

ECONOMIC IMPACT OF THE CORONAVIRUS CRISIS ON THE CONSTRUCTION SECTOR IN ROMANIA

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Abstract

The construction sector has been marked in the recent years by unforeseen events that have changed the plans of many companies in this sector. This paper examines the evolution of this sector before, during and after the SARS-COV2 pandemic. The aim of this paper is to highlight how construction companies have managed their business with the threat of the pandemic crisis. The method used is a comparative analysis from 2015 to 2022 inclusively, so that we can observe the stage of development of firms operating in the construction sector precursor to the pandemic, and the effects it has had. For the period 2019-2022, we have also analyzed the impact of the increase in the minimum wage and of the tax facilities for construction employees on the development of the construction industry. Among the indicators analyzed are the gross value added of the construction sector, the volume of construction work by structural elements, net investment, and construction cost growth. The study highlights the extent to which the construction sector has been affected by the pandemic crisis, but also the factors that could lead to the development of this sector.

Keywords: *construction, pandemic, gross value added of the construction sector, net investment, tax breaks.*

1. Introduction

Construction is a very important technical branch in the Romanian economy, dealing with the design, execution, maintenance and operation of various structures or infrastructure works. In recent years, an impediment to the development of the economy has been the pandemic crisis. Some firms have survived by finding ways to manage their business in accordance with the regulations in force, while others have been on the verge of bankruptcy. This study aims to highlight the indispensability of this sector in the structure of the Romanian economy, through a macroeconomic analysis based on four indicators, namely the gross value added of the construction sector, the volume of construction works by structural elements, net investment, and the growth of construction costs. The study is based on statistical information provided by the National Commission for Strategy and Forecasting and the National Institute of Statistics.

In this article, we have analysed the construction sector in terms of the tax facilities it benefits from, but also in terms of how it contributes to an important macroeconomic indicator, the Gross Domestic Product, with the threat of the economic crisis due to the COVID-19 virus.

The objectives of this paper are to show to what extent the pandemic has affected the dynamics of the construction sector and which areas of the country have been most affected, as well as how net investment influences the construction sector. Thus, we divided the paper into three divisions. In the first part, we analysed indicators specific to the construction sector in the pre-crisis period 2015-2019. In the second part of the paper, we presented the development of these indicators in the two years of the pandemic, 2020-2021, and finally we exposed the post-crisis phase, the year 2022, with the repercussions of the pandemic and the energy crisis generated by the conflict in Ukraine. Half of the period analysed (years 2019-2022) was influenced by the introduction of incentives for the construction sector through GEO no. 114/2018. The analysis carried out shows the extent to which these mitigated the negative effects of the COVID-19 pandemic.

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The novelty of this paper stems from the fact that it focuses on a macroeconomic analysis differentiated over three sub-periods and aims to illustrate how construction firms operate under the impact of the pandemic crisis.

2. Literature review

The COVID-19 pandemic has had an unexpected impact on the construction sector, as during the period of restrictions the sector has seen increases for small-scale building completions, repairs, renovations and even extensions to individual buildings. Thus, in 2020 compared to 2019, construction volume increased by 16%. The top construction category was engineering construction, which increased by 18.5% compared to 2019. With an annual increase of 17.8%, residential buildings ranked second. Finally, non-residential construction increased by 11%¹.

To comply with the restrictions imposed by authorities, the real estate market had to postpone some projects and come back with a new investment strategy. With the advent of the pandemic crisis, raw material prices have risen, fuel prices have also risen substantially, and these factors have led to higher prices for final projects and obviously to renegotiation of contracts.

In terms of complying with the restrictions in place, for the office area it was more challenging as employees had to keep a minimum distance of 2 meters, a limitation of a certain number of people in one room was imposed, which led to teleworking and therefore increased costs. On the other hand, the balance was evened out by individual households, which increased the demand for building materials, for which various warehouses, logistic spaces were built to store materials until delivery to the customer. Since the workers in the households worked in small groups in the open air, they were able, with minimal protective measures, to carry out their work much better. In addition, since most companies came with the possibility to work 'from home', many people decided to build a new space in which to work, away from large human agglomerations, or to extend their existing space.

The impact of the pandemic crisis on the construction sector is analysed in numerous articles published in specialist magazines such as *Agenda Construcțiilor & Fereastra*², *Arena construcțiilor*³. The authors explain how construction volumes involved during the pandemic, what measures the authorities imposed and how companies managed the whole situation to comply with the restrictions, but still be able to operate without endangering the lives of their employees.

The incentive measures in the field of the wage of workers in the construction sector introduced by the Romanian Government through GEO no. 114/2018⁴ entering into force on 01.01.2019 affected half of the period analysed (years 2019-2022) and were spread over all 3 periods concerned (pre - in - post pandemic). From 01.01.2023, GEO no. 168/2022⁵, as can be seen in Table 1 modified some of the provisions of GEO no. 114/2018. The application of this government ordinance has reduced the number of those who benefit from tax facilities. One of the reasons for this is the significant reduction in the range in which the salaries that benefit from the facilities can be included. The second cause is the limitation of the tax relief to income obtained under an individual employment contract, eliminating the possibility of granting income from other contractual forms (management contracts, apprenticeships, internships, etc.).

Table 1. Tax facilities in the field of construction sector payroll

APPLICATION PERIOD	01.01.2019 – 31.12.2022	01.01.2023 – 31.12.2028
CONDITIONS FOR GRANTING FACILITIES	<ul style="list-style-type: none"> The employer derives at least 80% of its turnover from construction activities, whose CAEN codes are listed in the Fiscal Code. 	<ul style="list-style-type: none"> The employer derives at least 80% of its turnover from construction activities, whose CAEN codes are listed in the Fiscal Code. The gross salary is between 4,000 RON and 10,000 RON per month.

¹ <https://www2.deloitte.com/ro/ro/pages/real-estate/articles/construcțiile-au-sfidat-pandemia-evoluție-de-excepție-in-2020.html>, accessed on 16 March 2023.

² <https://www.agendaconstrucțiilor.ro/files/>, accessed on 20 March 2023.

³ <https://arenaconstruct.ro/>, accessed 20 March 2023.

⁴ https://static.anaf.ro/static/10/Anaf/legislatie/OUG_114_2018.pdf, accessed on 16 March 2023.

⁵ https://static.anaf.ro/static/10/Anaf/legislatie/OUG_168_2022.pdf, accessed on 16 March 2023.

	<ul style="list-style-type: none"> The gross salary is between 3,000 RON and 30,000 RON per month. 	<ul style="list-style-type: none"> Only wages earned under an individual employment contract are covered.
TAX RELIEF		
<ul style="list-style-type: none"> Payroll tax 	0 instead of 10%	0 instead of 10%
Employee's contribution to social health insurance	0 instead of 10%	0 instead of 10%
<ul style="list-style-type: none"> Employee's social security contribution 	21,25% instead of 25%	21,25% instead of 25%

Source: GEO no. 114/2018 and GEO no. 168/2022

According to an article published by the Federation of Employers of Construction Companies (FPSC)⁶ in *Revista Construcțiilor* no. 194/August 2022, these measures have helped to increase production and the number of new jobs. In November 2021, the FPSC conducted a survey of 293 managers of construction companies that benefited from the tax facilities introduced by GEO no. 114/2018. They stated that the main positive effect of GEO no. 114/2018 was the "stabilization" of the existing workforce and therefore a reduction in the number of departures abroad (77%), an increase in turnover (56%) and an increase in the number of employees, without affecting competitiveness (55%). Respondents considered that the elimination of tax facilities would have the following effects on companies: a reduction in the number of employees (75.3%), difficulties in continuing contracts (67.8%) and a reduction in activity (58.3%).

3. Methodology and database

The research hypotheses of this study are whether the pandemic has significantly influenced the dynamics of the construction sector and which regions have been more affected, as well as to what extent net investment stimulates the development of this sector.

The method used in the study is a macroeconomic analysis broken down into three sub-periods, based on four relevant macroeconomic indicators, namely the gross value added of the construction sector, the volume of construction works by structural elements (new construction works, capital repair works, maintenance, and current repair works), net investment and construction cost growth. The period analysed is eight years, from 2015 to 2022.

This period is divided into three frameworks, depending on the factor that led to the change in the way the business is managed, the COVID-19 pandemic. Thus, in the first part, the ante-covid period, we presented the dynamics of construction firms through their contribution to GDP in the period 2015-2019. For the years 2020 and 2021, we have analysed the impact of the pandemic crisis on this sector, both in terms of works carried out and in terms of costs. In the last part, the post-crisis period, we have exposed the oscillations of the construction sector from the perspective of the four indicators mentioned above, as well as the solutions agreed by the Romanian state to remedy the effects left by this crisis.

The whole analysis is based on statistical information provided by the National Commission for Strategy and Forecasting and the National Institute of Statistics.

4. Economic analysis of the construction sector

4.1. Analysis of the construction sector precursor to the pandemic crisis

A first indicator by which we analyse the evolution of the construction sector in the pre-crisis period (2015 - 2019) is the contribution of this sector to the formation of gross domestic product (Chart 1). We have chosen for analysis the seasonally and working-day adjusted series.

As it can be seen in Chart 1, the gross value added (GVA) of the construction sector fluctuated quite a bit from quarter to quarter over the period 2015-2019. In annual values and compared to the previous year, the

⁶ <https://www.revistaconstrucțiilor.eu/index.php/2022/08/01/fpsc-impactul-majorarii-salariului-minim-si-facilitatilor-fiscale-acordate-angajatilor-asupra-activitatii-din-construcții/>, accessed on 20 March 2023.

GVA increased in 2016 by 8%, in 2017 by only 1%, and in the following two years the increase was spectacular (28% in 2018 and 16% in 2019).

Chart 1. Quarterly gross value added of the construction sector between 2015 and 2019

(Million RON in current prices)



Source: graphic representation of the authors, according to data on the website <https://insse.ro/cms/ro/content/produsul-intern-brut>, accessed on 20 March 2023

There was also an upward trend in the volume of construction works completed between 2015 and 2019 (Table 2), but this time the annual growth rates were quite close, ranging between 5.30% and 6.50%.

Table 2. Volume of construction works by structural elements - percentage changes from previous year

	2015	2016	2017	2018	2019
Construction - total	6.20%	5.30%	5.80%	6.20%	6.50%
New construction works	5.20%	5.70%	6.30%	6.80%	7.10%
Capital repair works	12.30%	5.50%	5.70%	6.00%	6.20%
Current maintenance and repair works	5.80%	4.00%	4.50%	4.70%	5.00%

Source: <https://insse.ro/cms/ro/tags/comunicat-constructii-locuinte-trimestrial>. accessed on 20 March 2023

Before the Covid-19 pandemic, the cost of construction had relatively low annual increases, as shown in Table 3.

Table 3. Cost increase in construction - percentage changes from previous year

Indicator	2015	2016	2017	2018	2019
The rising cost of construction	0%	1.5%	2%	2.5%	2.3%

Source: https://cnp.ro/wp-content/uploads/2021/07/prognoza_2015_2019_varianta_toamna_2015.pdf, accessed on 20 March 2023

The increase in the gross value added of the construction sector in 2016 compared to 2015 is correlated with the increase in the cost of construction (1.5%) and the increase in the number of completed works by 5.30%. In terms of structural elements, the volume of current maintenance and repair works increased the least, by only 4%, while the number of new constructions increased by 5.70%.

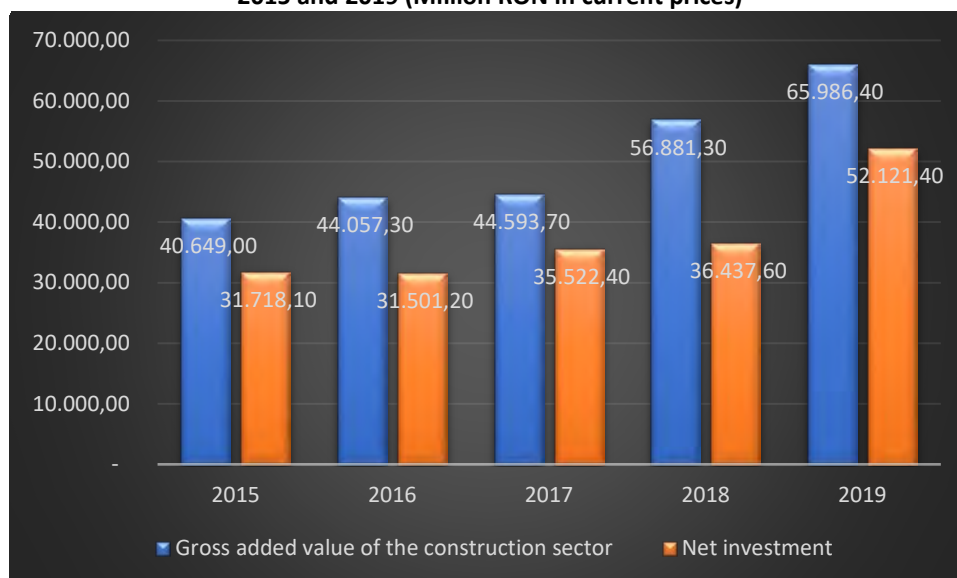
In 2017, the second quarter saw a decrease in the contribution of the construction sector to GDP formation, by around 5% compared to the same period of the previous year, with the other three quarters seeing slight increases in the indicator. The year 2017 was characterized by an increase in the volume of completed constructions, both in total and by construction category. However, the sector's contribution to GDP formation increased by only 1% compared to the 2016 level, very little if we take into account that in 2017 Romania had the highest economic growth in recent years, of 7.0%. This gap between the evolution of construction and that of the economy was due to the reduced capacity of companies in the sector to undertake works, due to the lack of financial and human resources.

In 2018, the situation started changing, with increases compared to 2017 in all the indicators analysed. Thus, the GDP in construction increases from 44,593.70 million RON to 56,881.30 million RON, the volume of construction works increases by 6.20% and the average cost of construction by 2.5%. However, the sector is not operating at full potential.

Together with the implementation of measures in favor of employment in construction introduced by GEO no. 114/2018, the contribution of this sector to GDP formation is experiencing a significant increase in each quarter of 2019 compared to the similar quarter of 2018. Overall, the contribution of the construction sector to GDP formation increases in 2019 compared to 2018 by 9,105.10 million RON, representing approximately 16%. In terms of the volume of completed works by structural elements, in 2019 compared to the previous year there were 7.10% more new construction works, 6.20% more capital repair works and 5% more current works and repairs. Overall, 6.50% more construction was completed in 2019 compared to 2018. The third quarter of 2019 recorded the highest quarterly contribution to GDP in the period 2015-2019, namely 17,965.90 million RON, as can be seen in Chart number 1.

Chart 2 shows the link between the net investment allocated by the Romanian state and the contribution of the construction sector to GDP. Except for 2016, the increase in the contribution of construction to GDP formation is directly proportional to the net investment allocated to this sector. Thus, in 2017, 35,522.40 million RON were invested in the construction sector, 4,021.20 million RON more than the budget allocated in 2016, which also led to an increase in the number of dwellings compared to the previous year. The highest investment volume was in 2019, with an increase of 43.04% (in absolute value 15,683.80 million RON in current prices) compared to 2018.

Chart 2. Relationship between net investment and gross value added of the construction sector between 2015 and 2019 (Million RON in current prices)

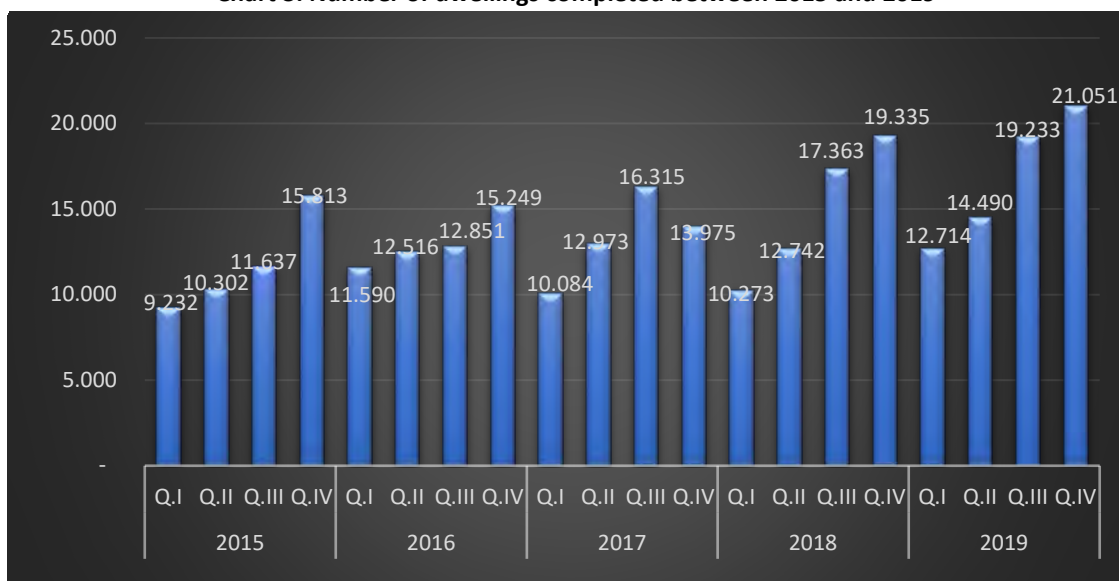


Source: graphic representation of the authors, according to data on the website <https://insse.ro/cms/ro/tags/comunicat-investitii-economia-nationala>, accessed on 20 March 2023

Chart 3 reflects the fluctuations in the volume of dwellings built in each quarter from 2015 to 2019. In 2016, the volume of dwellings completed increased compared to 2015 by 5,222. The increase in the number of

dwellings occurred in all development regions, with one exception: the South-West Oltenia area, where there was a decrease of 58 dwellings.

Chart 3. Number of dwellings completed between 2015 and 2019



Source: graphic representation of the authors, according to data on the website https://cnp.ro/wp-content/uploads/2021/07/prognoza_2015_2019_varianta_toamna_2015.pdf, accessed on 20 March 2023

In 2017, the areas where fewer dwellings were completed compared to the previous period were the North-East area (down by 844), South-West Oltenia (down by 37) and the Bucharest-Ilfov part (489 fewer dwellings were completed).

In 2018 and 2019, the number of completed dwellings increased at a faster pace than in previous years, with the peak of the period under review being reached in the fourth quarter of 2019, when 21,051 dwellings were completed, most of them in the North-West of the country and in Bucharest-Ilfov. The tax facilities that came into force from 01.01.2019 through the application of GEO no. 114/2018 had multiple positive effects on production, turnover and employment, with an impact on budget revenues, not only in the construction sector itself, but also in construction-related activities, manufacturing of building materials.

In conclusion, the pre-pandemic period predicted an upswing in this sector, as year after year the volume of construction increased, even though costs also rose, and the contribution to GDP increased directly in proportion to the volume of work completed.

4.2. Analysis of the construction sector during the pandemic period

With the arrival of the pandemic crisis, the government has imposed many restrictions, the result of which was home work, which in fact brought major costs for all companies in Romania. Since March 2020 the crisis has affected most sectors of the economy, leading to the bankruptcy of many companies.

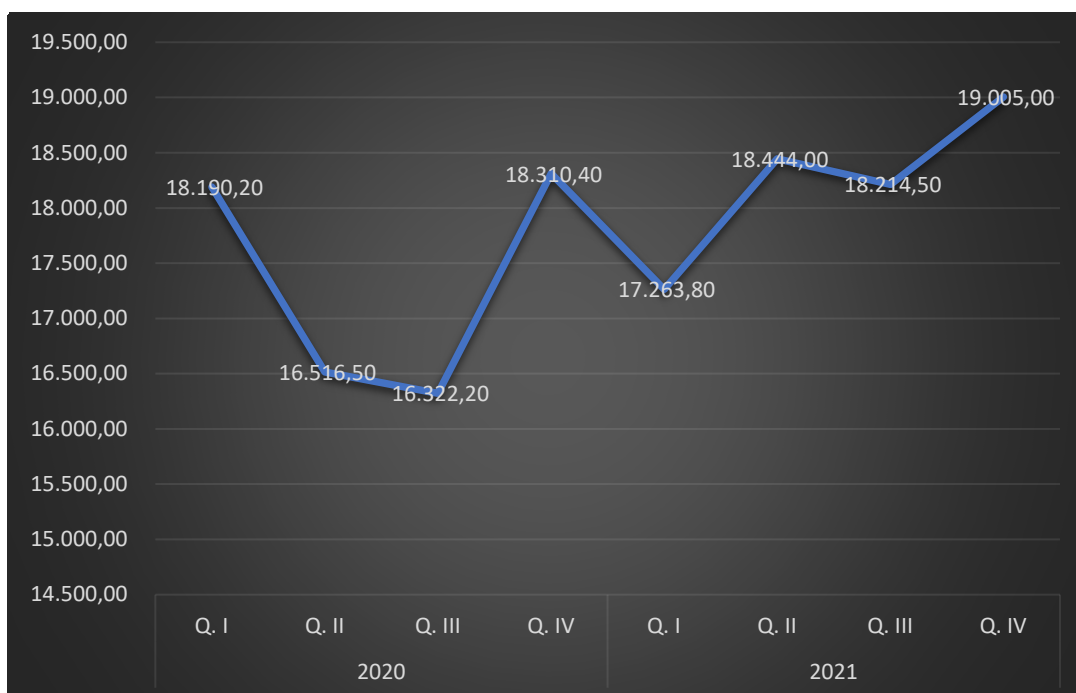
Table no. 3 shows how the volume of completed construction works evolved in the years of the Covid-19 pandemic, respectively 2020 and 2021, and Graph no. 4 shows the contribution of construction to GDP formation in the same period.

Table 3. Volume of construction works by structural elements - percentage changes from previous year

	2020	2021
Construction - total	15.90%	-0.60%
New construction works	9.30%	5.90%
Capital repair works	46%	-22.60%
Current maintenance and repair works	24.40%	-7.90%

Source: <https://insse.ro/cms/ro/tags/comunicat-constructii-locuinte-trimestrial>, accessed on 20 March 2023

**Chart 4. Quarterly gross value added of the construction sector in 2020 and 2021
(Million RON in current prices)**



Source: graphic representation of the authors, according to data on the website <https://insse.ro/cms/ro/content/produsul-intern-brut>, accessed on 20 March 2023

In the first quarter of 2020, construction contributed with 18,190.20 million RON to GDP formation. In the second and third quarters of 2020, the contribution of the construction sector to GDP formation decreased, due to compliance with the limits imposed by the Romanian state for the safety of employees. Compared to the same period of the previous year, the contribution of construction to GDP followed a decrease of 2.1% and 9.15% respectively in these two quarters. In the fourth quarter, the situation improves, and the contribution of this sector is 7.94% higher than in the fourth quarter of the previous year. In addition, in 2020 compared to 2019 new construction work increased by 9.30%. the number of capital repair works increased by 46% and the number of maintenance and current repair works increased by 24.4%.

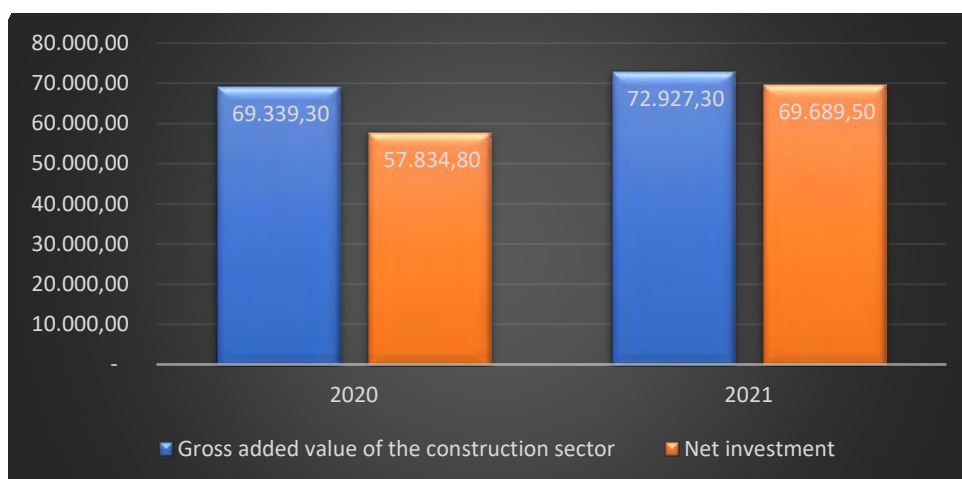
In the first quarter of 2021, a slight decrease of 5.09% in the contribution of construction to GDP is observed compared to the same period of the previous year, with the indicator showing higher values in the second, third and fourth quarters than in similar quarters of 2020.

Although the contribution of construction to GDP increased in 2021 compared to 2020 by 5.17%. the volume of completed works decreased by 0.6%. By structural elements, the decreases recorded were 22.60% for capital repair works and 7.90% for maintenance and current repair works. Only the volume of new construction works increased by 5.90% in 2021 compared to the previous year. Also worth noting is the 12.1% increase in construction cost in 2021 compared to the previous year, whereas in the period 2015-2020 annual increases in this cost ranged from 0% to 2.5%⁷. The crisis generated by the Covid-19 pandemic has led to an increase in all prices, including those for construction materials and works.

Graph no. 5 shows the link between the construction sector's contribution to GDP formation and net investment during the Covid-19 crisis.

⁷ https://cnp.ro/wp-content/uploads/2021/07/Prognostica_preliminara_toamna_rectificare_bugetara_2020_2021.pdf, accessed on 20 March 2023.

Chart 5. Relationship between net investments and gross value added of the construction sector in 2020 and 2021 (Million RON in current prices)

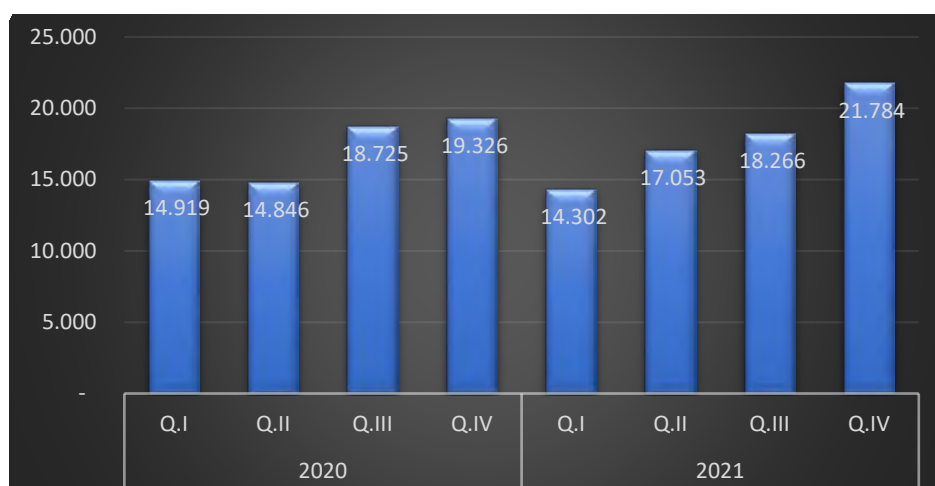


Source: graphic representation of the authors, according to data on the website <https://insse.ro/cms/ro/tags/comunicat-investitii-economia-nationala>, accessed on 20 March 2023

Compared to 2019, net investments in 2020 increased by about 11% reaching 57,834.80 million RON. It can be seen that the investment factor has a strong impact on the construction sector, because the more the investment budget allocated increases, the more the value of construction increases and therefore the more constructions are carried out. The increase in the volume of completed constructions in the second year of the pandemic compared to the first is due to the fact that the state made net investments in new construction works amounting to 69,689.5 million RON, 20% more than in the previous year.

As can be seen in Chart no. 6, 2020 comes with a substantial increase in the number of completed housing units compared to the previous year, namely by 15.90%. In 2020, the most dwellings were built in Bucharest-Ilfov, with 5.941 more than the previous year. The least were built in the North-West region of the country, where 2.983 fewer constructions were completed than in the previous year.

Chart 6. Number of dwellings completed in 2020 and 2021



Source: graphic representation of the authors, according to data on the website <https://cnp.ro/wp-content/uploads/2021/07/Prognost-preliminara-toamna-rectificare-bugetara-2020-2021.pdf>, accessed on 20 March 2023

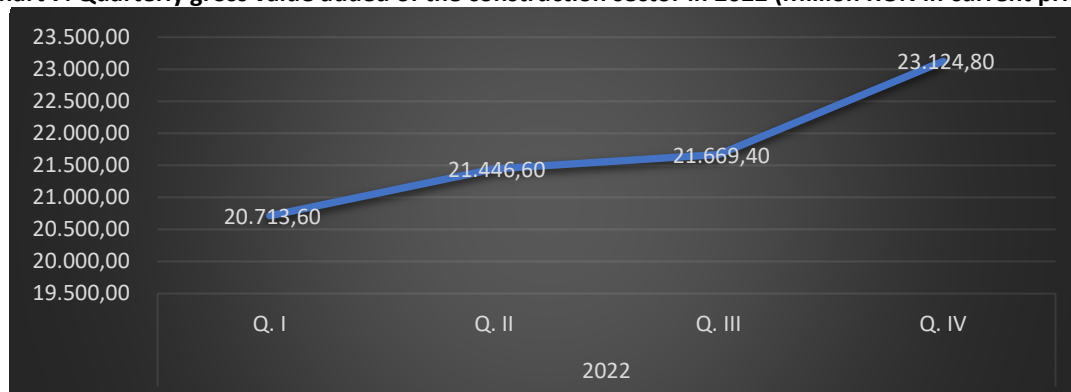
The lowest number of dwellings completed during the pandemic period was recorded in the first quarter of 2021, after that the indicator followed an upward trend. In 2021, the total volume of dwellings recorded an increase of 3.589 dwellings compared to the previous year, with most completed in the Bucharest-Ilfov region

(22.010) and the fewest in the center of the country, where only 8.431 dwellings were completed. In the pandemic period, most completed dwellings were completed in the fourth quarter of 2021, and as regions, most buildings were completed in Bucharest-Ilfov (7.549) and the fewest in the North-East region of the country (2.299).

4.3. Analysis of the construction sector in the post-covid period

The last part of this study concerns the analysis of the construction sector after the pandemic crisis period, namely 2022. Thus, in Chart no. 7 we have shown the contribution the sector has made to GDP formation for each quarter of this year.

Chart 7. Quarterly gross value added of the construction sector in 2022 (Million RON in current prices)

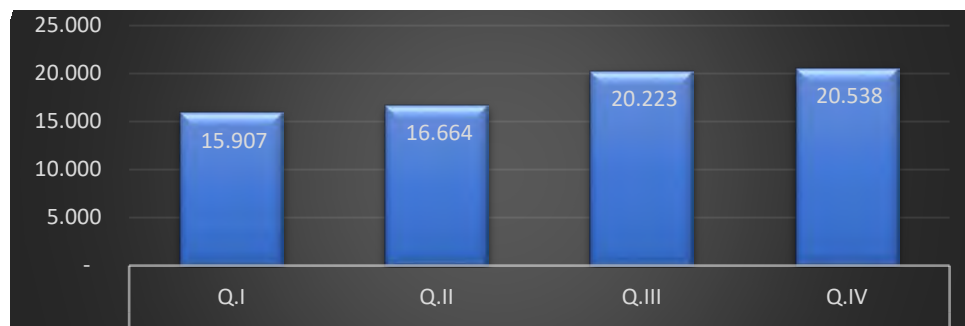


Source: graphic representation of the authors, according to data on the website <https://insse.ro/cms/ro/content/produsul-intern-brut>, accessed on 20 March 2023

The year 2022 announces a favorable period for the construction sector, as already in the first quarter this sector's contribution to GDP was higher than the fourth quarter of the previous year by about 9%. In 2022, construction contributed to GDP formation with the amount of 86,954.40 million RON, up by 19.23% compared to the previous year, with the largest increase recorded in the fourth quarter, namely 21.68% compared to the same period of the previous year. Due to the pandemic and the war in Ukraine, the price of fuel increased, which led to higher construction spending. Thus, the annual average cost increase in construction was 20.2% (8.1 p.p. higher than in 2021) at a leu/euro exchange rate of 4.94.

In 2022, the number of completed dwellings (73.332) followed an upward trend, with most buildings completed in the fourth quarter (Chart 8). Compared to the previous year, there was an increase both in total (7.40%) and by structural elements: new construction work increased by 3.20%. capital repair work by 20% and maintenance and current repair work by 15.30%. This year, 1,927 more dwellings were built than in the previous year, most of them in the Bucharest-Ilfov area (21.328) and the fewest in the South-West Oltenia region (only 3.724).

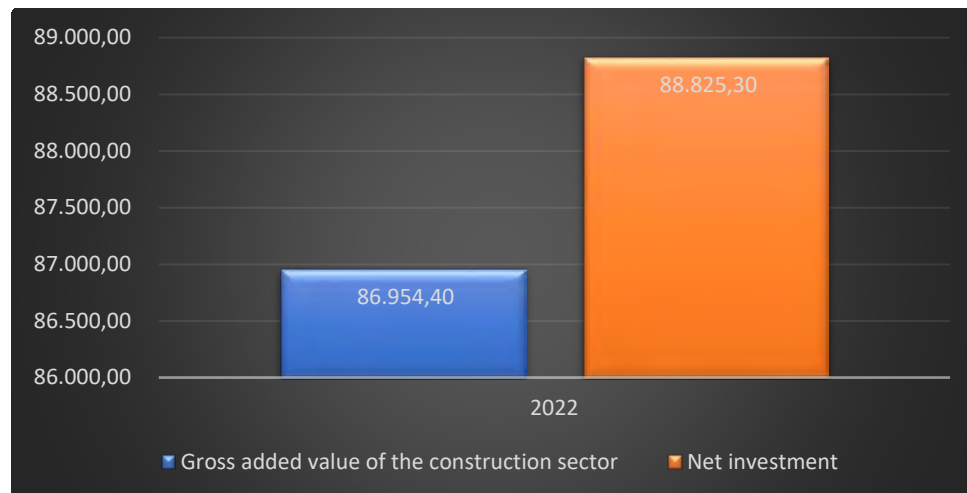
Chart 8. Number of dwellings completed in 2022



Source: graphic representation of the authors, according to data on the website <https://cnp.ro/wp-content/uploads/2022/10/Prognostica-de-TOAMNA-2022-2026.pdf>, accessed on 20 March 2023

Chart 9 shows that in 2022, the Romanian state invested 88,825.30 million RON in construction, 27.46% more than in 2021. The year 2022 is the only year in the entire period analysed when the value of net investments exceeded the value added in construction.

Chart 9. The relationship between net investment and gross value added of the construction sector in 2022 (Million RON in current prices)



Source: graphic representation of the authors, according to data on the website <https://insse.ro/cms/ro/tags/comunicat-investitii-economia-nationala>, accessed on 20 March 2023

5. Conclusions and recommendations

This case study has answered two working hypotheses: whether the pandemic has significantly influenced the dynamics of the construction sector and which regions have been more affected, but also to what extent net investments stimulate the development of this sector.

In response to the first hypothesis, we observed that the construction sector was not as strongly impacted as other sectors; on the contrary, it managed to align itself with the imposed restrictions and to grow by constructing more buildings compared to the 2015-2019 period. In the period preceding the pandemic, most new construction works were carried out in Bucharest-Ilfov (56,741 works), the North-West area (48,173 works) and the North-East area (40,144 works) of the country, predominantly in 2019, the first year of the application of the tax facilities on construction workers' salaries. The least developed area was the South-West Oltenia area, with the fewest works being built in 2017. During the pandemic period, the situation was similar, with most new construction works in Bucharest-Ilfov (42,483 works) and the fewest in the South-West Oltenia area (only 6,224 works). During the pandemic, the construction sector was among the few that recorded an increase in gross value added. As for the post-pandemic period, in 2022 Bucharest-Ilfov remained the area with the most works, although their volume decreased by 3.1% compared to 2021. The South-West Oltenia area still has the fewest works (3,724), but their number increased by 14.23% compared to the previous year. According to the data published by INS, in January 2023 compared to January 2022, the volume of construction works increased, as a working-day and seasonally adjusted series, by 7.2%⁸. It remains to be seen what will happen for the rest of the year and what influence the decrease of the applicability of the tax facilities provided for by GEO no. 168/2022 and applied from 01.01.2023 will have. To answer the second hypothesis, we have analysed the correlation between the contribution of construction to GDP formation and net state investment in this sector by means of graphs. We found that the two indicators oscillate directly proportionally (if investment increases, the number of buildings-built increases, and if investment decreases, construction decreases or stagnates). In all three periods analysed, the investment budget allocated to construction increased, with the largest volume being allocated in 2022, namely 88,825.30 million RON at current prices. In conclusion, the volume of investments is an important and indispensable factor for the development of this sector.

⁸ https://insse.ro/cms/sites/default/files/com_presa/com_pdf/indici_constr1r23.pdf, accessed on 20 March 2023.

Therefore, the study shows that the construction sector had an increasing trend throughout the period under analysis, with a faster growth rate at the end of the period. Although it was hampered by the pandemic crisis with all the measures that were imposed, this sector managed to develop and contribute with an increasing share from year to year to the formation of GDP. We consider that an important role in this regard had the tax facilities and the increased minimum wage introduced by GEO no. 114/2018 for employees in the construction sector. After 2019, construction was one of the few sectors where the average number of employees increased, even during the pandemic. In 2019, the average number of employees in construction increased by 5.5% (compared to an increase of 1.9% in the economy as a whole), and in 2020 it increased by 2.9% (compared to a decrease of 1.9% in the economy as a whole).

According to Eurostat, in 2021, Romania was the country with the second highest share of gross value added (GVA) generated by the construction sector in total GVA (7.3%), after Finland (7.7%), well above the EU average of between 5% and 6% over the period 2010-2021.⁹ Based on this observation, we will complement the research carried out in this paper with an analysis of the economic impact of the pandemic on the construction sector at European level, in order to see whether the growth trend in Romania was also recorded in the other Member States and what the pace of this growth has been. The study will also highlight measures taken by Member State governments to develop a sustainable construction sector, such as subsidizing clean or low-energy processes in construction, penalties for polluting companies (e.g., carbon tax) or research and development tax incentives.

References

- <https://www2.deloitte.com/ro/ro/pages/real-estate/articles/constructiile-au-sfidat-pandemia-evolutie-de-exceptie-in-2020.html>;
- <https://www.agendaconstructiilor.ro/files/>;
- <https://arenaconstruct.ro/>;
- https://static.anaf.ro/static/10/Anaf/legislatie/OUG_114_2018.pdf;
- https://static.anaf.ro/static/10/Anaf/legislatie/OUG_168_2022.pdf;
- <https://www.revistaconstructiilor.eu/index.php/2022/08/01/fpsc-impactul-majorarii-salariului-minim-si-facilitatilor-fiscale-acordate-angajatilor-asupra-activitatii-din-constructii/>;
- <https://insse.ro/cms/ro/content/produsul-intern-brut>;
- <https://insse.ro/cms/ro/tags/comunicat-constructii-locuinte-trimestrial>;
- https://cnp.ro/wp-content/uploads/2021/07/prognoza_2015_2019_varianta_toamna_2015.pdf;
- https://cnp.ro/wp-content/uploads/2021/07/Prognoza_preliminara_toamna_rectificare_bugetara_2020_2021.pdf;
- <https://cnp.ro/wp-content/uploads/2022/10/Prognoza-de-TOAMNA-2022-2026.pdf>;
- <https://insse.ro/cms/ro/tags/comunicat-investitii-economia-nationala>;
- https://insse.ro/cms/sites/default/files/com_presa/com_pdf/indici_constr1r23.pdf;
- <https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-3a.html?lang=en>.

⁹ <https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-3a.html?lang=en>, accessed on 20 March 2023.