

Can the Degree of Indebtedness of the Economic Agents Operating in the Construction Sector in Constanta County Influence the Development of the Coastal Area ?

Mari-Isabella Stan

„Ovidius” University of Constanta, Faculty of Law and Administrative Sciences, Romania
stanisabella@yahoo.com

Dragos-Florian Vintila

„Ovidius” University of Constanta, Faculty of Civil Engineering, Romania
dragos.vintila@univ-ovidius.ro

Abstract

This article provides an analysis of the degree of indebtedness from the perspective of long-term and short-term debts of economic agents in Constanța County that work in the field of construction. The construction sector currently plays an important role in the development of the national economy, but also of the economy of the Romanian coastal area. This sector has an important contribution to local development, which is why it should pay due attention to it when drawing up the maritime spatial plan. The option of analyzing the average values used in this study allowed the formulation of conclusions on the general conduct of the activities subscribed to the chosen CAEN code, observed in correlation with the evolution of short-term and long-term debts that may fluctuate over time, no predictable evolution of this result being obvious.

Key words: degree of indebtedness, construction sector, Constanta county, coastal area, Maritime Spatial Planning (MSP)

J.E.L. classification: M21, O10

1. Introduction

Maritime Spatial Planning (MSP) is a complex approach that faces multiple integration challenges: different forms of knowledge, different stakeholders, policies, and sectors, as well as different scales, national borders, and the land and sea interface must be taken into account (Weig and Schultz-Zehden, 2019).

Article 3(2) of Directive 2014/89/EU defines MSP as a process by which the relevant authorities of the Member States analyze and organize human activities in marine areas to achieve environmental, economic, and social objectives. Human activities can have serious impacts on economic development and growth in coastal areas, which is why proper attention should be paid to these various pressures when drawing up maritime spatial plans.

The construction sector has had and still plays an important role in the development of the national economy, but also of the economy of the Romanian coastal area. When we talk about constructions, we are talking about various types of works, as the field is vast and is divided into certain categories to be easier to analyze and interpret. Thus, we identify residential constructions, non-residential constructions, and engineering constructions. In this context, housing construction, rehabilitation, construction of production facilities, infrastructure, and public works are important elements for the modernization and maintenance of the economy, urban areas, communications infrastructure, and tourism, promoting, on the one hand, productive and industrial activity and, on the other hand, the well-being of society (Zubizarreta et al., 2017).

The economic agents that work in the construction field have an important contribution to the economic development of Constanța County. As in any other sector of activity, in the construction sector, financial liabilities include debts that arise in connection with the acquisition of capital

attracted. The level of indebtedness has limitations as a determining factor of investments (Fernández de Guevara et al., 2021).

2. Literature review

The construction field has stood out significantly in recent years, representing one of the most important engines of the Romanian economy; annually in this field, there are increases of over 30%. The importance of this sector was not limited to its direct effect on the economy but was amplified by the so-called “tractor effect” that the sector exerts on other economic activities, which leads to a doubling of the total effect (Zubizarreta et al., 2017).

In the process of the economic-financial activity of any company, there is a need to make settlements with buyers, suppliers, state budget, staff, etc. As the time of payment of debts does not usually coincide with the time of their occurrence (delivery of goods, provision of services, calculation of salary, etc.), the company generates both receivables, which represent the means extracted from the company's circuit, and are reflected in the balance sheet, as well as debts, which represent the attracted funds and are reflected in the liabilities component.

The term “financial liability” means any liability that is either a contractual obligation to dispose of liquidity or another financial asset, or a contract that will be or may be settled in the company's equity instruments. Financial debts are a foreign financing source for the company. The degree of constraint can limit investments and not the amount of debt that a company assumes (Fernández de Guevara et al., 2021).

Short-term debts are also called *current liabilities* and are external financing sources available to the company (bond issuance loans; amounts owed to credit institutions; advances received on account of orders; trade payables to suppliers; bills of exchange payable: bills of exchange, promissory notes, checks; amounts due to affiliated entities), are expected to be settled in the normal course of the entity's operating cycle and must be paid within a maximum of 12 months. *Long-term debts* are external financing sources attracted by the company through the issuance of bonds, loans from banks, and other financial institutions, or amounts made available to the company by affiliated entities and suppliers (trade payables) and which must be repaid, as a rule, within more than 12 months.

Over the years, financial markets have transformed, and the ease with which companies can obtain credit is growing in many economies. On the other hand, the long collection period of receivables, which further leads to non-payment of debts, directly affects the level of liquidity of companies. At the same time, the level of indebtedness is not the only variable that affects financing conditions (Fernández de Guevara et al., 2021). For lenders to have confidence in lending to make investments, it is necessary to control how this really happens, so that, on the one hand, they bring profits to economic agents and, on the other hand, to cover the society needs to increase the living standard (Aivaz, 2018a; Aivaz, 2020).

A company's debt affects its value and is also sensitive to factors such as bankruptcy and agency costs (Oliveira et al., 2013).

The financial reporting options of a company have multiple deterministic perspectives which, if evaluated in the context of activity trends in the sector of activity, become of the greatest importance for the evaluation of sustainability factors (Florea Munteanu, 2021); sustainability has many pillars and covers all areas and sectors in which development takes place; therefore, its goal of “achieving a balance” depends not only on a correct definition of balance but also on the relationship between the objectives of the different hierarchical levels (Petrișor, 2017; Petrișor, Susa and Petrișor, 2020).

Planning authorities must pay increasing attention to coastal and maritime issues in various economic, political, environmental, social spheres that take into account economic, socio-cultural structures, administrative forms and priorities, and extensive information for the efficient management of coastal areas within sustainable development (Baser and Biyik, 2016). Thus, the interest for companies operating in the construction field is relevant, because this sector contributes significantly to economic growth and imposes managerial decisions in the coastal area. In this respect, the contributions of data to maritime spatial planning could be a priori diverse: for environmental purposes, to retain, avoid, reduce or offset the impact of activities, as well as for

economic ones, to anticipate and mitigate conflicts of use, to find space for new or interesting activities, for example (Dupont, 2020).

3. Research methodology

The purpose of this article is to analyze the degree of indebtedness from the perspective of long and short-term debts of economic agents in Constanța County working in the construction field, revealing how their economic effects influence maritime spatial planning (MSP).

For the analysis, we used the data provided by the National Institute of Statistics of Romania (INSSE) and the Ministry of Public Finance (ANAF / National Agency for Fiscal Administration) for the calendar year 2019. 2019 was considered the reference year before the Covid-19 pandemic, and at the same time, is the last year with available data. The centralization and systematization of data, such as obtaining the indicators used in the statistical description were done with the help of the Statistical Program for the Social Sciences (SPSS). The empirical study used all the companies from Constanța County whose main object of activity is construction.

The first objective of the analysis was to test the hypothesis of the existence of an influence of the degree of indebtedness of economic agents operating in the construction field in Constanța County on the development of the coastal area. The second objective was to see the structure of the debts of the companies in this field according to the form of ownership. The analysis confirmed our hypothesis, namely that the level of indebtedness influences the level of investment, economic growth, and so the sustainable development of the coastal area.

The option of analyzing the average values used in this study allowed the formulation of some conclusions on the general conduct of the activities subscribed to the chosen CAEN code. Thus, the analysis of the evolution of receivables observed in correlation with the evolution of short-term debts may present similarities. In contrast, as Aivaz (2021) remarks, the evolution of average indicators on long-term debt may fluctuate over time, with no predictable evolution of this result.

4. Findings

The analyzed database that includes all the companies from the territory of Constanța county whose main object of activity is the *construction* field was formed by applying several filters: CAEN code (companies with codes between 4100 and 4400 were selected) and companies with a turnover greater than zero.

This group includes the following sub-activities: 4110 Real estate development (promotion), 4120 Construction of residential and non-residential buildings, 4211 Construction of roads and highways, 4212 Construction of surface and underground railways, 4213 Construction of bridges and tunnels, 4221 Construction work for utility projects for fluids, 4222 Construction work for utility projects for electricity and telecommunications, 4291 Hydrotechnical construction, 4299 Construction work for other engineering projects n.c.a., 4311 Demolition work for construction, 4312 Land preparation works, 4313 Drilling and boring works for construction, 4321 Electrical installation, 4322 Plumbing, heating, and air-conditioning works, 4329 Other construction works, 4331 Plastering works, 4332 Joinery and carpentry works, 4333 Flooring and wall cladding works, 4334 Painting, whitewashing, and glazing works, 4339 Other finishing works, 4391 Roofing, framing, and terrace construction works, 4399 Other special construction works n.c.a.

Table 1 presents the average level of short-term debt and long-term debt for each CAEN subgroup and the number of companies in each subgroup.

Table no. 1 Short-term and long-term debts by sub-domains of activity

CAEN_name		Debts under 1 year	Debts over 1 year
4110 Real estate development (promotion)	Mean	6788157.90	3534265.62
	N	107	58
4120 Construction of residential and non-residential buildings	Mean	681216.11	929213.96
	N	917	321
4211 Construction of roads and highways	Mean	4190699.89	6255869.24
	N	35	17
4212 Construction of surface and underground railways	Mean	1231089.20	652146.75
	N	5	4
4213 Construction of bridges and tunnels	Mean	255693.00	35938.00
	N	1	1
4221 Construction work for utility projects for fluids	Mean	1599549.85	1044353.56
	N	27	9
4222 Construction work for utility projects for electricity and telecommunications	Mean	925920.42	575082.20
	N	12	5
4291 Hydrotechnical construction	Mean	5153752.82	2450319.50
	N	11	6
4299 Construction work for other engineering projects n.c.a	Mean	4205735.87	1161404.46
	N	23	13
4311 Demolition work for construction	Mean	402345.25	23650.00
	N	4	1
4312 Land preparation works	Mean	235527.62	704215.00
	N	16	2
4313 Drilling and boring works for construction	Mean	277202.17	116134.33
	N	12	6
4321 Electrical installation	Mean	280605.56	283770.32
	N	184	68
4322 Plumbing, heating, and air-conditioning works	Mean	303148.18	148006.72
	N	270	99
4329 Other construction works	Mean	575509.08	153568.75
	N	24	12
4331 Plastering works	Mean	154846.30	250484.00
	N	10	2
4332 Joinery and carpentry works	Mean	377711.01	348898.67
	N	69	24
4333 Flooring and wall cladding works	Mean	201751.74	475894.17
	N	34	6
4334 Painting, whitewashing, and glazing works	Mean	55441.84	168630.50
	N	19	10
4339 Other finishing works	Mean	33050.69	
	N	13	
4391 Roofing, framing, and terrace construction works	Mean	151886.07	211669.38
	N	14	8
4399 Other special construction works n.c.a	Mean	605952.57	431221.23
	N	91	31
Total	Mean	1033211.23	1025223.80
	N	1898	703

Source: Authors' computation

Regarding the economic agents active in the constructions field in Constanța County, from Table 1 it is observed that 1898 entities register short-term debts with a value of 1033211.23 lei, while only 703 have long-term debts in value of 1025223.80 lei.

Thus, for the entities that have *short-term debts*, in Table 1 some sub-activities have not very large debts related to a large number of companies, namely: *Construction works of residential and non-residential buildings* (4120) - 917 companies with debts of 681216.11 lei, *Plumbing, heating, and air conditioning works* (4322) - 270 companies with debts of 303148.18 lei and *Electrical installation works* (4321) - 184 companies with debts of 280605.56 lei. The sub-activity *Real estate development (promotion)* (4110) 107 companies have very high short-term debts, of 6788157.90 lei, which shows that this class that develops construction projects for residential and non-residential buildings for subsequent sale, has the resources mainly oriented towards lending to the sector. In 2019, the construction materials industry also registered an increase in costs, which led to an increased price for residential and non-residential buildings, and implicitly to the current debts of the profile companies.

The construction works of residential and non-residential buildings through new construction works, capital repair works, maintenance works, and current repairs have an important share in the sector, by the fact that on the one hand, they provide family housing and on the other hand they contribute through the construction of hospitals, schools, religious buildings, office buildings, hotels, shops, shopping malls, restaurants, gyms, buildings for industrial production, warehouses, etc. to sustainable local development.

Table 1 shows some sub-activities that have very high debts, at a small number of companies, namely: *Hydrotechnical constructions* (4291) - 11 companies with debts of 5153752.82 lei, *Construction works of other engineering projects n.a.c* (4299) - 23 companies with debts of 4205735.87 lei and *Road and highway construction works* (4211) - 35 companies with debts of 4190699.89 lei. These field-specific sub-activities are significant for the sustainable development of the coastal area because, in recent decades, the Romanian Black Sea coast has been affected by serious erosion problems for which modern hydro-technical works have been carried out (Stan, Aivaz and Ionițiu, 2019; Stan, Vintilă and Țenea, 2014). At the same time, there is a concern for the development of transport infrastructure (road sector, rail transport, river and sea transport, air transport) insofar as appropriate investments ensure conditions to promote economic growth and competitiveness and thus the development of the coastal area.

It is known that short-term financial debts have a positive influence on the profitability of companies, which indicates the possibility of making investments with a direct effect on the economy, and therefore on local development.

And the situation of *long-term debts* on each CAEN group separately, in the analyzed year 2019, is similar to that of short-term debts, and is presented as follows: *Construction works of residential and non-residential buildings* (4120) - 321 companies with debts of 929213.96 lei, *Plumbing, heating, and air conditioning works* (4322) - 99 companies with debts of 148006.72 lei, *Electrical installation works* (4321) - 68 companies with debts of 283770.32 lei and *Real estate development (promotion)* (4110) - 58 companies with debts of 3534265.62 lei. Similarly, the sub-activities that have very high debts, at a small number of companies: *Hydrotechnical constructions* (4291) - 6 companies with debts of 2450319.50 lei, *Construction works of other engineering projects n.c.a* (4299) - 13 companies with debts of 1161404.46 lei.

Bontempi, Bottazzi, and Golinelli (2020) argue that the persistence of long-term debt rates depends more on the need to finance future investments or exploit market conditions, while short-term debt fluctuates less persistently because it is often used by small and innovative companies in contingent situations, such as that of an immediate investment requirement; a higher proportion of short-term debt will reduce the risk of future accidents, however, it can be threatening for firms whose short-term debt is inappropriate for their long-term investments (Cheng et al., 2020).

Table 2 presents the short-term debts and the long-term debts by forms of ownership, on each CAEN group separately, the number of companies, with the amounts related to the analyzed year, namely 2019.

Table no. 2 Short and long term debts by forms of ownership

Type of ownership		Debts under 1 year	Debts over 1 year
Companies with domestic-foreign private-state capital (state <50%)	Mean	112529.00	
	N	1	
Craft cooperatives	Mean	35819.00	24806.50
	N	2	2
Autonomous directions/administrations	Mean	13810200.50	7887830.50
	N	2	2
Trading company with the state capital privatized during the reporting year	Mean	375195.00	42366.00
	N	1	1
Trading companies with full state capital	Mean	4610748.50	73460519.00
	N	4	1
Limited liability companies	Mean	915450.55	846327.47
	N	1863	682
Joint-stock companies	Mean	8357111.84	3613922.53
	N	25	15
Total	Mean	1033211.23	1025223.80
	N	1898	703

Source: Authors' computation

From the total of economic agents active in the construction field in Constanța County, according to the form of ownership, it is observed that the largest share of short-term debts is held by *limited liability companies* (1863 companies), at the opposite pole being *companies with domestic-foreign private-state capital (state <50%)* and *state-owned companies, privatized during the reporting year* (1 company), followed by *craft cooperatives, autonomous directions/administrations* (2 companies) and *companies with full state capital* (4 companies). In the case of long-term debt, the same trend is observed, namely *limited liability companies* (682 companies), compared to *state-owned companies, privatized during the reporting year*, and *fully state-owned companies* (1 company), followed by *craft cooperatives* and *autonomous directions/administrations* (2 companies).

Thus, if a correlation is made between the form of ownership and the type of commercial company, it is observed that the number of private companies that have short and long-term debts is considerably higher than those of public and mixed companies. The state, through the public capital, ensures a means of guaranteeing the general interest, of exercising direct control of the state over the activities. Specialized studies have shown that larger companies and/or those with more tangible assets have lower bankruptcy costs (Oliveira et al., 2013), this being the case of those established based on public property, in which there is state intervention.

The level of indebtedness, the speed with which they recover their money from the market, and the lack of liquidity position the economic agents working in the constructions field in an unfavorable context to ensure the current activity and especially the development. To adjust the liquidity level in the company, some companies may opt for loans. Thus, a firm may have a high level of indebtedness, but at the same time may enjoy favorable conditions for access to finance; and, conversely, some firms with a low level of indebtedness may face higher financial constraints (Fernández de Guevara et al., 2021).

The construction industry is the key element of the economy and society, as all sectors of the economy depend heavily on construction to provide the infrastructure underlying competitiveness, housing, specialized buildings, and production units (Aivaz, 2018b). Therefore, the access to financing of the economic agents from Constanța County determines an increasing trend of investments that can contribute to the revitalization of the construction sector (both on the residential and on the logistics industrial segments) in the area.

5. Conclusions

The construction sector has an exceptional impact on economic development around the world. Adequate buildings and infrastructure built by the construction sector ensure that a country achieves certain goals such as social development, industrialization, freight transport, sustainable development, and urbanization (Alaloul et al., 2021).

Construction activities can have impacts on coastal development and growth. Achieving the business objectives of the construction sector without compromising the values of sustainability has led to the belief that an integrative approach should be taken into account when drawing up the maritime spatial plan. Integration into MSP is understood as a multidimensional effort, however, MSP practitioners have difficulties integrating socio-economic aspects into their MSP processes (Weig and Schultz-Zehden, 2019).

Further analyzes will introduce the data for 2020 in Constanța County, to compare how the Covid-19 pandemic has left its mark on the activity in the construction sector, especially since there are already studies on aspects of sustainable investment in construction and real estate development as well as their interactions in the pre-, intra- and post-COVID-19 period (Kaklauskas et al., 2021).

6. Acknowledgment

This work has been supported by the European Commission through the European Maritime and Fisheries Fund, Cross-border Maritime Spatial Planning for Black Sea – Bulgaria and Romania (MARSPLAN-BS-II), EASME/EMFF/2018/1.2.1.5/01/SI2.806725.

7. References

- Aivaz, K.A., 2018a. Aspects Regarding the Profitability of Companies in the Towns of Constanta County, in 2016 and 2017. *Ovidius University Annals, Economic Sciences Series*, 18(2), pp. 88-93, <http://stec.univ-ovidius.ro/html/anale/RO/wp-content/uploads/2019/02/2-1.pdf>.
- Aivaz, K.A., 2018b. Dynamics of the Profit Rate of Companies Grouped by Activity Fields in Constanta. *Ovidius University Annals, Economic Sciences Series*, 18(2), pp. 82-87, <http://stec.univ-ovidius.ro/html/anale/RO/wp-content/uploads/2019/02/1-1.pdf>.
- Aivaz, K.A., 2020. Considerations on Asset Management and Turnover Factorial Correlations: The Case of Dobrogea Region, Romania. *Ovidius University Annals, Economic Sciences Series*, 20(2), pp. 68-74, <https://stec.univ-ovidius.ro/html/anale/RO/wp-content/uploads/2021/03/Section%202/1.pdf>.
- Aivaz, K.A., 2021. Financial Performance Trends and Corporate Responsibility Incentives in a Group of Support Services in Constanța County, Romania. *Annals of “Dunarea de Jos” University of Galati Fascicle I. Economics and Applied Informatics*, 27(1), pp. 52-60, DOI: 10.35219/eai15840409167.
- Alaloul, W. S., Musarat, M. A., Rabbani, M. B. A., Iqbal, Q., Maqsoom, A., Farooq, W., 2021. Construction Sector Contribution to Economic Stability: Malaysian GDP Distribution. *Sustainability*, 13(9), 5012, <https://doi.org/10.3390/su13095012>.
- Baser, V., Biyik, C., 2016. The problems and resolution approaches to land management in the coastal and maritime zones of Turkey. *Ocean & Coastal Management*, 119, pp. 30-37, <https://doi.org/10.1016/j.ocecoaman.2015.09.018>.
- Bontempi, M.E., Bottazzi, L., Golinelli, R., 2020. A multilevel index of heterogeneous short-term and long-term debt dynamics. *Journal of Corporate Finance*, 64, 101666, <https://doi.org/10.1016/j.jcorpfin.2020.101666>.
- Cheng, F., Chiao, C., Fang, Z., Wang, C., Yao, S., 2020. Raising short-term debt for long-term investment and stock price crash risk: Evidence from China. *Finance Research Letters*, 33, 101200, <https://doi.org/10.1016/j.frl.2019.05.018>.
- Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0089>.
- Dupont, C., Gourmelon, F., Meur-Ferec, C., Herpers, F., Le Visage, C., 2020. Exploring uses of maritime surveillance data for marine spatial planning: A review of scientific literature. *Marine Policy*, 117, 103930, <https://doi.org/10.1016/j.marpol.2020.103930>.

- Fernández de Guevara, J., Maudos, J., Salvador, C., 2021. Effects of the degree of financial constraint and excessive indebtedness on firms' investment decisions. *Journal of International Money and Finance*, 110, 102288, <https://doi.org/10.1016/j.jimonfin.2020.102288>.
- Fernández de Guevara, J., Maudos, J., Salvador, C., 2021. Firms' investment, indebtedness and financial constraints: Size does matter. *Finance Research Letters*, 102240, <https://doi.org/10.1016/j.frl.2021.102240>.
- Florea Munteanu, I., 2021. Comparative Analysis on Financial Performance and Sustainable Incentives in the Construction Sector. Evidence from the Coastal Area of Romania. *Annals of "Dunarea de Jos" University of Galati Fascicle I. Economics and Applied Informatics*, 27(1), pp. 61-67, <https://doi.org/10.35219/cai15840409168>.
- Kaklauskas, A., Zavadskas, E.K., Lepkova, N., Raslanas, S., Dauksys, K., Vetloviene, I., Ubarte, I., 2021. Sustainable Construction Investment, Real Estate Development, and COVID-19: A Review of Literature in the Field. *Sustainability*, 13(13), 7420, <https://doi.org/10.3390/su13137420>.
- Oliveira, G.R., Tabak, B.M., de Lara Resende, J.G., Cajueiro, D.O., 2013. Determinants of the level of indebtedness for Brazilian firms: A quantile regression approach. *Economía*, 14(3-4), pp. 123-138, <https://doi.org/10.1016/j.econ.2013.11.002>.
- Petrișor A.I., 2017. A diversity-based approach to the spatial development of socioecological systems. *Urbanism Architecture Constructions*, 8(2), pp. 143-162.
- Petrișor A.I., Susa, A.A., Petrișor, L.E., 2020. Counting for sustainability: the risks of creating a market for the environment. *PESD*, 14(1), pp. 167-184, <https://doi.org/10.15551/pesd2020141013>.
- Stan, M.I., Aivaz, K.A., Ionițiu, I., 2019. Projects to Reduce the Coastal Erosion of the Romanian Black Sea Area. *Ovidius University Annals of Constanta-Series Civil Engineering*, 21(1), pp. 109-114, DOI: <https://doi.org/10.2478/ouacsce-2019-0013>.
- Stan, M.I., Vintilă, D.F., Țenea, D.D. Engineering Solutions for the Management of the Black Sea Coastal Zone. *Proceedings of the 14th International Multidisciplinary Scientific GeoConference on Water Resources. Forest, Marine and Ocean Ecosystems SGEM 2014*, 3(2), pp. 577-584.
- Weig B., Schultz-Zehden, A., 2019. Spatial Economic Benefit Analysis: Facing integration challenges in maritime spatial planning. *Ocean & Coastal Management*, 173, pp. 65-76, <https://doi.org/10.1016/j.ocecoaman.2019.02.012>.
- Zubizarreta, M., Cuadrado, J., Iradi, J., Garcia, H., Orbe, A., 2017. Innovation evaluation model for macro-construction sector companies: A study in Spain. *Evaluation and Program Planning*, 61, pp. 22-37, <https://doi.org/10.1016/j.evalprogplan.2016.10.014>.