follow the opposite way, there is an increase or at least the maintenance high fertility of women.

We can point out that at present the population of the globe is around 7.6 billion inhabitants with the tendency to increase to about 10 billion inhabitants in 2050 and this mainly due to the increase in fertility in couples in countries located on the continents on which I remembered. The level and outlook for real net income worldwide is declining due primarily to depleting resources and secondly to the fact that too few substitutes are emerging.

In this article, the authors have analysed in turn the birth rate, the level of deaths, the natural increase of the population, marriage and divorce, indicators that give essence, when we discuss this topic, to the natural movement of the population.

We do not go into details about the population that is now in Romania, especially as a result of this coronavirus crisis, because they greatly complicate the situation, as the number of unemployed population increases massively, the number of unemployed increases, jobs decrease, series of social problems that can hardly be solved and maybe, unfortunately and controlled.

The article used statistical methods to highlight the concrete evolution that took place in Romania in the first quarter and especially in February and March, months in which the prospect of triggering the health crisis was foreshadowed, accepted or not accepted. The graphs suggestively reflect the evolution of the population during this time period.

Keywords: crisis, population, fertility, born alive, deaths, weddings, divorces.

JEL classification: C10, J10

Introduction

In this article we followed the evolution of the population in Romania in 2019 and the first three months of 2020. After clarifying the methodological issues to be considered, summarizing the general methodology used by the National Institute of Statistics, in accordance with a methodology used by Eurostat, we have sought to clarify the content of the indicators we refer to in this article.

Of course, the evolution of the population is measured by a series of indicators that we have expressed through concrete data series, which give essence on the evolution in this one-year period and then in the three-month period of 2020.

The authors analyse the evolution of the born alive indicator, the number of deaths, thus calculating the natural increase of the population, stillbirth as the difference between born alive and deceased, the number of marriages, building couples, the phenomenon of divorce and last but not least the deceased one year or infant mortality. These indicators are analysed one by one, especially the first two births and deaths, which give monthly losses of between 1,339 people and up to 10,330 people registered each month.

The authors note the almost continuous decrease in birth rates with small fluctuations and the maintenance of a high rate of deaths, which have an effect on the natural increase of the population. An analysis was also attempted using the same indicators during January-March 2020, finding that in the chapter of born alive we register decreases, in deaths an oscillating evolution, and in the natural increase significant decreases, especially in March.

Marriage and divorce are two other indicators that have been taken into account, because regardless of the theory underlying the evolution of the number of people in a country we must consider these issues related to the formation and sustainability of couples, and we can talk about the evolution of the population in general.

The authors extended the analysis of the evolution of the indicator live births and deaths on the situation recorded in the first quarter of each year from 2011 to 2020. What I was saying, if we see decreases in live births every month, we record deaths , maybe not even month by month, but at the same rate increases simultaneously with the increase in stillbirth with effect on the number of the population, taking into account the higher number of deaths than those born alive.

Of course, the article is accompanied by graphs and tables precisely to accurately reflect a trend of evolution of the two indicators that give meaning to the natural evolution of a country's population and make it easily perceptible to anyone interested in studying the phenomenon.

Finally, an econometric model is applied in relation to the correlation that exists between live and deceased births with immediate effect on population change. The simple regression method is just an attempt to synthesize that based on the calculated parameters evolutions for the future period can be estimated. This must also be correlated with the effects that the health crisis will have and then the effect of the economic and financial crisis.

Literature review

Anghelache, Iacob and Grigorescu (2020) performed an analysis of the evolution of the Romanian economy, focusing on the evolution of GDP. Anghelache and Anghel (2017) conducted a study of population evolution in the EU. Anghelache, Avram, Burea and Petre (2018) analysed the correlation between population movement and labour force. Anghelache (2017) performed a complex analysis of Romania's economic and social path ten years after joining the EU, emphasizing aspects of population evolution. Bijak et al. (2007) made projections on population and labour force by 2052 for several European countries. Headey and Hodge (2009) studied the correlation between population growth and economic growth. Maestas, Mullen, and Powell (2016) focused on the impact of population aging on economic growth. Melo, Graham and Noland (2009), as well as Rossi-Hansberg and Wright (2007) analysed a number of issues regarding the urban population. Walker and Maltby (2012) referred to the EU strategy on active aging.

Some methodological clarifications

In order to facilitate the analysis and interpretation of the data and results of this article, the authors summarized some aspects of the methodology used by the National Institute of Statistics and EUROSTAT in relation to demographic indicators. Thus, the data regarding the demographic phenomena were obtained by processing the information included in the statistical bulletins of live births, deaths, marriages and divorces prepared by the municipal, city and communal town halls, together with the registration of the phenomena in the civil status documents.

By unborn child we mean the product of conception, expelled or completely extracted from the mother's body, regardless of the duration of the pregnancy and which, after this separation, shows a sign of life. The number of live births includes live births whose mothers had, at the date of birth, their domicile or habitual residence for a period of at least 12 months in Romania.

The deceased is the person whose vital functions have ceased definitively after some time has elapsed since birth. The number of deceased includes persons who had, at the date of death, their domicile or habitual residence for a period of at least 12 months in Romania.

The natural increase represents the difference between the number of live births and the number of deceased persons, in the considered reference period.

Marriage represents the union between a man and a woman, concluded in accordance with the legislation of the country, in order to establish a family

and which results in rights and obligations between the two spouses, as well as their children. The number of marriages includes the marriages of persons who were, at the date of concluding the marriage, domiciled in Romania, as well as the marriages of Romanian citizens who marry abroad and who are registered at the civil status offices in Romania.

Divorce consists in the dissolution of a legally concluded marriage, by a final decision of the court, of the civil status officer or of a notary public. The data refer to divorce proceedings for which the dissolution of the marriage was allowed. The number of divorces includes the divorces of persons who have concluded with judges, marital status or notaries public, in accordance with Law no. 202/2010, as well as the divorces of Romanian citizens who divorced abroad, transcribed in Romania.

Through the domicile of the person we record the address at which he declares that he has the main residence, entered in the identity card, as it is registered in the administrative bodies of the state.

Regular residence is the place where a person normally spends his daily rest period, regardless of temporary absences for recreation, vacations, visits to friends and relatives, business, medical treatment or religious pilgrimage. The habitual residence may be the same as the domicile or it may differ in the case of persons who choose to establish their habitual residence in a locality other than that of domicile in the country or abroad.

Data, results and discussions

The natural movement of the population in the first three months of 2020 has evolved in the approximately normal conditions that Romania presents from a demographic point of view. On the other hand, in March and probably in the second quarter April, May, June and we believe that in the same way, there is a growing discrepancy in terms of population growth. In demographic terms, population growth is called the demographic increase, which is nothing but the difference between living born alive and deceased people.

We know that fertility in Romania is quite low and from this point of view from one period of time to another we register a higher number of deaths, compared to the number of live births. From this point of view we can specify that in January, February and March of this year the demographic phenomenon generally followed the trends of previous years. This means that the number of deaths was higher in February than in January and higher in March than in February. Thus, the registered deaths experienced this trend which is registered as a negative natural increase of the population.

Considering the situation in March 2020, we specify that 11,857 live births were registered, 270 fewer live births than in February, and in February

2020 there were 12,127 live births, with 3,844 fewer than in January. Here is a downward trend in absolute numbers from one month to the next. We reiterate that this is due to the very low fertility of couples.

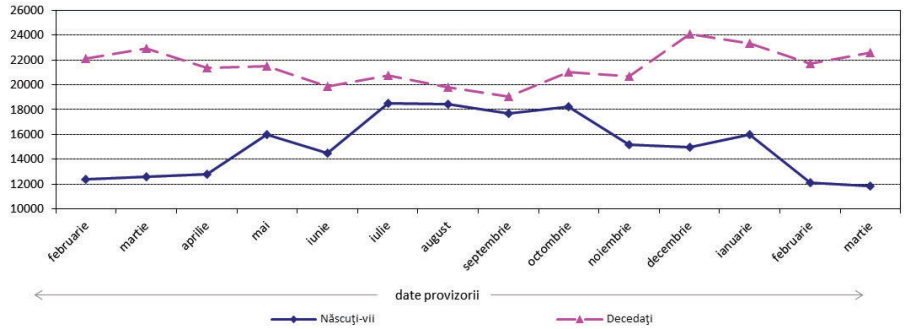
Referring to deaths, we find that in March 2020 the number was 22,591 deaths, 892 more deaths than in February, and the deaths of children under, one year were 19 children less than in February. It is natural that at a small number of births and the number of those who died in infancy under one year to register a trend of slight reduction against the background of the total reduction.

In February 2020 the registered deaths were 21,699, decreasing compared to the world in January by 1,653 people, and the number of deaths of children under, one year, found in February 2020 was 102 children increasing compared to January of the same year.

In order to reveal the registered natural increase, we make some clarifications. First of all, this increase was negative in the sense that the number of deaths was higher than the number of live births in the same period of time. Secondly, the trend is somewhat constant in the context in which in March 2020 the number of deaths was higher than the number of live births by 10,734 people, and in February 2020 the surplus of deaths compared to live births was 9,572 people. If we interpret these data in connection with the mentioned indicators registered in the same corresponding period of 2019, we will find the same thing. In graph number 1 we represented the number of born alive and deaths between February 2019 and March 2020, over a period of twelve months.

Evolution of the number of born alive and deaths in the period February 2019 - March 2020

Graph 1

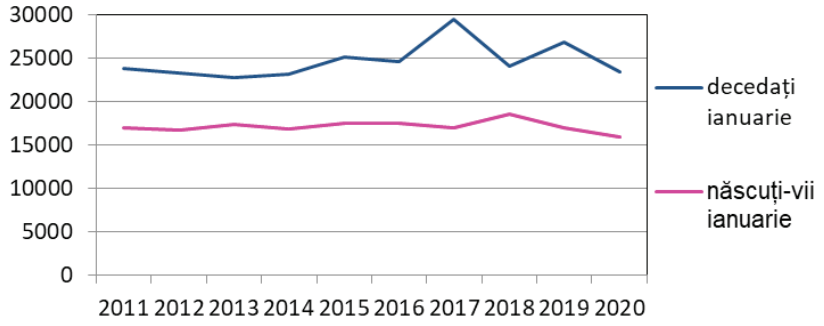


Source: INS communicated no. 121 / 11.05.2020

It is found that this birth curve followed a slight upward trend, being slightly capped between July and October, followed by a significant decrease. The natural increase was found by comparing deaths with births. Also, in graphs two - four we followed the evolution of the number of born alive and deaths in the three months of 2020, but compared to the same interval of three months over a period between 2011 and 2020.

Evolution of the number of born alive and deaths in January 2011 - 2020

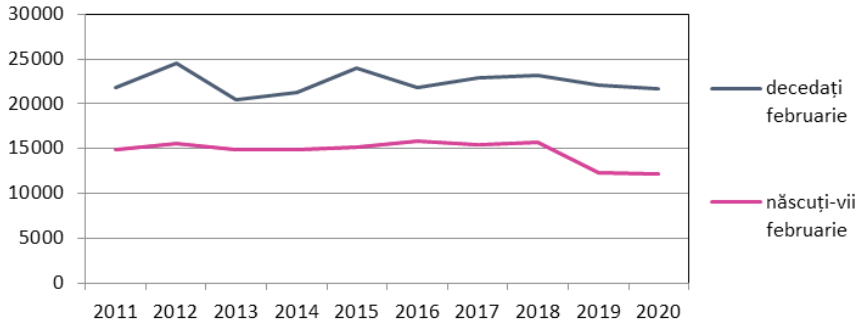
Graph 2



Source: INS communicated no. 121 / 11.05.2020

Evolution of the number of born alive and deaths in February 2011 - 2020

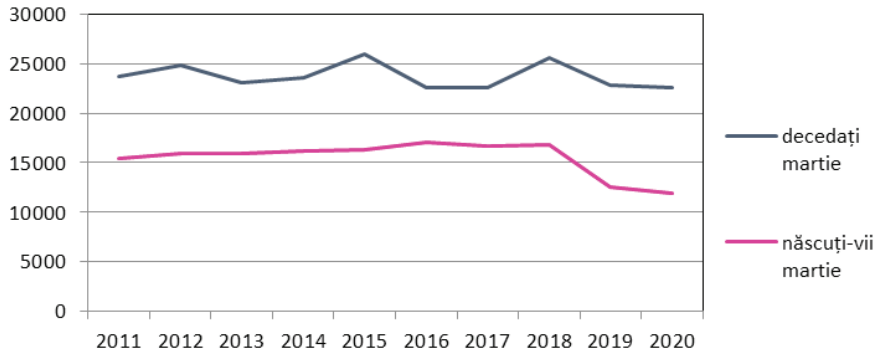
Graph 3



Source: INS communicated no. 121 / 11.05.2020

Evolution of the number of born alive and deaths in March 2011 - 2020

Graph 4



Source: INS communicated no. 121 / 11.05.2020

Monthly records (January, February and March) show that the number of born alive has a declining trend and the number of deaths a slightly upward trend, with a small decrease in the first three months of 2020.

Here we need to make another clarification to clarify some comments that are made in Romania in connection with deaths due to COVID 19 (coronavirus) infection. We specified that in the first three months of 2020, a period in which there were no deaths due to COVID 19, it results that approximately 66-67 thousand people died in Romania. In March, when Romania entered a state of emergency, the number of deaths due to COVID 19 is counted on the fingers of one hand. Extrapolating between April, May and June, the second quarter of 2020, we will find that the number (the data are provisional resulting from the comparison with the similar period in 2019) remains about the same in total number of deaths, there is an increase until we are writing this article (May 20, 2020) to about 1,150 people. This figure compared to the total number of deaths in Romania or the total number of the Romanian population shows that it is not a frightening percentage, especially in the context in which the 1,150 had other major diseases that gave them a difficult prospect of sustaining life, but as they were also combined with COVID deaths 19, it may be an element of analysis. We made this statement because, without being specialists in this issue of health and infectious diseases, it turns out that the greatest danger posed by coronavirus is that of extraordinary spread and implantation over time. This is not an alarm signal, but only a finding that can lead to the stabilization of the mood and the encouragement of compliance with the measures that are in place without increasing the level of alarm indefinitely.

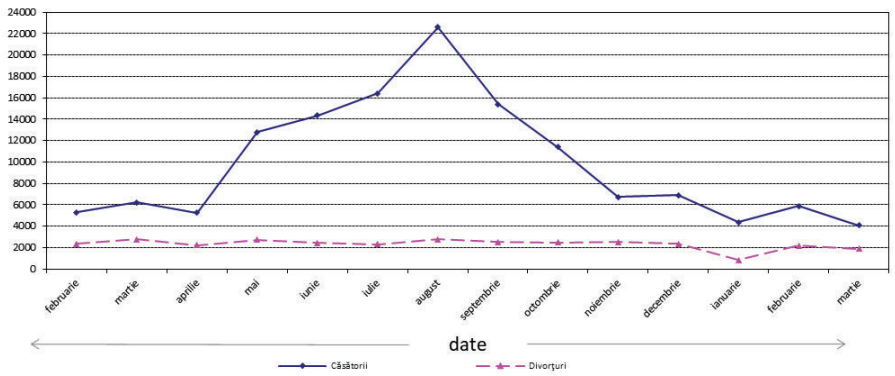
Returning to the data we submitted to the discussion and we will find that two other indicators, namely marriage and divorce have a similar trend over the past years. Thus, in March 2020, 4,053 marriages were registered 1,811 less than in February 2020, when the number of marriages was 5,864 more than 1,508 married couples than in January 2020. This indicator showed marked an oscillating trend depending on the conditions in which couples were made, which lead to the conclusion that the trend is continuous from one period of time to another and take into account especially the social and economic conditions, which led to a tempering of marriages.

Regarding the number of divorces pronounced by final court decisions under Law 202 of 2010, it was 1,889 in March, 295 less than in February 2020, and in February 2020 divorce followed an increasing trend being 2,184 marriages 1,348 more than in January 2020.

This evolution of nuptials and divorce is expressed in chart number 5, which shows that divorce followed an approximately identical course, month by month from February 2019 to March 2020, while nuptials have been steadily increasing since April 2019 until August 2020, followed by a decreasing train with a special emphasis from November to March 2020.

Evolution of the number of marriages and divorces in the period February 2019 - March 2020

Graph 5



Source: INS communicated no. 121 / 11.05.2020

Another analysis that we wanted to do and present the results refers to the way in which the indicators of birth rate, mortality and natural increase evolved in February and March 2020, compared to the same months in 2019.

From the point of view of the number of born alive, it results that it was 702 people lower in March 2020 compared to March 2019 and 247 lower in February 2020 compared to February 2019.

The second demographic indicator is that of the deceased, which in March 2020, was 298 lower than in March 2019 and with 411 lower deaths in February 2020 compared to February 2019.

However, the natural increase remained negative, month by month, in March and February 2020 compared to March and February 2019. We find that the age of children under, one year was 21 times lower in March 2020 compared to the corresponding period in 2019, but 19 higher in February 2020 compared to February 2019.

In the same terms, we can perform the analysis of the two indicators nuptiality and divorce (indicators that show the stability of the family in Romania). Thus, it results that compared to the same period, respectively March and February of 2020, compared to March and February 2019, marriages decreased in March by 2,170 compared to the same period of 2019, but in February it was 577 higher than the one recorded in February 2019. Here too we find a certain oscillation and we can attribute to the seasonal nature of the birth of children knowing that usually in the current conditions of medicine couples aim to have births at a time when the weather is slightly better.

Regarding divorce, it results that in March 2020 there were 877 fewer divorces than in March 2019, while in February 2020 there were 176 fewer divorces than in the corresponding month of 2019.

The demographic phenomenon can also be characterized in the context of the pandemic, which must be taken into account in the sense of changing these demographic indicators. It is possible that marriage and divorce will continue to decline due to the socio-economic situation of families, especially the poor who have special problems and do not schedule or stop their births. Here is a picture that cannot be interpreted with reference to COVID 19, but which suggests the trend of the evolution of these demographic indicators in the next period.

Considering the natural movement of the population in Romania in table number 1 we find recorded all the data referring to live births, deceased, natural increase, marriages, divorces, deceased under one year during the entire year 2019 from January to December.

Evolution of born alive, deaths, natural increase, marriages, divorces and deaths under one year in 2019

Table 1

Year 2019 Month	Born alive	Deceased	Increase natural	Marriages	Divorces	Deceased under 1 year
January	16969	26836	-9867	5270	896	104
February	12374	22110	-9736	5287	2360	83
March	12559	22889	-10330	6223	2766	104
April	12791	21351	-8560	5259	2213	104
May	15992	21503	-5511	12789	2714	89
June	14506	19871	-5365	14338	2431	105
July	18523	20765	-2242	16392	2284	112
August	18408	19776	-1368	22617	2770	107
September	17707	19046	-1339	15394	2503	84
October	18230	21010	-2780	11384	2477	97
November	15171	20696	-5525	6739	2525	72
December	14959	24083	-9124	6901	2355	94

Source: INS communicated no. 121 / 11.05.2020

We find that the number of born alive has followed an oscillating trend, but with decreases. The number of deaths followed a somewhat similar trend, and the natural increase was negative every month. We can also interpret the number of marriages in which, from May to October, we see an increasing number of marriages, as long as the divorce is maintained at an approximately constant rate throughout this period.

In order to highlight the evolution of these indicators, we presented a table of the year 2020, for the first three months, in order to be able to ascertain suggestively the evolution of this indicator. Table 2 contains these data.

Evolution of born alive, deaths, natural increase, marriages, divorces and deaths under one year in the first quarter of 2020

Table 2

Year 2020 Month	Born alive	Deceased	Increase natural	Marriages	Divorces	Deceased under 1 year
January	15971	23352	-7381	4356	836	91
February	12127	21699	-9572	5864	2184	102
March	11857	22591	-10734	4053	1889	83

Source: INS communicated no. 121 / 11.05.2020

We extended the analysis of these indicators born alive and deceased in the period 2011 to 2020, taking into account only the three months. Based on these indicators that reveal the evolution of births in the analysed period, either monthly or quarterly, summing the data for both deceased and live births we can perform an analysis based on the statistical-econometric model of simple linear regression. The parameters are those that will be used to

estimate the evolutionary perspective of the natural increase of the population, compared to births and deaths.

We can perform two analyses using the simple linear regression model, the natural increase as a result of the birth factor and the natural increase compared to the number of deaths. The results will show that the number of births has always been lower than deaths, which shows that the birth rate is a factor in stopping the natural increase, and deaths are a factor in the negative increase in natural growth. Thus, the data on the indicators under analysis are structured in table number 3.

Evolution of born alive, deaths and natural increase in the period 2011-2020

Table 3

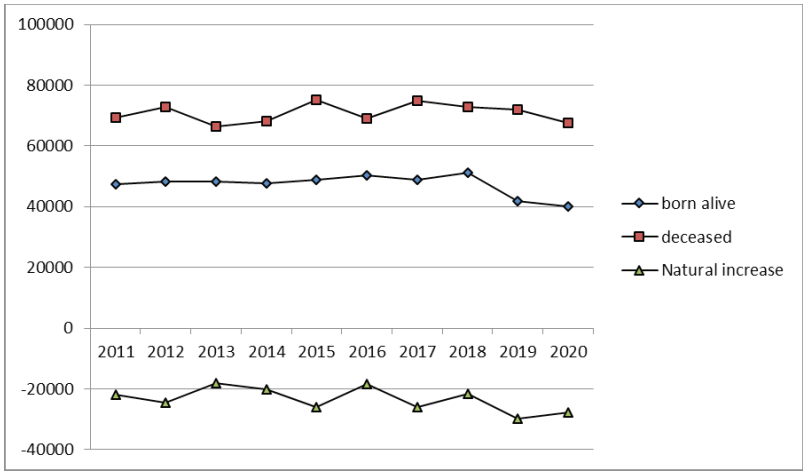
Year	Born alive	Deceased	Natural increase
2011	47363	69323	-21960
2012	48190	72804	-24614
2013	48224	66302	-18078
2014	47837	68058	-20221
2015	48931	75066	-26135
2016	50409	68933	-18524
2017	49008	74946	-25938
2018	51064	72797	-21733
2019	41902	71835	-29933
2020	39955	67642	-27687

Source: INS communicated no. 121 / 11.05.2020 (data processed by authors)

For a better visualization of the evolutions of the analysed indicators, based on the data structured in table number 3, graph number 6 was drawn up.

Evolution of born alive, deaths and natural increase in 2011-2020

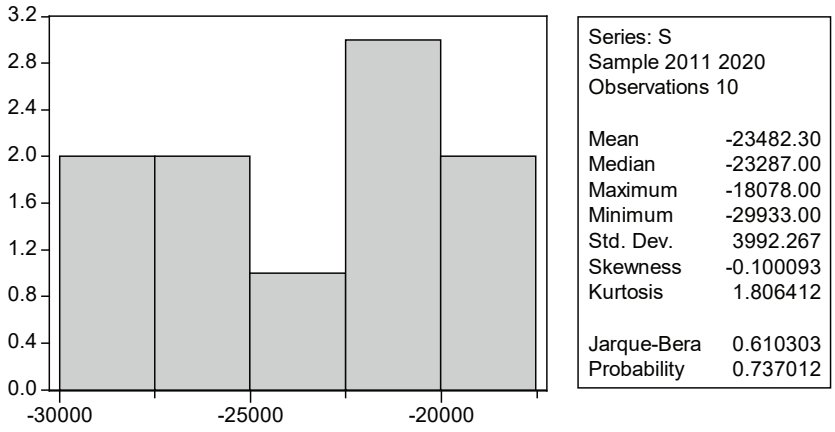
Chart 6



We find that the evolution of the number of born alive has been relatively constant in the period 2011-2018 with a sharp decrease from 2018 to the present. At the same time, the evolution of the number of deaths fluctuated during the period under analysis. Also, the natural increase had an oscillating evolution with negative values. In order to highlight these evolutions in graph number 7 the histogram of the evolution of the natural increase is presented.

Histogram of the evolution of the natural increase

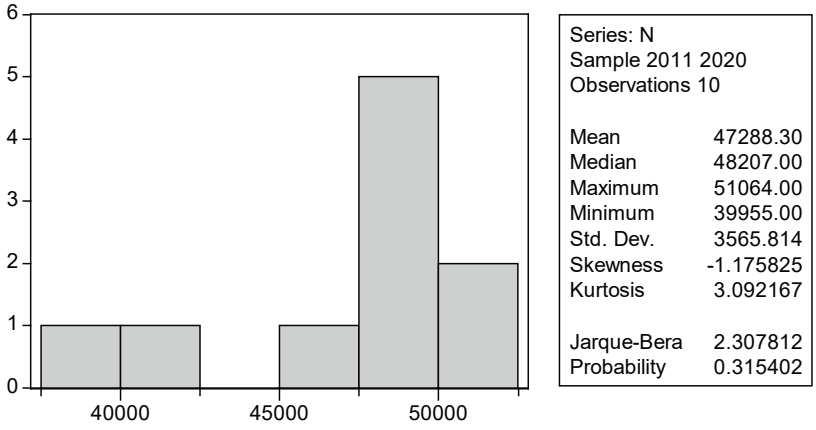
Graph 7



The histogram of the evolution of the natural increase presented in graph number 7 shows that the distribution is slightly slower due to the value of 1.80 of the Kurtosis test which is less than 3 and is quite symmetrical according to the Skewness test. The following graph shows the histogram of the evolution of live births.

Histogram of the evolution of live births

Graph 8

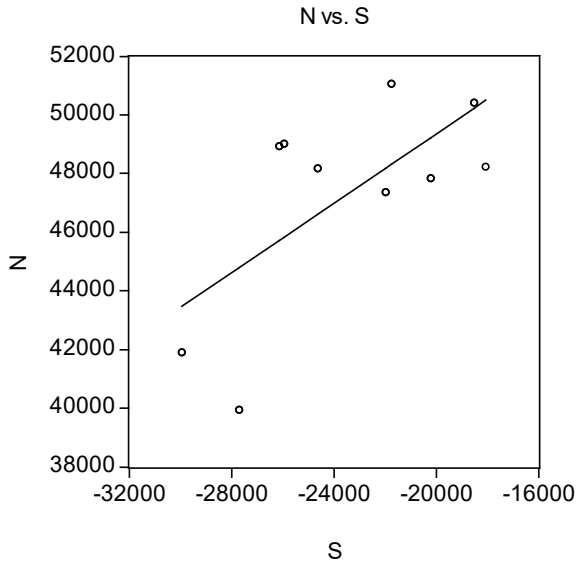


The histogram of the evolution of the number of live births presented in graph number 8 shows that the distribution is accelerated due to the value of 3.09 of the Kurtosis test which is higher than 3 and at the same time is not perfectly symmetrical according to the Skewness test, whose value is -1.17. What is noteworthy is that the minimum of 39,955 live births was registered in the first quarter of 2020 and shows a sharp decrease given the difference between this value and the average of 47,288 correlated with the difference between the average and the maximum of 51,064 live births recorded in the first quarter of 2018.

Next, the graph number 9 was generated, which highlights the correlation that exists between the two indicators under analysis (natural increase and the number of live births).

Correlation between natural increase and the number of born alive

Graph 9



Graph number 9 shows that the point cloud related to the values recorded by the two indicators describes a straight line, which allows us to perform a statistical-econometric analysis, using a simple linear regression model, of the form:

$$S = a + b \cdot N + \varepsilon \tag{1}$$

where: S is the dependent variable;
N is the independent variable;
a and b are the regression parameters;
ε represents the residual variable.

For estimating parameters $\hat{a}$ and $\hat{b}$ and testing the significance of the model using the least squares method. The EViews statistical-econometric analysis program was used as a calculation support, and the results are presented in figure number 1.

The results of the analysis of the dependence of the natural increase on the evolution of the number of live births

Figure 1

Dependent Variable: S
Method: Least Squares
Sample: 2011 2020
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-58613.95	14039.38	-4.174966	0.0031
N	0.742925	0.296132	2.508759	0.0364
R-squared	0.440320	Mean dependent var		-23482.30
Adjusted R-squared	0.370360	S.D. dependent var		3992.267
S.E. of regression	3167.860	Akaike info criterion		19.13636
Sum squared resid	80282674	Schwarz criterion		19.19687
Log likelihood	-93.68178	F-statistic		6.293872
Durbin-Watson stat	2.585179	Prob(F-statistic)		0.036441

The simple linear regression model is confirmed by significantly non-zero values of the coefficients, which can be identified in the second column (Coefficient column), positions 1 and 2. The statistical tests (F-statistical and t-Statistic) also confirm and they the validity of the model due to the values clearly superior to the tabulated ones. In other words, the value of R-squared of 0.44 indicates the existence of other factors that influence the evolution of natural growth.

The theoretical values of the resultant characteristic, is given by the relation:

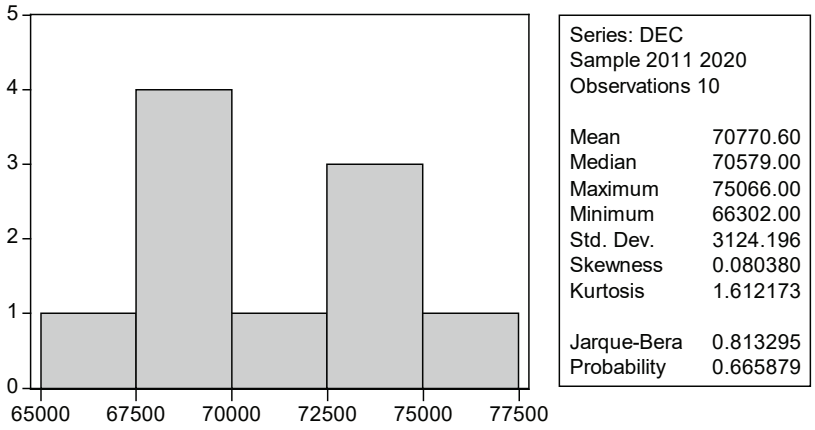
$$\hat{S} = -58613.95 + 0.742925 \cdot \hat{N} + \varepsilon \quad (2)$$

The existence of other factors is also confirmed by the high value of the free term coefficient of -58613.95. In the same vein, the minus sign indicates the negative influence of the other factors not taken into account on the resultant characteristic, namely the natural increase.

Next, the authors considered it useful to analyse the extent to which the death factor influences the evolution of natural growth. Thus, in graph number 10 is presented the histogram of the evolution of deaths.

Histogram of the evolution of deaths

Graph 10

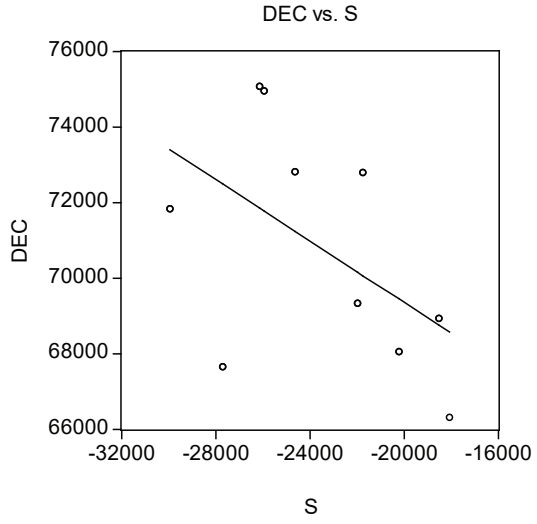


The histogram of the evolution of the number of deaths in Romania in the period between 2011 and 2020 presented in graph number 10 shows that the distribution is slightly slower due to the value of 1.61 of the Kurtosis test which is less than 3 and at the same time is quite symmetric according to the Skewness test, whose value is close to zero.

Graph number 11 shows the correlation that exists between the two indicators under analysis (natural increase and the number of deaths).

Correlation between natural increase and number of deaths

Graph 11



Graph number 11 shows that the point cloud corresponding to the values recorded by the two indicators describes a line, which allows us to perform a statistical-econometric analysis, using a simple linear regression model, of the form:

$$S = a + b \cdot DEC + \varepsilon \quad (3)$$

where: S is the dependent variable;
DEC is the independent variable;
a and b are the regression parameters;
ε represents the residual variable.

For estimating parameters $\hat{a}$ and $\hat{b}$ and testing the significance of the model using the least squares method. The EViews statistical-econometric analysis program was used as a calculation support, and the results are presented in figure number 2.

The results of the analysis of the dependence of the natural increase on the evolution of the number of deaths

Figure 2

Dependent Variable: S
Method: Least Squares
Sample: 2011 2020
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	23588.01	27325.00	0.863239	0.4131
DEC	-0.665111	0.385768	-1.724120	0.1230
R-squared	0.270910	Mean dependent var		-23482.30
Adjusted R-squared	0.179774	S.D. dependent var		3992.267
S.E. of regression	3615.649	Akaike info criterion		19.40079
Sum squared resid	1.05E+08	Schwarz criterion		19.46130
Log likelihood	-95.00393	F-statistic		2.972589
Durbin-Watson stat	1.126391	Prob(F-statistic)		0.122975

Interpreting the results structured in figure number 2 we also find a strong influence of other factors that were not taken into account, due to the value of 0.27 of R-squared, which is closer to zero than the unit value. In the same vein, the minus sign of the coefficient of the factorial variable is expected due to the inverse relationship that exists between the evolution of the natural increase and deaths.

The error resulting from the values recorded in the last column (Prob.) positions 1 and 2 is also based on the rather small number of observations according to the data, collected from the National Institute of Statistics, which was available for analysis.

Conclusions

The data based on the study on the natural movement of the population in Romania gave the authors the opportunity to address a significant number of issues related to this phenomenon, which has an immediate effect on increasing the population, establishing living conditions, correlated with the effects of crisis phenomena such as those we are currently experiencing (health crisis and economic and financial crisis), so that an opinion can be expressed on the quality of life in Romania in the next period.

From the study carried out in this context, a series of theoretical and especially practical conclusions can be drawn. From a theoretical point of view, the conclusion is very clear that the socio-economic factors in a country determine directly but also indirectly the evolution of the population in that country. This is manifested in the case of Romania by reducing the number of born alive, compared to the number of deaths at the same time.

It is clear that due to the reduction of incomes in view of the decrease in the number of jobs, the impossibility of increasing the real incomes of the population (we must keep in mind that nominal incomes are affected by the growth rate) we can reach the possibility of estimating future negative developments.

Another conclusion is that in the concrete and prospected conditions in the future, in Romania the birth rate will decrease. The birth rate will negatively influence the number of inhabitants in the context in which, previous contingents that we find in the age pyramid will reach, taking into account the average life expectancy increase. From this point of view, the Romanian population will follow a decreasing trend.

If we would like to make an extrapolation based on the arithmetic relation that the evolution of the population registers, we could come to the conclusion that in the next period this process of population reduction will be accentuated. Going to the study of the correlation between the active population, the employed population, the unemployed population, the number of employees and the unemployed, we come to another conclusion, namely that, although the number of the population decreases, paradoxically, the possibility of employment work is also reduced.

Of course, a normal element that leads to a reduction in the employed population would be technological progress, which is a positive factor for any nation. However, not only the technological, robotization of industrial activities and other fields of activity leads to this stoppage, but especially the impossibility of placing investments to ensure the increase of the number of jobs and thus the absorption of a significant number of the unemployed population, whether he is unemployed or not. There is also a somewhat

unpleasant situation regarding the external movement of the population in the sense that, in the absence of acceptable employment conditions in Romania, we face the exodus of the population who emigrate and work in other states.

One last conclusion is that without national programs, without programs at European Union level, although directives are sufficient, we cannot ensure decent conditions in every country of the European Union and consequently in Romania at least, but also in other European countries that are faces approximately the same evolutionary trends, the population will decrease.

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