

DOI: 10.5281/zenodo.5535967

HETEROGENEOUS SOCIO-ECONOMIC EFFECTS OF COVID-19. SOCIO-ECONOMIC IMPACT OF THE PANDEMIC CRISIS IN ROMANIA

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Abstract: *The crisis caused by coronavirus will certainly generate a multitude of changes, forcing us, among other things, to pay more attention to what means unconventional and the new socio-economic situations produced by it. Assumed of being a global issue, the current crisis is also generating a range of expectations in terms of resolving it. Among them and the one according to which due to its global character (global crisis) the answer must be also a global one. However, the social realities invite specific interventions according to local socio-economic context, being practically related to local particularities of the crisis. All of these explain why the consequences are different from one country to another. Regarding the crisis caused by coronavirus, even if the immediate effect of pandemic has been reflected rather in changes of the people's lifestyles (social distancing, isolation, etc.), the hardest impact has been felt because of the evolution of economics. The coronavirus pandemic has shaken up the world's largest economies. The impact of the coronavirus pandemic on world GDP growth is huge and probably the recession is the biggest since the end of World War II. Economies have contracted and have generated a wide range of problems: declining incomes, poverty, social inequalities, social polarization, social exclusion. All of these are considered as having a significant impact on the quality of life and wellbeing of an individual. This article seeks to make a brief assessment of the socio-economic impact of the coronavirus pandemic in Romania. Some important indicators that influence the standard of living of Romanians have already changed.*

Keywords: *AIC, COVAX, Covid-19, employment rate, GDP, GDP per capita, gender gap, life expectancy at birth, price dispersion, relative volume of consumption, social distancing, social exclusion, social inequalities, well-being*

JEL Classification: *A14, E 21, E24, E31, Z13*

1. General context

From a chronological perspective, the landmark that establishes the onset of the virus could be conventionally set in December 2019, the date of the coronavirus disease outbreak in the Wuhan region (China), which spread rapidly to the other areas of China and the world.

Official recognition by the WHO of the global Covid-19 pandemic (on March 11, 2020) has triggered in most democracies of the world launching of two types of public policy responses: supporting health systems (having the goal of stopping the spread of Covid-19) and adopting of measures to counteract the socio-economic impact of it.

On the one hand, within a paradigm that describes the belief that the solution to a global pandemic must also be a global one, the attention of the world's states has been focused on coordinating the global response to Covid-19. In this context, everybody was committing to collaborate aimed at:

- Joint coordination of efforts on public health measures (ensuring that every country will have access to vaccines against Covid-19, including the poorest);
- Cooperation in the field of science, research and technology;
- Joint coordination of efforts in global trade and in the investment;
- Cooperation on measures to restore confidence, relaunch economic growth and protect jobs.

That's how it's explained setting up the COVAX, result of a global initiative launched in April 2020 by the WHO, European Commission and France, aimed at equitable access to vaccines against COVID-19 (the initiative is led by GAVI - World Vaccine Alliance and Innovation Coalition):

- Considered one of the three pillars of “accelerator of access to COVID-19 instruments”, COVAX coordinates international resources made available by a multitude of states and donors;
- Part of a global response (access of all states to vaccines against Covid-19), EU-27 is one of the largest donors of COVAX;
- EU-27 make it easier for equitable and universal access to an efficient vaccine against COVID-19 for millions of people in Africa, Asia, the Caribbean, the Pacific, but also in Europe's eastern and southern neighborhood.

In fact, on 8 April 2020, EU-27 has launched the “Team Europe” initiative mobilizing a budget of around € 40.5 billion, that combined resources from the EU Member's States and financial institutions, in particular the EIB and EBRD:

- The objective of the initiative is limited to support partner states in addressing the urgent response to humanitarian needs, strengthening health systems, mitigating socio-economic consequences;
- As part of this type of response of “Europe Team” could be considered the support of EU provides by stimulating investment in Africa and the vicinity of the European space (investments of about € 10 billion are expected) and that given to the health systems of partners EU from the Association of Southeast Asian Nations (ASEAN).

On the other hand, EU-27 wide management of crisis caused by Covid-19 imposed a lot of economic and social measures, strictly in the European space. The main types of responses, by areas of action were:

a. Ensuring safe and effective vaccines in the EU:

- Ensuring the supply of doses and vaccines and supporting vaccination in all EU Member States;
- Anticipating threats of new virus variants;
- Accelerate the manufacturing process of Covid-19 vaccine;
- Supporting (funding) research in the field.

b. Economic measures – 1.800 billion EUR recovery package (combines the EU budget for 2021-2027 with the NextGenerationEU).

2. The socio-economic impact of the Coronavirus pandemic in Romania

The whole world has entered into a crisis whose consequences are still difficult to predict. It remains of seeing how will be the Postpandemic future of life or of interpersonal relationships. Or if pandemic has redefined concepts like happiness or life satisfaction. Or individual well-being and quality of life. Almost all of them represent huge challenges for sociological research.

What are the effects of crisis in every country? How big are these effects? The EU-27 area labour market has been severely hit by the coronavirus. The coronavirus pandemic led to the sharpest contraction on record in employment. How big is this effect? Incomes falled and prices jumped. How has the pandemic financially affected every person or every household? Why the global economy is recovering faster than expected? Will the Recovery plan for the Europe make EU-27 more resilient?

Even we do not have data yet to build a relevant picture of socio-economic impact of the pandemic crisis it’s worth emphasizing the changing of some values of important indicators that could influence the quality of life.

The present analysis is an attempt to address these issues focusing on analyse of those indicators that already signal possible changes due of the current coronavirus crisis.

a. Most of EU-27 countries have experienced declining GDPs in 2020

Gross Domestic Product is the most important unit of measurement for the overall size of an economy, while derived indicators such as GDP per capita are known as tools for comparing living standards or monitoring the process of economic convergence or divergence economic development in the European Union (EU).

From this perspective, it is known that the EU-27 economy recorded a consecutive annual growth for six years (2014-2019), achieving a significant recovery after the global financial and economic crisis in 2009.

The coronavirus crisis constituted a challenge for the European economy and the livelihoods. But what happened of the EU-27 economy in 2020? How has GDP been affected by coronavirus?

If we can agree that the pandemic produced a shock that affected the entire planet (and consequently the entire European space), the same cannot be said about its economic impact, which was heterogeneous within the EU-27.

We already know that according to data already presented by Eurostat, **the EU economy has contracted in 2020 by -6.1%**, the annual decline being higher for the euro area (-6.5%):

- After six consecutive annual increases, in 2020 the EU economy recorded its first fall in Investment;
- Most of EU-27 countries have experienced declining GDPs;
- Ireland's economy was the only one to grow in the EU last year; Ireland's economy grew by +3,4% (according to the European Commission the Ireland's economy was supported by „exports from multinational companies specialising in medical equipment, pharmaceuticals and computer services”;
- The countries that recorded the least negative impact on GDP in 2020 were Lithuania (-0,9%), Luxembourg (-1,3%), Poland (-2,7%), Denmark (-2,7%), Finland (-2,8%), Sweden (-2,8%) and Estonia (-2,9%);
- The countries that recorded the biggest negative impact on GDP in 2020 were Spain (-10,8%), Italy (-8,9%), Greece (-8,2%) , Croatia (-8%) and France (-7,9%);
- According to National Institute of Statistics, **Romania's GDP decreased by -3.9% in 2020 compared to 2019.**

Table 1. Real GDP rate of change, 2014-2020
(% change compared with the previous year)

	2014	2015	2016	2017	2018	2019	2020
EU-27	+1,6	+2,3	+2,0	+2,8	+2,1	+1,6	-6,1
IRELAND	+8,6	+25,2	+2,0	+9,1	+8,5	+5,6	+3,4
LITHUANIA	+3,5	+2,0	+2,5	+4,3	+3,9	+4,3	-0,9
LUXEMBOURG	+4,3	+4,3	+4,6	+1,8	+3,1	+2,3	-1,3
POLAND	+3,4	+4,2	+3,1	+4,8	+5,4	+4,7	-2,7
DANEMARK	+1,6	+2,3	+3,2	+2,8	+2,2	+2,8	-2,7
FINLAND	-0,4	+0,5	+2,8	+3,2	+1,3	+1,3	-2,8
SWEDEN	+2,7	+4,5	+2,1	+2,6	+2,0	+2,0	-2,8
ESTONIA	+3,0	+1,8	+3,2	+5,5	+4,4	+5,0	-2,9
ROMANIA	+3,6	3,0	+4,7	+7,3	+4,5	+4,1	-3,9
SPAIN	+1,4	+3,8	+3,0	+3,0	+2,4	+2,0	-10,8
ITALY	0,0	+0,8	+1,3	+1,7	+0,9	+0,3	-8,9
GREECE	+0,7	-0,4	-0,5	+1,3	+1,6	+1,9	-8,2
CROATIA	-0,3	+2,4	+3,5	+3,4	+2,8	+2,9	-8,0
FRANCE	+1,0	+1,1	+1,1	+2,3	+1,9	+1,8	-7,9

Source: ec.europa.eu/eurostat/statistic-explained/images/9/91/Real_GDP_rate_of_change%2C_2005-2020_NA2021.png

Many economic analysts appreciate that all EU-27 Member States are forecast to return to economic growth in 2021. If on compared with the same quarter of the previous year, GDP decreased by -1,3% in the first quarter of 2021 (after -4,3% in the previous quarter):

- Countries that recorded the biggest GDP increase in the first quarter of the 2021 compared with the same quarter of the previous year were Ireland (+9,9%), Estonia (+5,0%) and Luxembourg (+4,9%);
- Countries that recorded the least GDP increase in the first quarter of the 2021 compared with the same quarter of the previous year in the first quarter of the 2021 were Portugal (-5,3%), Austria (-4,5%) and Spain (-4,2%);

b. The average GDP per capita decreased in 2020 in UE-27 by -6% compared the previous year¹

Excluding Ireland (+ 4.7%), GDP per capita decreased in all EU-27 countries. There is still a sharp dispersion of GDP per capita within the EU, Luxembourg was obtaining in 2020 the highest per capita income (81,290 EUR) even if it records a decrease of -2.8% compared the previous year:

- On the one hand, countries that recorded the highest decrease in GDP per capita compared the previous year were Spain (-11.3%), Malta (-10.3%), Italy (-8.4%), Greece (-8, 1%) and France (-8.1%);
- On the other hand, countries that recorded the smallest decreases in GDP per capita compared the previous year were Lithuania (-0.9%), Denmark (-2.3%), Poland (-2.6%), Luxembourg (-2.8 %), Finland (-3%) and Latvia (-3%);
- According to the Eurostat data, **Romania registered in 2020 a decrease of -3,6% of GDP per capita compared to 2019.**

c. There is a slight increase in prices in 2020, compared to the European average

The Actual Individual Consumption (AIC) is the main indicator which describe the material welfare of households. According to Eurostat data levels of AIC per capita are more homogeneous than GDP but „still there are substantial differences across the EU Member States”:

- On 9 of the EU-27 states AIC decreased, in one has remained it at the same value, while in the other 17 it has had a slight increase;
- Luxembourg remained the country that recorded highest level of AIC per capita at 31% above the EU average;
- Luxembourg is followed by the Germany and Denmark that recorded an AIC per capita at 23% and 21% above the EU average;
- **Compared to previous year, Romania recorded an increase in AIC of 1% (from 78% to 79% of the European average);**
- As regards the price level in EU-27, only for AIC, price dispersion is less pronounced in the euro area than in the EU as a whole;
- There is a slight increase in prices in 2020, compared to the European average, especially in the euro area (Sweden + 7.3%, Luxembourg + 5.5%, Finland + 2.1%);

1 The indicator is calculated as the ratio of real GDP to the average population of a specific year. GDP measures the value of total final output of goods and services produced by an economy within a certain period of time. It includes goods and services that have markets (or which could have markets) and products which are produced by general government and non-profit institutions. It is a measure of economic activity and is also used as a proxy for the development in a country's material living standards. However, it is a limited measure of economic welfare. For example, neither does GDP include most unpaid household work nor does GDP take account of negative effects of economic activity, like environmental degradation.

- Luxembourg registered the highest price levels among the Member States (+53%);
- On the one hand, Denmark, Sweden, Ireland and Finland registered price levels more than 20% above the EU average (Austria, The Netherlands, Belgium, France, Germany and Italy registered price levels above the EU average);
- On the other hand, Spain and Cyprus registered a price level at less than 10% below the EU average (Malta, Portugal, Slovenia, Greece, Estonia, Slovakia registered a price level at less than 20% below the EU average);
- **Romania registered the least price level across the EU – 49% of the EU average.**

d. The majority EU Member States registered lower employment rate in 2020

The health crisis caused by the Covid-19 pandemic has had an impact on employment in the EU-27:

- According to Eurostat data the employed rate in the EU-27 population kept on growing from one quarter to the next since 2013 to 2020;
- The majority EU Member States recorded a lower employment rate in the fourth Quarter (Q4) of 2020 compared to the fourth Quarter (Q4) of 2019 (23 out of 27);
- There were states that registered an employment rate which decreased by more than -3% between the first and the second quarter of 2020 - Spain (-4,5%), Ireland (-4%), Estonia (-3,3%);
- Practically, from Q1 to Q2 of 2020 the employment rate increased only in Luxembourg (+0,2%);
- According to Eurostat data at the end of 2019, there were more 227.4 million people employed in the European Union and United Kingdom, but in the first half of 2020 this number dropping by six million;
 - In Romania the employment rate decreased 2,5%, from 71,9% in Q1 to 69,4% in Q2 of 2020;
- From the first quarter of 2020 to the second quarter of 2020 the share of people in employment **went down in EU-27 from 73,2% to 71,7%**;
 - According to Eurostat data from the third to the fourth quarter of 2020 the employment rate increased in 18 out of 27 EU States;
 - The largest increases registered by the Luxembourg (+2,1%) and Estonia (+1,2%), while the employment rate remained stable in Germany, Malta, Czechia and Slovenia;

- The employment rate slightly decreased in Hungary, Cyprus, Austria, Belgium and Slovakia with drops between - 0,3% an -0,1%;
- Only Poland (+0,9%), Luxembourg (+0,6%), Malta (+0,5%) and Greece (+0,1%) recovered or exceeded their fourth-quarter 2019 level in the fourth quarter of 2020;
- **In Romania the employment rate increased by 1%, from 70,4% in Q3 to 71,4% in Q4 of 2020;**

Table 2. Employment and activity by sex and age – quartely data (%)

	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1
EU-27	73,2	73,1	73,3	73,2	71,7	72,3	72,7	71,9
SPAIN	68,0	67,9	68,3	68,1	63,6	65,2	66,0	66,6
IRELAND	74,8	74,9	75,5	75,5	71,5	72,9	73,6	71,4
ESTONIA	79,5	80,0	81,1	80,8	77,5	77,8	79,1	79,4
LUXEMBOURG	73,1	72,6	73,1	71,4	71,8	71,7	73,6	72,9
HUNGARY	75,3	75,1	75,3	75,2	74,4	75,1	75,3	77,7
CYPRUS	76,2	75,6	75,8	75,5	75,0	74,7	74,6	73,7
AUSTRIA	76,7	76,9	76,9	76,3	74,2	75,8	75,7	74,5
BELGIUM	71,0	70,7	70,5	70,4	69,6	70,2	69,9	69,0
SLOVAKIA	73,5	73,3	73,0	73,1	72,5	72,4	72,1	72,9
ROMANIA	70,7	70,9	71,5	71,9	69,4	70,4	71,4	67,2
POLAND	73,0	73,1	73,3	73,5	72,9	73,6	74,2	74,4
MALTA	76,9	76,3	77,3	78,6	76,6	76,8	77,6	77,6
GREECE	61,3	61,3	61,4	61,4	60,3	61,4	61,5	58,3

Source: ec.europa.eu/eurostat/databrowser/view/lfsi_emp_q/default/table?lang=en

- While Sweden (98,6%) and Germany (80,0%) recorded the highest employment rate among people aged 20 to 64 in Q4 of 2020, Greece (61,4%), Italy (62,9%), Spain (66,0%) Croatia (66,9%) and Belgium (69,9%) recorded the lowest employment rates;

- In the same period (Q4 2020) **the employment gender gap in the EU-27 was 11,2%** (78,2% of men employed compared to 67,0% of women);
 - The largest differences were recorded by Italy (19,5%), **Romania (19,4%)**, Greece (18,5%) and Malta (18,0%);
- Except in Romania, the employment rate of young people (aged 15 to 24) went down in all countries of the EU-27 between Q4 of 2019 and Q4 of 2020;
 - The employment rate in EU-27 among young people decreased -2,4%, from 33,5% in Q4 of 2019 to 31,1% in Q4 of 2020;
 - The biggest rate of employment among the young people was in Q4 of 2020 in Netherlands (62,5%), Denmark (53,0%) and Austria (50,3%);
 - The lowest rate of employment among the young people was in Q4 of 2020 in Bulgaria, Spain, Italy and Greece (less than 20%);
 - The largest decreases (more than 5%) of the employment rate among young people between Q4 2019 and Q4 2020 has recorded in Poland, Portugal and Malta (all -5,4%) and Ireland (-6,3%);
- The employment rate of persons aged between 25 and 54 decreased – 0,6% (from 80,7% in Q4 2019 to 80,1% in Q4 2020 (141,2 milion people in Q4 2020));
- The employment rate of persons aged 55-64 (36,2 milion people in Q4 2020) increasad +0,5% (from 59,7% in Q4 2019 to 60,2% in Q4 2020);
- The employment rate increased by 1% in the next two quarters (72,7%, Q4 of 2020), but **decreased to 71,9% in the first quarter of 2021** (Q1 of 2021);
 - In **Romania** the employment rate **decreased 4,2%** from 71,4% in Q4 of 2020 to 67,2% in Q1 of 2021.

e. Life expectancy at birth² decreased in 2020 across the UE-27

If the official statistics reveal that life expectancy at birth has risen by more two years per decade since 1960s, after the outbreak of the Covid-19 pandemic, life expectancy at birth fell in 2020 in the majority of the EU-27 states. According to Eurostat data:

- The average of life expectancy at birth was estimated in 2019 in EU-27 at 81,3 years, that means 0,3 years higher than 2018 (84 years for women and 78,5 years for men);

² Life expectancy at a certain age is the mean additional number of years that a person of that age can expect to live, if subjected throughout the rest of his or her life to the current mortality conditions (age-specific probabilities of dying, i.e. the death rates observed for the current period)

- Between 2002 and 2019 the average of life expectancy at birth in the EU-27 increased by 3,6 years (from 77,7 to 81,3 years);
- Compared to 2019, in 2020 in most Member States the average of life expectancy at birth registered a significant decreases, with the largest decreases recorded in Spain (-1,6 years), Bulgaria (-1,5 years), Lithuania (-1,4 years), Poland (-1,4 years) and **Romania (-1,4 years)**;

Table 3. Life expectancy at birth by age and sex, 2013-2020 (years)

	2013	2014	2015	2016	2017	2018	2019	2020
EU-27	80,5	80,8	80,5	80,9	80,9	81,0	81,3	
SPAIN	83,2	83,3	83,0	83,5	83,4	83,5	84,0	82,4
BULGARIA	74,9	74,5	74,7	74,9	74,8	75,0	75,1	73,6
LITHUANIA	74,1	74,7	74,6	74,9	75,8	76,0	76,5	75,1
POLAND	77,1	77,8	77,5	78,0	77,8	77,7	78,0	76,6
ROMANIA	75,1	75,0	74,9	75,2	75,2	75,3	75,6	74,2
BELGIUM	80,7	81,4	81,1	81,5	81,6	81,7	82,1	80,9
ITALY	82,9	83,2	82,7	83,4	83,1	83,4	83,6	82,4
CZECHIA	78,3	78,9	78,7	79,1	79,1	79,1	79,3	78,3
SLOVENIA	80,5	81,2	80,9	81,2	81,2	81,5	81,6	80,6
FRANCE	82,4	82,9	82,4	82,7	82,7	82,8	83,0	82,3
LUXEMBOURG	81,9	82,3	82,4	82,7	82,1	82,3	82,7	81,8
NETHERLANDS	81,4	81,8	81,6	81,7	81,8	81,9	82,2	81,5
AUSTRIA	81,3	81,6	81,3	81,8	81,7	81,8	82,0	81,3

Source: ec.europa.eu/eurostat/databrowser/view/demo_mlexpec/default/table?lang=en

- While in 2019 in 25 EU Member States the average of life expectancy at birth increased compared to the previous year (exceptions being Greece and Cyprus), in 2020 life expectancy at birth has decreased in 9 Member States by more than 1 year (Spain, Bulgaria, Lithuania, Poland, Romania, Belgium, Italy, Czechia, Slovenia) and decreased by less than 1 year or stagnated in the rest (Finland and Denmark decreased 0,1 years);
 - We don't have data yet for the regions in 2020. But across the EU regions the highest average of life expectancy at birth in 2019

- was in central and northern Italy, in the Central Spanish region of Madrid and in the northern Spanish region of Navarra;
- In 2020 the average of life expectancy at age 65 also recorded a drop across the majority of the Member States of EU-27 (-1.5 years in Poland and Spain, -1.3 years in Belgium, -1.2 years in Italy, **Romania -1.1 years** and Slovenia -1,1 years);
 - There are still differences between countries concerning men and women's life expectancies. According to Eurostat data in 2020, the average of life expectancy for women is still higher than the average of life expectancy for men (a gender gap of 5.5 years in 2019);
 - The largest difference between the sexes was in 2020 in Lithuania (9.9 years);
 - The smallest difference between the sexes was in 2020 in the Netherlands (3.3 years).
 - Regarding decreases in the average life expectancy at birth, generally, men were in 2020 more affected than females (the largest declines have recorded in Bulgaria -1.7 years, Lithuania -1,5 years, Poland -1.5 years, Spain -1,4 years, and Romania -1.4 years).

Conclusions

- If we can agree that the pandemic produced a shock that affected every Member States of the EU, its economic impact was heterogeneous within the EU-27;
- As expected, the requirement of the containment measures needed to fight the health crisis has manifested differently across countries and along the time;
 - At the same time, the impact of lockdown measures has been heterogeneous across countries;
- As expected, the COVID-19 crisis has disrupted the cross-country convergence process regarding living standards;
- After six consecutive annual increases, in 2020 the EU economy recorded its first fall as regards Investment;
- Most of EU-27 Member States have experienced declining GDPs;
- The average of GDP per capita in 2020 across the EU-27 decreased by -6% compared to previous year;
- According to Eurostat data the levels of the Actual Individual Consumption (AIC) per capita are more homogeneous than GDP but „still there are substantial differences across the EU Member States”;

- Regarding the price level in EU-27 (only for AIC) the price dispersion is less pronounced in the euro area than in the EU as a whole;
- The health crisis caused by the Covid-19 pandemic had a relevant impact on employment rate in the EU-27;
- The majority EU Member States had lower employment rate in the fourth Quarter (Q4) of 2020 compared to the fourth Quarter (Q4) of 2019 (23 out of 27);
 - From the first quarter of 2020 to the second quarter of 2020 the share of people in employment **went down in EU-27 from 73,2% to 71,7%**;
- After the outbreak of the Covid-19 pandemic, life expectancy at birth fell in 2020 across the majority of the EU-27 Member States;
 - While in 2019 in 25 EU Member States the average of the life expectancy at birth increased compared to the previous year (exceptions being Greece and Cyprus), in 2020 the average of life expectancy at birth decreased in 9 Member States by more than 1 year (Spain, Bugaria, Lithuania, Poland, Romania, Belgium, Italy, Czechia, Slovenia) and by less than 1 year or stagnated in the rest (Finland and Denmark decreased 0,1 years);
- According to National Institute of Statistics, **Romania's GDP decreased by -3.9% in 2020 compared to 2019**;
- According to Eurostat data, compared to previous year, Romania had in 2020 a **decrease in GDP per capita of -3.6%**;
- Compared to previous year, **Romania recorded an increase in AIC of 1%** (from 78% to 79% of the European average);
- **Romania registered in 2020 the least price level across the EU (49% of the EU average)**;
- In Romania **the employment rate increased 1%, from 70,4% in Q3 to 71,4% in Q4 of 2020, but decreased 4,2% from 71,4% in Q4 of 2020 to 67,2% in Q1 of 2021**;
- Compared to previous year, in 2020 **the average of life expectancy at birth decreased -1,4 years** in Romania.

References

- Ec.europa.eu (2020a.) *GDP / main components (output, expenditure, income)*. Available at ec.europa.eu/nui/show.do?dataset=nama_10_gdp&lang=en.
- Ec.europa.eu (2020b). *Real GDP per capita*. Available at ec.europa.eu/eurostat/databrowser/view/sdg_08_10/default/table?lang=en.

- Ec.europa.eu (2020c). *Purchasing power parities (PPPs), price level indices and real expenditures for ESA 2010 aggregates*. Available at ec.europa.eu/eurostat/databrowser/view/prc_ppp_ind/default/table?lang=en.
- Ec.europa.eu (2020d). *Employment and activity – quarterly data*. Available at ec.europa.eu/eurostat/databrowser/view/lfsi_emp_q/default/table?lang=en.
- Ec.europa.eu (2020e). *Life expectancy by age and sex*. Available at https://ec.europa.eu/eurostat/databrowser/view/demo_mlexpec/default/table?lang=en.
- Ec.europa.eu (2020f). *EU Vaccines Strategy*. Available at ec.europa.eu/info/live-work-travel-eu/coronavirus-response/public-health/eu-vaccines-strategy_ro (Accessed on September 17, 2021)
- Ec.europa.eu (2020g). *Recovery plan for Europe*. Available at ec.europa.eu/info/strategy/recovery-plan-europe_ro (Accessed on September 12, 2021)
- Muggenthaler, P, Schroth, J., & Sun, Y. (2021). The heterogeneous economic impact of the pandemic across euro area countries. In *ECB Economic Bulletin*, Issue 5/2021. Available at [ecb.europa.eu/pub/economic-bulletin/focus/2021/html/ecb.ebbox202105_03-267ada0d38.en.html](https://www.ecb.europa.eu/pub/economic-bulletin/focus/2021/html/ecb.ebbox202105_03-267ada0d38.en.html) (Accessed on September 18, 2021).
- Zamfir, C., & Zamfir, E. (2020). ICCV 2020 social report - Quality of life during the pandemic: problems and response policies. *ICCV*, Romanian Academy. Available at [iccv.ro/wp-content/uploads/2020/04/Raport-social-ICCV-27-aprilie-2020.pdf](https://www.iccv.ro/wp-content/uploads/2020/04/Raport-social-ICCV-27-aprilie-2020.pdf) (Accessed on September 14, 2021).