ECONOMIC AND FINANCIAL IMPACTS OF THE COVID-19 PANDEMIC ON THE HIGHER EDUCATION SECTOR AT B3

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ABSTRACT

This article analyzes the preliminary economic-financial impacts of the COVID-19 pandemic on companies in the higher education sector, listed on the Brazilian capital market. To carry out the analysis, a set of economic-financial indicators was selected referring to the four companies listed in Brasil Bolsa Balcão – B3 (Brazil, Stock Exchange, Over the Counter Trades) and changes that occurred in it during the COVID-19 pandemic were evidenced. We conducted documental research with data collected from the Comdinheiro Platform and other sources. The period investigated covered the years 2017 to 2020 (first semester), and the data were analyzed using mixed methods. The results show the increase in default of students from Higher Education Institutions (HEI), which impacted the drop in profitability and market value of companies. Even in the face of these negative impacts, it was possible to verify that the companies have economic and financial solidity, with the potential to expand their participation in the sector and, with that, make it even more concentrated, in view of the potential for oligopoly formation, whose possible consequences for the sector were indicated.

Keywords: Higher education sector. Capital markets. Financial analysis. Pandemic. COVID-19.

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IMPACTOS ECONÔMICO-FINANCEIROS DA PANDEMIA DE COVID-19 NO SETOR DE EDUCAÇÃO SUPERIOR NA B3

RESUMO

Este artigo analisa os impactos econômico-financeiros preliminares da pandemia de COVID-19 sobre as companhias do setor de educação superior, listadas no mercado de capitais brasileiro. Para realizar a análise, selecionou-se um conjunto de indicadores econômico-financeiros referente às quatro companhias listadas na Brasil, Bolsa Balcão – B3 e foram evidenciadas mudanças ocorridas nele durante a pandemia de COVID-19. Realizou-se uma pesquisa documental com dados coletados junto à Plataforma Comdinheiro e outras fontes. O período investigado abrangeu os anos de 2017 a 2020 (primeiro semestre), e os dados foram analisados por meio de métodos mistos. Os resultados evidenciam o aumento da inadimplência de discentes das Instituições de Educação Superior (IES), o que impactou na queda de rentabilidade e no valor de mercado das companhias. Mesmo diante desses impactos negativos, foi possível constatar que as companhias possuem solidez econômico-financeira, com potencial para ampliar a sua participação no setor e, com isso, torná-lo ainda mais concentrado, em vista do potencial de formação de oligopólio, cujas possíveis consequências para o setor foram indicadas.

Palavras-Chave: Setor de educação superior. Mercado de capitais. Análise financeira. Pandemia. COVID-19.

1 INTRODUCTION

In this article, we discuss the economic-financial impacts of the COVID-19 pandemic on the higher education sector present in the Brazilian capital market. The Brazilian higher education sector present in the Brasil Bolsa Balcão – B3 (Brazil, Stock Exchange, Over the Counter Trades), until the end of 2020, it had four companies, namely, Ânima Educação, Cogna Educação, Ser Educacional and Yduqs Participações[4]. In a survey carried out in 2017, Silva Junior, Silva, Melo, & Martins-Silva (2017b) identified that these four companies concentrated approximately 25% of the total enrollment in Brazilian higher education and were present in all Brazilian states with the offer of educational services in the in-person and distance education modalities (D.Ed). To facilitate the reader's understanding, we chose in this article to identify these companies only as Ânima, Cogna, Ser and Yduqs, respectively.

COVID-19, a disease caused by the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2), caused the first pandemic of the 21st century. The declaration of a pandemic by the World Health Organization (WHO), on March 11, 2020, relied on two main factors: (1) the ease of transmission of the virus between humans via the respiratory tract; and (2) the little knowledge that the world scientific community had regarding the ways to deal with the virus (Armitrano, Magalhães, & Silva, 2020; Donthu & Gustafsson, 2020; Gorbalenya,

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[4] For simplicity, in this article, we chose to identify these companies as Ânima, Cogna, Ser and Yduqs, respectively.

Baker, Baric, et al., 2020; Pak, Adegboye, Adekunle, Rahman, McBryde, & Eisen, 2020).

In addition to the health and human health implications on a global scale, COVID-19 has led several countries around the world to adopt restrictive measures, such as, implementation of social isolation; control of the movement of people on public roads; prohibition of holding events with the presence of audiences; and closing of industrial, commercial and educational establishments. The adoption of these measures aimed to control the spread of the disease and allow public health structures to prepare to withstand the increase in demand from infected patients. As a result, several countries, including Brazil, experienced consequences of an economic, social and political nature that negatively affected the world economy (Armitrano et al., 2020; Donthu & Gustafsson, 2020; Pak et al., 2020).

This article focuses on the analysis of higher education, a sector responsible for the educational and professional training of students which has the potential to influence the future of an emerging country like Brazil (Lima, Lopes, Nassif, & Silva, 2015). According to the Higher Education Census, in 2019, Brazil had 2,608 Higher Education Institutions (HEI) accredited by the MEC, 302 of which are public and 2,306 are private. Altogether, these HEIs offered 40,427 courses, of which 35,898 were in-person courses and 4,529 were D.Ed courses (Inep, 2020).

In Brazil, COVID-19 found a scenario in which the population was already facing a situation of vulnerability, with high unemployment rates and relevant cuts in social policies (Werneck & Carvalho, 2020). According to the Semesp Institute (2020), the COVID-19 pandemic increased the existing crisis, causing negative effects that directly influenced the labor market, with layoffs, reduction of jobs, increase in unemployment, reduction in income and working hours, as well as suspension of employment contracts (Instituto Semesp, 2020).

In this context, the reflexes in the education sector were immediate. In March 2020, HEIs suspended in-person activities to avoid agglomerations and promote social distancing among members of the academic community. The alternative indicated by the Ministry of Education (MEC) and adopted by several HEIs was the use of virtual environments and D.Ed technological tools to continue academic activities and the academic period (Borba et al., 2020; Oliveira et al., 2020).

This migration of activities through virtual environments did not occur uniformly in the sector. What was observed was that HEIs that offer D.Ed courses migrated, almost immediately, from in-person teaching to the use of virtual environments, continuing the current academic semester, which did not happen with HEIs that work exclusively with in-person teaching.

From an economic-financial point of view, The Semesp Institute (2020) identified a growth in default associated with an increase in the dropout of students enrolled in private HEI, aspects that have the potential to cause dismissals of professors and administrative technicians, as well as impacting on the reduction of the offer of educational services in the private segment of Brazilian higher education. Thus, this article aimed to evaluate the preliminary economic-financial impacts of the COVID-19 pandemic on companies in the higher education sector present in the Brazilian capital market. It should be noted that this article evaluated the effects of the pandemic both in terms of sectoral indicators (number of HEIs,

vacancies, enrollments and others) and in terms of financial indicators of companies in the sector listed on B3.

To conduct the analysis, economic-financial indicators were selected that made it possible to highlight the differences between two periods: before the COVID-19 pandemic (2017 to 2019) and during it (first half of 2020). In methodological terms, we conducted documental research with data collected from Inep, the Comdinheiro Platform database, the website of the investigated companies, B3, among other sources. We analyzed the data via mixed methods (Creswell, 2007), through statistical comparison of the companies' economic-financial indicators in different periods of time, as well as through content analysis (Bardin, 2011) of the accounting reports of the four investigated companies.

This article is justified for two main reasons. The first concerns the relevance of companies in the higher education sector listed on B3, which account for approximately 25% of enrollments in all Brazilian higher education. The second argument refers to the fact that these four companies have the capacity to respond immediately to the COVID-19 pandemic in an impactful way, since they are made up of medium and large HEI. The analysis is favored by the wide availability of economic and financial data by these companies, which are part of the Novo Mercado (New Market) on B3, and have mandatory disclosure.

In the international literature, there are studies that analyzed the impacts of the 2008 and 2009 economic crisis on higher education in the United States of America – EUA (Geiger, 2010); who investigated the impact of financial crises on HEI finances and strategies located in the western part of the United States of America (Dorantes & Low, 2016); and on how the economic crisis affects the quality of the education system in several countries around the world (Heyneman, 1990). In addition, there are also those dedicated to analyzing the effects of the COVID-19 pandemic on the finances of listed companies (Qin, Huang, Shen, & Fu, 2020; Rababah, Al-Haddad, Sial, Chunmei, & Cherian, 2020; Shen, Fu, Pan, Yu, & Chen, 2020). However, this article covers a gap in the literature, given that there is still a lack of studies regarding the impact of the COVID-19 pandemic on the private higher education sector, and in particular, on the finances of Brazilian higher education companies listed on the capital markets. The results of this article can contribute to the academic and business environment, as well as to public policy makers and implementers. They can guide relevant reflections on the directions of Brazilian higher education from an economic-financial, social and political point of view.

The article was structured in five sections, in addition to this introduction. The second section presents aspects related to Brazilian higher education and the capital market. Next, we present the method. We dedicated the fourth and fifth sections, respectively, to the presentation and discussion of the results. The sixth section presents the conclusions.

2 BRAZILIAN HIGHER EDUCATION AND THE CAPITAL MARKET

From a historical point of view, Brazilian higher education has undergone transformations over the years. According to Silva Junior et al. (2017a), these transformations involved (1) the prohibition of higher education in Brazil in the colonial period (Cunha, 2000); (2) the first initiatives to create higher schools after

the Proclamation of the Republic in 1889, with a predominance of public HEIs (Cunha, 2000); (3) the political action of the Federal Council of Education (CFE) in the 1960s and 1980s to interrupt the HEI federalization process and act in defense of the private sector (Cunha, 2000; Silva Junior et al., 2017a); (4) the enactment of the Law on National Education Guidelines and Bases (LDBEN) – Law N. 9.394/1996 which was configured as a regulatory framework that enabled the expansion of Brazilian higher education, especially in the private sector (Cunha, 2000; Silva Junior et al., 2017a; Silva Junior & Quilice, 2020); and (5) the "New Era", which began in 2005 and continues to the present day, marked by the consolidation of the predominance of the private sector in higher education and the arrival of HEIs in the Brazilian capital market in 2007 (Silva Junior et al., 2017a; 2017b; Silva Junior, Silva, Dumer, & Martins-Silva, 2019; Silva Junior, Silva, Dumer, & Martins-Silva, 2020).

This predominance of the private segment can be observed in the last Higher Education Census, that of 2019. According to the census, the private sector represented (1) 88.42% of the total of HEIs, (2) 73.5% of total courses; (3) 94.9% of the total number of vacancies offered; and (4) 75.82% of the total enrollment in Brazilian higher education, considering in these data in-person and D.Ed courses (Inep, 2020). In this context, a relevant factor that has drawn the attention of Silva Junior et al. (2017a), Silva Junior et al. (2017b), Pinheiro and Serrano (2019) and Silva Junior et al. (2019; 2020) was the arrival of HEIs on the capital market in 2007, through an Initial Public Offering – IPO with the former São Paulo Stock, Commodities and Futures Exchange (BM&FBovespa).

In 2007, the first HEI groups to undergo the IPO were the Anhaguera Educacional S.A., Estácio Participações S.A. and Kroton Educacional S.A. These first three processes result from the transformation, respectively, of the maintainer entities (1) Anhaguera; (2) Universidade Estácio de Sá; and (3) Pitágoras, in publicly traded companies. In the following years, the IPOs of Gaec Educação S.A. (Ânima) and Ser Educacional S.A., making the sector count on the presence of five companies (Silva Junior et al., 2017b).

In 2013, the acquisition of Anhanguera Educacional S.A. by Kroton Educacional S.A. took place, consolidating the sector with the presence of four companies in the capital market (Silva Junior et al., 2017b). More recently, there have been changes in the capital markets, the main ones are the facts that (1) BM&FBovespa was transformed into B3; (2) Kroton became Cogna; (3) Estácio took on the name of Yduqs; and (4) Cruzeiro do Sul Educacional underwent its IPO in 2021 (Silva Junior et al., 2019; 2020; B3, 2021). As a result, currently, five companies are listed on B3: Ânima, Cogna, Cruzeiro do Sul, Ser and Yduqs[5].

3 METHODOLOGICAL PROCEDURES

From a methodological point of view, we conducted documental research (Mogalakwe, 2006) together with secondary data sources, referring to companies in the higher education sector present in the Brazilian capital market in the

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[5] According to Brasil Bolsa Balcão – B3, in the current sectoral classification, the higher education sector is made up of these five companies. Considering that this research included data for the period from 2017 to 2020 (first semester), Cruzeiro do Sul Educacional was excluded from the analysis, as its IPO and listing on B3 only took place in 2021. Thus, the analyzes of this study included the four investigated companies, which are: Ânima, Cogna, Ser and Yduqs.

investigated period – Ânima, Cogna, Ser and Yduqs – and the industry in general. Data collection was carried out together (1) with the database of the National Institute of Educational Studies and Research Anísio Teixeira (Inep); (2) the Comdinheiro platform; (3) the companies' websites, especially with the investor relations departments; (4) the B3 website; and (5) and other sources. Several secondary documents were consulted, such as accounting and financial reports, administration reports, statistical data, among others. Procedures such as these, which involve consultations with multiple sources of information, were also used in studies by Rodrigues and Galdi (2017) and Silva, Roma and Iquiapaza (2020). With this, it was possible to achieve a more comprehensive view of the context.

We analyzed data through mixed methods by articulating quantitative and qualitative approaches (Creswell, 2007) with a predominance of the former. In the quantitative analysis, we compared the companies' economic-financial indicators in different periods of time. We performed the qualitative analysis using the content analysis technique (Bardin, 2011) of accounting reports. The qualitative analysis of the accounting reports is in line with the perspective proposed by Assaf Neto (2014), in which the indicators should not be analyzed without a greater understanding of the context of the companies evaluated.

In order to reach the proposed objective, economic-financial indicators consolidated in the Finance literature were calculated (Assaf Neto, 2014; Pamplona, Silva, Nakamura, & Rodrigues Junior, 2019; Souza, Montezano, & Lameira, 2020; Almeida & Flach, 2020; Lunardi, Bilk, & Rodrigues Junior, 2020) for the four companies, as performed by Silva Junior et al. (2019). Whereas the WHO's declaration of a pandemic took place on March 11, 2020, it was understood that the first half of 2020 was the period that should be compared with previous periods to identify the effects of the pandemic on companies and, thus, we made three comparisons. The first refers to the comparison of the first half of 2020 with the end of 2019. The second refers to the comparison of the first half of 2020 with the first half of 2019 and, finally, the third is the comparison of the first half of 2020 with the average of the first half of the last three years (2017, 2018 and 2019). To facilitate the presentation of the results, we coded these three comparisons, respectively, as follows: (1) 1S/20 - 19; (2) 1S/20 - 1S/19; and (3) 1S/20 – average -17-18-19. With these three comparisons, we aim to identify the changes that have taken place in the economic-financial indicators and to assess the effect of the pandemic on them.

The indicators are divided into five groups: (1) liquidity indicators; (2) activity indicators; (3) indebtedness and capital structure indicators; (4) profitability indicators; and (5) market indicators. According to Assaf Neto (2014), economic-financial indicators allow the evaluation of profitability and the ability to generate profits in the future (economic situation), in addition to the ability to fulfill the obligations assumed (financial situation) by the companies. Table 1 presents the indicators used in each group and the calculation method for each one. We emphasize that because the companies are providers of educational services, some indicators presented by Assaf Neto (2014) were not calculated because they are not correctly applicable to these companies, such as dry liquidity, average storage term and average supplier payment term. This procedure was also performed by Silva Junior et al. (2019).

Table 1
Economic-Financial Indicators Used in the Research

N°	Indicator	Acronym	Description
1	Liquidity indicators	-	Assess the company's ability to pay in relation to its obligations
1.1	Current liquidity	CL	Current assets/current liabilities
1.2	Immediate liquidity	IL	Cash/current liabilities
1.3	General liquidity	GL	(Current assets + long-term receivables)/(current liabilities + long-term liabilities)
2	Activity indicators	-	Evaluate the company's operating performance
2.1	Average Receipts Period	ARP	Accounts receivable/(net revenue/180)
3	Indebtedness and capital structure indicators	-	Evaluate indebtedness and allocation of resources in the company
3.1	Indebtedness	INDEB	Total liabilities/total assets
3.2	Immobilization of resources	IMOB_RES	Permanent assets/(long-term liabilities + equity)
4	Profitability indicators	-	Evaluate the company's return in relation to invested capital or sales revenue
4.1	Return on asset	ROA	Operating income/total assets
4.2	Return on equity	ROE	Net income/equity
4.3	Operating margin	OM	Operating income/net revenue
4.4	Net margin	NM	Net income/net revenue
5	Market indicators	-	Evaluate the performance of the company's stock price
5.1	Earnings per share	EPS	Net income/number of shares issued
5.2	Market-to-book	MTB	Market value/equity

Source: Prepared by the authors based on Assaf Neto (2014) and in Silva Junior et al. (2019).

Still in relation to the information presented in Table 1, it is noteworthy that only for the calculation of the average collection period for the entire year of 2019, net revenue was divided by 360 and not by 180 days. The division by 180 days is only suitable for the calculation of said indicator for a half-year period. Furthermore, it is also noteworthy that some profitability and market indicators presented by Assaf Neto (2014), such as ROIC (return on investments), for example, were not included in the analysis. It was understood that they would generate informational content that would already be relatively covered by other indicators and could, therefore, be omitted without prejudice to the analysis of the data and the achievement of the proposed objective.

4 RESULTS PRESENTATION

This section was structured into two subsections. In the first one, we present the characteristics of the higher education sector in the Brazilian capital market. The second concerns the economic-financial indicators of the four companies investigated.

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4.1 The Dynamics of the Higher Education Sector of the Brazilian Capital Market

Even before presenting the characteristics of the higher education sector present in the Brazilian capital market, it is understood to be relevant to contextualize, in a broader way, Brazilian higher education and the public and private segments. For this purpose, we use the statistical data provided by Inep in its databases.

whereas empirical research on financial indicators covered the four-year period between 2017 and 2020, In this study, we chose to use statistical data from Inep also referring to four years. It is noteworthy, however, that the years analyzed cover the period from 2016 to 2019, which refer to the last four Higher Education Censuses.

Although the periods used in the analysis of the indicators of the four companies and the sector are different, this approach was used because the most current data are both those of the companies and the sector. Even when dealing with different periods, the analysis allows us to understand the evolution of the indicators of the investigated companies and the sector.

As a way of contextualizing the Brazilian higher education sector, Table 2 is presented with data on the number of HEIs, courses, vacancies offered and enrollment in undergraduate courses in-person and D.Ed modalities for the years 2016 to 2019, subdivided between the public and private segments.

Table 2
Indicators of Brazilian Higher Education Segmented between Public and Private

Total HEI			
Years	Public	Private	Total
2016	296	2,111	2,407
2017	296	2,152	2,448
2018	299	2,238	2,537
2019	302	2,306	2,608
Total Courses			
Years	Public	Private	Total
2016	10,542	23,824	34,366
2017	10,425	24,955	35,380
2018	10,526	27,436	37,962
2019	10,714	29,713	40,427
Total Vacancies Offered			
Years	Public	Private	Total
2016	750,850	9,911,651	10,662,501
2017	823,843	9,955,243	10,779,086
2018	835,569	12,693,532	13,529,101
2019	837,809	15,587,493	16,425,302
Total Enrollments			
Years	Public	Private	Total
2016	1,990,078	6,058,623	8,048,701
2017	2,045,356	6,241,307	8,286,663
2018	2,077,481	6,373,274	8,450,755
2019	2,080,146	6,523,678	8,603,824

Note. Courses, vacancies and enrollment refer to in-person and distance learning modalities.
Source: Inep (2017; 2018; 2019; 2020).

Through the data presented in Table 2, it is possible to observe the following central aspects between the years 2016 to 2019: (1) 8.35% increase in the number of HEIs, especially in the private sector; (2) 1.63% increase in the number of courses offered in the public sector; (3) 24.72% increase in the number of courses offered in the private segment; (4) 11.58% increase in the number of vacancies offered in the public sector; (5) 57.26% increase in the number of vacancies offered in the private sector; (6) 4.53% increase in the number of enrollments in the public segment; and (7) 6.89% increase in the number of enrollments in the private segment. In view of this, it appears that both the public and private segments had an increase in the indicators. However, the increase has always been more pronounced in the private sector, which characterizes the "New Era" of Brazilian higher education (Silva Junior et al., 2017a).

In the period investigated, only four companies had shares traded on B3. These are Ânima, Cogna, Ser and Yduqs that are configured as maintainer entities of 416 HEIs accredited by the MEC, representing approximately 18.04% of the total number of private HEIs (Ânima Educação, 2020; Cogna Educação, 2020; Ser Educacional, 2020; Yduqs Participações, 2020; Sistema e-MEC, 2020).

Ânima is a company that held an IPO in the capital markets in 2013. Its history in higher education began in 2003 with the acquisition of Minas Gerais Educação Ltda., the maintainer entity of Centro Universitário Una, located in Belo Horizonte, capital of Minas Gerais (Ânima Educação, 2020).

Currently, with approximately 17 years of experience in Brazilian higher education and 102,460 students enrolled, Ânima controls 69 HEIs, of which the following stand out: (1) Universidade São Judas Tadeu in the State of São Paulo; (2) seven university centers, which are, Una, Una Bom Despacho, UniBH, Centro Universitário São Judas Tadeu, UniSociesc, UniSociesc Curitiba, Centro Universitário UniAGES, which are located in the states of Minas Gerais, São Paulo, Paraná, Santa Catarina, Sergipe and Bahia; and (3) two colleges and several academic units, in the states of Minas Gerais, Goiás, Santa Catarina, Bahia and Sergipe (Ânima Educação, 2020; Sistema e-MEC, 2020).

The history of Cogna in Brazilian education has as its starting point the creation of the pre-university course Pítágoras, in 1966. From its origins until the end of the 1990s, the Pitágoras Network was dedicated to basic education. It was only in the early 2000s that the first higher education initiative emerged with the creation of Faculdade Pitágoras. An important step in the company's history was taken in 2007, when Pitágoras made its IPO with BM&FBovespa under the name Kroton Educacional (Cogna Educação, 2020).

As a publicly-held company, Kroton Educacional implemented a broad acquisition process, the main ones being IUNI Educacional, in 2010, and Anhanguera Educacional, in 2013. Over the years, the company continued its expansion and restructuring process, culminating in 2019 with the creation of Cogna Educação, which is configured as a new business structure, based on four verticals (term adopted by the company that represents its business units) within the education sector. They are: (1) Kroton, dedicated to in-person and D.Ed; (2) Platos, dedicated to in-person postgraduate D.Ed; (3) Saber, dedicated to basic education through its own schools/contracts and the Red Balloon network.(English schools); and (4) Vasta, dedicated to serving basic education by offering content

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to schools through education systems, such as Anglo and Pitágoras, with digital and printed material (Cogna Educação, 2020).

According to the figures presented on the company's website, Cogna has the following data by its business vertical: (1) Kroton, which has approximately 844 thousand students enrolled in in-person and D.Ed undergraduate courses linked to 181 HEI accredited by the MEC; (2) Platos, which has approximately 44,000 students enrolled in in-person and D.Ed graduate courses (together, Kroton and Platos have 181 own higher education units and 1,536 accredited centers of D.Ed); (3) Saber, which has approximately 31 thousand students enrolled in 52 own schools/contracts and 22 thousand students distributed in 122 units of the Red Balloon network; and (4) Vasta, serving approximately 1.5 million students in 4,200 associated schools (Cogna Educação, 2020; Sistema e-MEC, 2020).

Ser had its origins in the educational context with the foundation of the Bureau Jurídico Educational Complex, in 1993, who held preparatory courses for tenders in Recife, capital of Pernambuco. In 2003, Ser entered higher education with the accreditation of Faculdade Maurício de Nassau, maintained by Ensino Superior Bureau Jurídico Ltda (ESBJ), that succeeded the former educational complex (Ser Educacional, 2020). Over the years, Ser has been implementing a process of growth and expansion, always focused on the Northeast and North of Brazil, with Maurício de Nassau as its main brand. In 2010, the institution adopted the Ser Educacional brand and, in 2013, made its IPO with the BM&FBovespa (Ser Educacional, 2020).

As a publicly-held company, Ser intensified its expansion process through new acquisitions and the opening of new units, reaching all Brazilian regions. Ser has 90 HEIs accredited by MEC, and its main institutions are: (1) Centro Universitário Maurício de Nassau (UniNassau); (2) Universidade da Amazônia (Unama); (3) Universidade Guarulhos (UNG); (4) Faculdade Maurício de Nassau; (5) Faculdade Joaquim Nabuco; and (5) Faculdades Integradas do Tapajós. Through these HEI and other institutions, Ser offers undergraduate, graduate and technological education courses in classroom and D.Ed modalities and currently has 177,200 students enrolled (Ser Educacional, 2020; Sistema e-MEC, 2020).

The history of Yduqs is related to the accreditation of the Estácio de Sá Law School in the city of Rio de Janeiro in 1970. Since its inception, the institution has shown an entrepreneurial profile when it begins a process of expansion that culminated in 1972, in the transformation of the institution into Faculdades Integradas Estácio de Sá and, in 1988, with the transformation of the institution into the Universidade Estácio de Sá in Rio de Janeiro (Yduqs Participações, 2020).

With the status of university, the institution experienced a first expansion process within the scope of the municipality of Rio de Janeiro, in 1992. Then, in 1996, the expansion target was the state of Rio de Janeiro and, from 1998, expansion took place at the national level. This process of national expansion culminated in the formation of a conglomerate of entities that are maintainers and maintained. As a way of achieving corporate effectiveness, this conglomerate underwent an organizational restructuring process in 2005. This restructuring made it possible, in 2007, to go public with the BM&FBovespa and the creation of Estácio Participações (Yduqs Participações, 2020; Sistema e-MEC, 2020).

After the IPO, the company has been implementing a broad process of expansion and growth through the opening of new HEIs and acquisitions of new

maintainer and maintained entities. In 2019, the company adopted the Yduqs Participações brand and currently has (1) 33 maintainer entities; (2) 76 entities maintained accredited by the MEC; (3) 114 campi; (4) 1,225 D.Ed poles; and (5) 752,700 students enrolled, 343,800 of which in on-site undergraduate courses, 296,800 in D.Ed undergraduate courses, 28,300 in on-site graduate courses and 83,800 in D.Ed graduate courses (Yduqs Participações, 2020; Sistema e-MEC, 2020).

Although these four companies have a wide range of activities in Brazilian education (basic and higher education), we present below the data referring only to enrollments in undergraduate courses (in-person and D.Ed), which will allow for a comparative analysis with Table 2. Table 3 shows the evolution in the number of enrollments in undergraduate courses of these companies between the years 2017 and 2020 (first semester), segmented between in-person and D.Ed modalities.

Table 3
Evolution in the Number of Enrollments in Undergraduate Courses of the Four Companies Investigated between 2017 and 2020 (First Semester)

Evolution in the number of enrollments in undergraduate courses					
Companies	Modality	2017	2018	2019	2020 (first semester)
Ânima	In-person	83,045	88,406	97,277	102,019
	D.Ed	2,752	1,153	468	441
	Total	85,797	89,559	97,745	102,460
Cogna	In-person	375,413	358,093	321,371	292,152
	D.Ed	465,851	457,239	459,025	552,029
	Total	841,264	815,332	780,396	844,181
Ser	In-person	133,945	127,837	145,496	138,700
	D.Ed	9,462	13,759	23,470	38,500
	Total	143,407	141,596	168,966	177,200
Yduqs	In-person	314,100	285,400	280,900	343,800
	D.Ed	127,600	156,100	214,600	296,800
	Total	441,700	441,500	495,500	640,600

Source: Ânima Educação (2020); Cogna Educação (2020); Ser Educacional (2020); Yduqs Participações (2020).

The comparative analysis between the data presented through Tables 2 and 3, allows us to identify some relevant aspects in terms of the quantity of HEI and enrollment in undergraduate courses (in-class and D.Ed). From the point of view of the number of HEIs, these four companies together have 416 HEIs (maintained entities) accredited by the MEC, which represents approximately 15.95% of the total HEI in the sector (Inep, 2020; Ânima Educação, 2020; Cogna Educação, 2020; Ser Educacional, 2020; Yduqs Participações, 2020; Sistema e-MEC, 2020).

Regarding the number of enrollments and considering the year 2019 as a base, we observed that these four companies had approximately 18.26% of the total enrollments in the sector. By taking into account only the private segment, it appears that these four companies account for approximately 24.21% of total enrollments (Inep, 2020; Ânima Educação, 2020; Cogna Educação, 2020; Ser Educacional, 2020; Yduqs Participações, 2020). These percentages are different from those found by Silva Junior et al. (2017b).

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A relevant aspect in relation to the number of enrollments refers to the fact that there is a similar movement between the sector and the companies investigated, since these indicators have grown in the last four years. However, while the growth in the number of enrollments in the sector was 6.9% and, specifically, in the private segment it was 7.7%; in the case of the investigated companies, this growth was 16.7%. To some extent, this more expressive increase observed in the evolution of the student base may be related to the movement of acquisitions that these companies have been undertaking in the private segment in recent years (Pinheiro & Serrano, 2019; Inep, 2020; Ânima Educação, 2020; Cogna Educação, 2020; Ser Educacional, 2020; Yduqs Participações, 2020). Considering that these companies represent approximately 18.04% of the total of private HEIs and that the movement of acquisitions has been intensifying in the sector, it can be inferred that these four companies have ample opportunity for expansion in the sector, with a tendency to make it increasingly concentrated in these four large business groups present in the Brazilian capital market (Pinheiro & Serrano, 2019).

4.2 The Dynamics of the Investigated Companies' Economic-Financial Indicators

Table 4 presents, in Panel A, the indicators of liquidity, activities, indebtedness and capital structure calculated for each of the four companies investigated. Panel B in Table 4 presents the comparisons made in this research, in order to identify the preliminary economic-financial impacts of the COVID-19 pandemic on the higher education sector present in the Brazilian capital market.

Table 4
Indicators of Liquidity, Activities and Indebtedness and Capital Structure

Panel A - Calculated Indicators							
Companies	Date	CL	IL	GL	ARP	INDEB	IMOB_RES
ÂNIMA	30/06/2017	1.56	0.49	0.85	130	51.07%	70.61%
	30/06/2018	2.45	1.33	0.84	77	51.58%	66.42%
	30/06/2019	1.39	0.33	0.37	75	65.17%	87.26%
	31/12/2019	1.34	0.54	0.40	37	71.23%	83.37%
	30/06/2020	3.44	2.08	0.82	90	51.93%	64.60%
COGNA	30/06/2017	2.46	1.15	1.48	127	19.00%	77.06%
	30/06/2018	2.86	0.95	1.67	156	17.88%	74.88%
	30/06/2019	1.81	0.40	0.43	154	52.56%	83.61%
	31/12/2019	1.63	0.30	0.42	86	53.59%	84.12%
	30/06/2020	2.25	1.16	0.54	175	50.53%	79.90%
SER	30/06/2017	2.04	0.98	1.01	129	47.11%	63.22%
	30/06/2018	4.46	2.90	1.49	114	37.57%	49.47%
	30/06/2019	2.04	1.21	0.90	105	48.98%	67.98%
	31/12/2019	1.59	0.75	0.70	47	48.87%	78.37%
	30/06/2020	3.12	1.93	0.83	120	55.07%	61.81%
YDUQS	30/06/2017	1.64	0.52	1.41	105	38.18%	60.77%
	30/06/2018	1.95	0.46	1.96	105	26.86%	59.56%
	30/06/2019	2.49	1.11	0.90	77	45.48%	66.82%
	31/12/2019	2.19	0.90	0.90	38	43.72%	69.10%
	30/06/2020	1.48	0.93	0.65	90	65.58%	73.45%

Panel B - Comparisons							
Companies	Comparisons	CL (%)	IL (%)	GL (%)	ARP (%)	INDEB (%)	IMOB_R ES (%)
ÂNIMA	1S/20 - 19	156.43	287.03	105.27	145.46	-27.09	-22.52
	1S/20 - 1S/19	146.58	527.71	120.70	20.78	-20.31	-25.97
	1S/20 – average -17-18-19	90.87	189.97	19.10	-3.86	-7.16	-13.60
COGNA	1S/20 - 19	38.38	285.32	27.30	103.95	-5.71	-5.01
	1S/20 - 1S/19	24.24	188.54	25.47	13.29	-3.88	-4.43
	1S/20 – average -17-18-19	-5.23	38.75	-54.82	19.75	69.48	1.77
SER	1S/20 – 19	97.03	155.88	18.78	155.18	12.69	-21.14
	1S/20 - 1S/19	52.93	58.89	-7.85	14.94	12.43	-9.08
	1S/20 – average -17-18-19	9.78	13.65	-26.87	3.64	23.61	2.63
YDUQS	1S/20 – 19	-32.10	2.97	-27.55	134.33	49.99	6.29
	1S/20 - 1S/19	-40.39	-15.91	-27.64	16.05	44.20	9.93
	1S/20 - average -17-18-19	-26.72	34.21	-54.20	-5.99	78.02	17.74

Source: Authors' own elaboration.

In Table 4, we can see that Ânima showed an increase in current liquidity in all comparisons performed (156.43% in comparison 1S/20 –19, 146.58% in comparison 1S/20 - 1S/19, and 90.87% in comparison 1S/20 – average -17-18-19 – this order of presentation will be maintained when the research comparison bases are cited together). The same occurred in relation to immediate liquidity (287.03%, 527.71% and 189.97%) and general (105.27%, 120.70% and 19.10%). These results indicate that the company did not experience difficulties in meeting its short-term obligations in the first half of 2020 and tends not to experience such difficulties in the near future, even having the financial capacity to carry out new investments, such as, for example, the acquisition of new HEIs.

It is also observed that Ânima showed an increase in its average collection period in two of the three comparisons carried out (145.46%, 20.78% and -3.86%). This result is explained by the increase in the company's receivables due to the greater difficulty of students in honoring tuition fees during the COVID-19 pandemic (Ânima, 2020). It is also observed that the company presented a reduction in its indebtedness in all the comparisons carried out by the survey (-27.09%, -20.31% and -7.16%) and in the immobilization of resources (-22.52%, -25.97% and -13.60%). The reduction in indebtedness is justified by the increase in the equity interest in the company after a subsequent offering of shares at the beginning of 2020 and, as there is high liquidity due to a greater investment in current assets, the reduction in the immobilization of resources, which refers to permanent assets, is also justified. It should be noted, however, that the company is in a position to expand its investments in the future (Ânima Educação, 2020).

In relation to Cogna, we observe, in Table 4, that the company presented an increase in current liquidity in two of the three comparisons (38.38%, 24.24% and -5.23%), increase in immediate liquidity in all comparisons (285.32%, 188.54% and

38.75%) and increase in general liquidity in two of the three comparisons made (27.30%, 25.47% and -54.82%). Thus, we observe that although the company has a current and general liquidity lower than the average of the first half of the last 3 years, it has good capacity to meet its short-term obligations. The fact that immediate liquidity is 1.16 and current liquidity is 2.25 highlights this situation. The company, however, showed an increase in its average collection period in all comparisons made (103.95%, 13.29% and 19.75%). This aspect is due to the increase in its receivables thanks to higher student defaults in the pandemic context, as pointed out by the company itself (Cogna Educação, 2020).

Cogna's indebtedness decreased in two of the three comparisons (-5.71%, -3.88% and 69.48%) and, despite an increase of 69.48% in the last of the three comparisons, the company's capital structure is made up of 50.53% of liabilities, aspect that does not tend to characterize its situation as worrying in this sense, and it can even be observed that Cogna has the lowest indebtedness among the four companies analyzed. Regarding the immobilization of resources, reductions were observed in most of the comparisons (-5.01%, -4.43% and 1.77%), however, probably due to the increase in liquidity, an aspect that characterizes an increase in the allocation of resources in current assets and reduces the proportion of fixed assets. Thus, it is observed that this reduction in the immobilization of resources, in fact, does not characterize divestments by the company (Cogna Educação, 2020).

Still in relation to Table 4, we can see that Ser showed an increase in its current liquidity in all comparisons made (97.03%, 52.93% and 9.78%). This situation also occurred in relation to immediate liquidity (155.88%, 58.89% and 13.65%) and, although the same did not occur with general liquidity (18.78%, -7.85% and -26.87%), The fact that the company has a current liquidity of 3.12 and an immediate liquidity of 1.93 suggests that Ser has a good capacity to meet its short-term obligations, and is therefore solid in this regard. The average receipt period also increased in all comparisons made (155.18%, 14.94% and 3.64%) due to the current economic situation caused by the COVID-19 pandemic (Ser Educacional, 2020), as also pointed out to Anima and Cogna.

In relation to Ser's indebtedness, an increase can be observed in all comparisons carried out by the survey (12.69%, 12.43% and 23.61%), however, at the end of the first half of 2020, the company still presented a capital structure composed of 55.07% of liabilities, an aspect that does not tend to put the company at financial risk, especially due to its high liquidity, as already presented. The company's immobilization of resources showed a drop in two of the three comparisons made (-21.14%, -9.08% and 2.63%), but these numbers are only associated with an increase in liquidity and not with divestments by the company (Ser Educacional, 2020), as was also indicated for Anima and Cogna.

Yduqs, contrary to the other companies, there was a drop in current liquidity in all comparisons (-32.10%, -40.39% and -26.72%), as can be seen in Table 4. There was also a drop in immediate liquidity in one of the three comparisons performed (2.97%, -15.91% and 34.21%) and a drop in general liquidity in all comparisons (-27.55%, -27.64% and -54.20%). This aspect suggests that, unlike other companies, which, due to the pandemic context, chose to keep more cash available as cash to meet short-term obligations, Yduqs did not opt for this strategy of investing in liquidity (current assets). In addition, differently from the other companies, Yduqs reported an increase in the immobilization of resources in all the comparisons

carried out (6.29%, 9.93% and 17.74%). This is because even in the pandemic context, the company chose to make more investments, in addition to maintaining those that were already underway (Yduqs Participações, 2020).

There is also an increase in the company's average collection period in two of the three comparisons made (134.33%, 16.05% and -5.99%). Similar to what happened with the other companies, this also occurred due to the increase in default in the pandemic period (Yduqs Participações, 2020). The company also reported an increase in its indebtedness in all comparisons made (49.99%, 44.20% and 78.02%). It is also noteworthy that among the companies analyzed, Yduqs is the one with the highest level of indebtedness with 65.58% of liabilities in its capital structure. The company attributes this increase in debt to the financing of new acquisitions and the reinforcement of cash to face the pandemic (Yduqs Participações, 2020). Thus, such indebtedness tends not to be a cause for concern, if the company's operations show positive results in the coming quarters or if there is a new public offering of shares in the near future. Considering some positive aspects reported by the company, such as the fact that it had, in the second quarter of 2020, the largest student base in its history (Yduqs Participações, 2020), the current level of indebtedness should not jeopardize the continuity of its operations.

Table 5 presents, in its Panel A, the profitability and market indicators, calculated for each of the four companies investigated, while Panel B presents the comparisons made. As can be seen, the COVID-19 pandemic has negatively impacted all companies. With only two exceptions, all companies showed reductions in return on assets (ROA), in return on equity (ROE) and in operating and net margins. The two exceptions identified also do not characterize positive results. The 59.26% increase in Ânima's ROE when comparing the first half of 2020 with the end of 2019 is actually the result of a ROE that was -1.39% and went to -0.57% , that is, there was only a reduction in the company's net loss. The 2.65% increase in Ser's net margin is the result of a variation from 10.69% at the end of 2019 to 10.97% at the end of the first half of 2020. Therefore, the results suggest that the COVID-19 pandemic generated negative results for the profitability of all companies in the higher education sector at B3.

Table 5
Profitability and market indicators

Panel A - Calculated Indicators							
Companies	Date	ROA	ROE	OM	NM	EPS	MTB
ÂNIMA	30/06/2017	5.04%	9.23%	13.87%	12.43%	0.81	1.87
	30/06/2018	3.75%	5.12%	10.17%	6.73%	0.47	1.68
	30/06/2019	4.11%	3.09%	14.25%	3.73%	0.27	2.16
	31/12/2019	5.00%	-1.39%	10.15%	-0.81%	-0.12	3.40
	30/06/2020	1.88%	-0.57%	9.31%	-1.35%	-0.09	1.58
COGNA	30/06/2017	5.28%	7.08%	33.23%	36.08%	0.64	1.65
	30/06/2018	4.41%	6.00%	29.23%	32.63%	0.58	1.01
	30/06/2019	1.90%	2.43%	17.98%	10.89%	0.24	1.10
	31/12/2019	2.98%	1.53%	14.47%	3.45%	0.15	1.26
	30/06/2020	-0.76%	-2.74%	-9.20%	-16.33%	-0.26	0.73
SER	30/06/2017	8.90%	13.25%	29.02%	22.85%	1.16	2.86
	30/06/2018	5.59%	8.34%	21.45%	19.99%	0.96	1.38
	30/06/2019	6.33%	8.68%	25.83%	18.08%	0.89	2.44
	31/12/2019	10.17%	10.42%	20.40%	10.69%	1.06	2.79
	30/06/2020	4.28%	5.26%	19.88%	10.97%	0.56	1.46
YDUQS	30/06/2017	8.16%	10.53%	20.85%	16.63%	0.96	1.61
	30/06/2018	11.98%	14.01%	26.73%	22.86%	1.41	2.46
	30/06/2019	9.70%	14.36%	28.56%	23.05%	1.45	2.81
	31/12/2019	16.33%	20.83%	25.25%	18.12%	2.15	4.53
	30/06/2020	2.52%	2.76%	12.24%	4.61%	0.29	3.24
Panel B - Comparisons							
Companies	Comparisons	ROA (%)	ROE (%)	OM (%)	NM (%)	EPS (%)	MTB (%)
ÂNIMA	1S/20 - 19	-62.40	59.26	-8.27	-66.07	26.21	-53.56
	1S/20 - 1S/19	-54.23	-118.32	-34.63	-136.11	-132.69	-27.08
	1S/20 - average -17-18-19	-56.28	-109.73	-27.02	-117.67	-117.32	-17.13
COGNA	1S/20 - 19	-125.66	-279.08	-163.57	-572.93	-276.65	-42.08
	1S/20 - 1S/19	-140.18	-212.91	-151.15	-249.93	-209.78	-33.93
	1S/20 - average -17-18-19	-119.78	-153.07	-134.31	-161.53	-153.92	-41.85
SER	1S/20 - 19	-57.91	-49.55	-2.52	2.65	-47.58	-47.81
	1S/20 - 1S/19	-32.34	-39.43	-23.01	-39.30	-37.89	-40.21
	1S/20 - average -17-18-19	-38.29	-47.89	-21.81	-45.97	-44.77	-34.48
YDUQS xxxxxxx	1S/20 - 19	-84.56	-86.74	-51.53	-74.54	-86.35	-28.50
	1S/20 - 1S/19	-74.01	-80.77	-57.15	-79.98	-79.76	15.36
	1S/20 - average -17-18-19	-74.66	-78.70	-51.78	-77.86	-76.97	41.25

Source: Authors' own elaboration.

Similarly, market indicators also fell in all comparisons, with the exception of Ânima, which also did not necessarily represent a positive result. The 26.21% increase in its earnings per share was actually derived from the reduction in its loss per share from -0.12 reported at year-end 2019 to -0.09 in the first half of 2020. It is also noteworthy that the reductions identified in the market-to-book index (MTB)

of the four companies analyzed come from the reduction of their market value during the pandemic period, with the exception of Ânima which, although it showed a reduction in this indicator at the end of the first half of 2020, such reduction was due to an increase in its shareholders' equity from a subsequent offering of shares at the beginning of the year 2020 (Ânima Educação, 2020). In general, it can be said that the results suggest that the COVID-19 pandemic has had negative impacts on the market value of the companies analyzed by the survey.

5 RESULTS DISCUSSION

Considering the results presented, it is understood that at least three aspects can be listed for analysis and discussion, which are: (1) the negative effects of the pandemic; (2) the strength of the companies; and (3) the possible future impacts of the COVID-19 pandemic on the higher education sector in Brazil and, specifically, for the private sector. Regarding the first aspect, the results show that the pandemic increased the default of HEI students maintained by the four investigated companies and this reflected in the drop in profitability and in their market value in the analyzed period. The pandemic generated an economic crisis of global impact, which culminated, among other aspects, in the increase in unemployment and in the reduction in demand from various sectors of the economy, especially those that require the physical presence of the client/user, such as higher education in its in-person modality (Donthu & Gustafsson, 2020; Pak et al., 2020).

Evidence points out that students faced difficulties to remain enrolled in HEI (especially private ones) during the COVID-19 pandemic, especially, due to the drop in personal and/or family income, caused by unemployment (Instituto Semesp, 2020). The effects of this reality on companies were verified through three aspects presented by the results, which are: (1) the increase in the average collection period, due to the increase in default; (2) the drop in profitability, including, with some companies incurring net and operating losses; and (3) the drop in the market value of companies, as a reflection of the drop in profitability experienced by them in the analyzed period.

However, the second aspect raised for discussion and analysis refers to the solidity of companies to face the pandemic period. The data indicate that the four companies investigated have high liquidity and controlled indebtedness, aspects that characterize a low risk, with regard to non-compliance with financial obligations. In this sense, despite the uncertainties regarding the duration of the pandemic and the recovery capacity of the Brazilian (and global) economy, it is understood that the companies analyzed do not present a risk of discontinuity and, therefore, are solid from a financial point of view. This aspect is important not only for companies and their shareholders, but also for their stakeholders, such as creditors, students, employees, among others.

The third aspect listed for analysis and discussion refers to the possible future impacts of the COVID-19 pandemic on the higher education sector in Brazil and, in particular, in the private segment. The need to analyze and discuss this aspect is justified based on two elements observed in the higher education sector and in the private segment present in B3. The first is associated with the fact that

preliminary data indicate that the COVID-19 pandemic has the potential to generate greater negative impacts on small and medium-sized HEIs, in particular, in the first (Instituto Semesp, 2020). The second refers to the high liquidity observed in the analyzed companies and the availability for new investments identified in the accounting reports released by them (Ânima Educação, 2020; Cogna Educação; 2020. Ser Educacional, 2020; Yduqs Participações, 2020).

In this sense, it is possible that, after the COVID-19 pandemic, the higher education sector and, in particular, the private sector in Brazil, will be configured as follows: (1) predominance of small and medium-sized HEIs in deteriorating financial situation; and (2) some other HEIs, especially the large ones, such as those of the four companies investigated by this study, with considerable availability of resources to carry out various investments. This dual relationship will allow the four companies investigated to take advantage of the opportunity to expand the ongoing acquisition processes with a view to increasing their participation in the Brazilian higher education sector and, specifically, in the private sector.

At least two empirical evidences from the Brazilian higher education sector and the sector present in the Brazilian capital market support this probable movement of acquisitions. The first evidence concerns a contrary movement in the evolution of enrollments between the private segment of the higher education sector and the four companies investigated and listed on B3. According to Inep data, on the one hand, the number of enrollments in the private segment reduced between 2016 and 2019 by 6.12% (Inep, 2017; 2018; 2019; 2020). On the other hand, the number of enrollments of the four companies investigated grew between 2017 and 2020 (only the first semester) by 16.7% (Ânima Educação, 2020; Cogna Educação, 2020; Ser Educacional, 2020; Yduqs Participações, 2020). This evidence indicates that the growth observed in the number of enrollments of the four companies investigated comes from acquisitions, since enrollment in the sector has been systematically reducing year by year.

The second evidence refers to the fact that these four companies currently control, 15.95% of the total HEI in the sector and 18.04% when considering only the private segment. This means that there are 81.96% of private HEIs in the sector (small, medium and large) that can be acquired by the four companies investigated. A recent example of this movement involved disputes between Ser and Ânima for the acquisition of the Laureate Group in Brazil.

Initially, Ser disclosed as a "Relevant Fact", on September 13, 2020, the acquisition transaction of the Laureate Group in Brazil (Ser Educacional, 2020). Later, on October 27 and 30, 2020 and November 2, 2020, Ânima released three "Relevant Facts" respectively, (1) that Ânima's proposal for the acquisition of the Laureate Group in Brazil had been successful; (2) the agreement between Ânima and Ser to settle the Transaction Agreement signed between Ser and the Laureate Group in Brazil on September 11, 2020; and (3) the agreement entered into by Ânima for the acquisition of the assets of the Laureate Group in Brazil (Ânima Educação, 2020).

With this acquisition, Ânima will increase its number of enrolled students (undergraduate and graduate – in person and D.Ed) by approximately 270,000 students, as it currently has a total of 102,460 students enrolled (Ânima Educação, 2020). With this transaction, the four companies together would reach 23.67% of

enrollments in the sector as a whole, and 31.18% of enrollments only considering the private segment.

Altogether, the two highlighted empirical evidences indicate that the Brazilian higher education sector is consolidating itself as an oligopoly-type market structure. In the context of Brazilian higher education, the oligopoly constituted by the four investigated companies has the potential to operate with great economies of scale and, with this, operating with lower operating costs both in-person and D.Ed modality, influencing various economic and financial aspects of the sector (Corrêa, 2017). Among these aspects, one can highlight (1) control over the formation of monthly fees in the sector; (2) the precariousness of teaching work and the mastery of labor relations, with the possibility of mass layoffs (Santos, Guimarães-Iosif, & Chaves, 2013); (3) the possible compromise in the quality of the educational services offered (Corrêa, 2017; Silva Junior et al., 2017a; Cruz & Paula, 2018); (4) political action with the MEC to direct the formulation and implementation of public policies that benefit oligopoly companies (Silva Junior & Quilice, 2020); and (5) the expansion of concentration in the sector via new mergers and acquisitions of smaller HEI by the four investigated companies (Corrêa, 2017).

6 CONCLUSIONS

The objective of this study was to analyze the preliminary economic and financial impacts of the COVID-19 pandemic on the higher education sector present in the Brazilian capital market. The results show that the COVID-19 pandemic caused negative impacts on the economic-financial indicators of the investigated companies. In summary, there was an increase in the default of HEI students maintained by the companies, which reflected in the drop in profitability and in the market value of the companies in the analyzed period.

Despite these negative impacts, it was possible to observe that these companies have economic and financial strength to face the pandemic period and deal with its negative effects. This is due to the fact that the investigated companies have high liquidity and controlled indebtedness, which characterizes a low risk of bankruptcy.

Furthermore, when comparing the economic-financial indicators of the four companies with data from the education sector as a whole (which includes the public and private segments) and the results of studies conducted by the Semesp Institute (2020), we can infer that the four companies investigated have the potential to expand the process of acquiring new small and medium-sized HEIs. As a result, there is a trend towards greater concentration and formation of oligopoly in the higher education sector in Brazil, so that these four companies can obtain the condition to strongly influence the sector and, in particular, the private sector from an economic, financial, social and political point of view.

An interesting perspective is that the central concern of companies may not be related to the educational background of Brazilian citizens, but with the profit for the shareholder deriving from the economic activity. In this sense, by constituting an oligopolistic market structure, the investigated companies may be able to influence the formation of monthly fees, induce the precariousness of teaching and technical-administrative work, compromise the quality of

educational services provided, as well as direct the formulation and implementation of public policies for higher education, among other aspects.

The study has limitations, among which, two can be considered as the main. The first is related to the fact that the investigation empirically captures only the preliminary impacts that the COVID-19 pandemic has been causing, from an economic-financial point of view, in the higher education sector present in the Brazilian capital market, since the pandemic is still ongoing. The second concerns the number of companies investigated in this study, which is limited to those four listed in B3.

As a possibility for further studies, it would be interesting to extend the investigation period to the next semesters of duration of the COVID-19 pandemic. In addition, the number of institutions analyzed can be increased. In this case, one possibility is to consider the analysis of data from philanthropic HEIs, which, despite not being listed on the stock exchange, also publish financial statements (Lima & Pereira, 2011). In addition, other strands of studies can analyze the impacts of the COVID-19 pandemic on the public segment of the Brazilian higher education sector, or on small and medium-sized HEIs in the private sector. In the latter case, it is worth noting that the data needed for the analyzes are more restricted. In methodological terms, it is possible to move towards the estimation of econometric models that incorporate a dummy variable to capture the effects of the COVID-19 crisis on the financial indicators of HEIs.

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