The Relationship Between The Indicators Of Financial Gains And The Quality Of Education Of Educational Groups In Brazil Listed In [B]3

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Abstract:

The objective of this research is to understand the relationship between educational quality indicators and the financial gains of Brazilian educational groups listed in [B]3. Currently, the educational groups operating on the stock exchange are Ânima Education, Cogna Education, Yduqs, Bahema Educação, Ser Educacional and Cruzeiro do Sul. To achieve this objective, a quantitative methodology was used, first a systematic review was carried out in order to search the scientific literature for the relevance of the topic and its scope. A table was created with financial data and the quality of teaching of the educational groups, as well as data on the economic situation, in order to perform a correlation and regression. From the analysis of correlations and regressions carried out, the research result showed a negative relationship between financial gains and teaching quality, that is.

 Key Word : Teaching quality. Financial Gains. Educational Groups

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I. Introduction

A education and its quality of teaching have always been big topics _ relevance from the methodology of the arts liberals, which they were organized during the Age Average. The arts liberals they were disciplines that would be the basis for training any college and were divided in: *trivium* that studied grammar, rhetoric and dialectics; and *quadrivium* who studied arithmetic, geometry, astronomy and music (CHARLES; VERGER, 1996). The methodology understood three moments: *lectio* (lesson), *quaestio* (repetition) and *disputatio* (discussion) (RAMPAZZO; JOSLIN, 2017),until the emergence of modernity that has us agents state-owned you big ones responsible per verify the quality of education and, many times the person responsible for imposing metrics for teaching verification. Lots of institutions develop assessment university per pressure direct and/ or indirect from organs governmental. The quality of teaching he comes tied with evaluation, with standards, with exhaustive data collection, etc., which define good services provided and the guarantee of success institutional (MORROSINI, 2001).

In the current situation educational, added to question educational to the business issue educational, which despite not being new, stands out for its big expansion, as today with the various for - profit educational institutions The education now he has one big relevance in *know-how* economic. Verger (2016) expresses that there is one Global Education Industry (IEG and the emergence of the IEG phenomenon reflects also for a commodification of schooling; one influence of institutions financial sector educational; one change at education governance; _ or a paper prominent area of information and communication technology for learning and testing. And, this Global Education Industry reflects in one commercialization of education.

Regarding to the Brazil, the theme also he has your relevance, because teaching, especially Higher Education, also it is passing through a process of change. This process of expansion and large changes in Higher Education in Brazil, had start us 90s and found in the private network its main engine (SÉCCA; LEAL, 2009). In 2019 the private network has more than 6.5 million students, which guarantees one 75.8% participation in the higher education system, or that is, of every 4 undergraduate students, 3 attend one institution private (INEP; 2019, p. 26).

Driven per that expansion and change educational, since 2007, Brazil now has some IESP (Private Higher Education Institution), for profit accessing the São Paulo stock exchange (LIMA, 2018). At the time current, the composition of the sector education of publicly traded higher education groups, which sell your titles it is formed in it by companies: Ânima Education, Bahema Education, Cogna Education, Cruzeiro do Sul Educacional, Ser Educacional, *Yduqs* Educational.

With the emergence and progress of groups educational, it began to exist one discussion on the commodification of education. With the emergence of the great conglomerates educational institutions, the practice of buying and selling organizations educational, many times creating conglomerates businesses that incorporate the brands of the companies they buy from. It's because that's what every group corporate includes several brands (GOMES; LEHER; COSTA, 2020).

Faced with this new reality educational dispute for the client, which in this case is the student. Therefore, companies educational They passed the to adopt new strategies in the face of competition fierce promoted for the recent outbreak expansive us 1990s. In search per clients (students), diversification of courses made it possible the offering teaching modalities with lower prestige academic, focused at differentiation in virtue of demand or the local context. These are examples you courses sequential, distance, extension and postgraduate courses *lato sensu* (CARVALHO, 2013).

According to Samonek, Ribeiro, Taffarel (2019), Sarfati, Shwartzbaum (2013), Oliveira (2009), Marques (2013), another aspect that raises great debate is the great oligopolization process at education, having an opportunity greater by the search for profit and times one smaller emphasis at quality of teaching.

The logic educational it is in change and the educational market it is more dynamic, with patterns more complexes and now with the advent of large groups educational, the education is at the mercy also the dictates of the financial market. Therefore, organizations have become more complex and adopted new management standards, established per boards of directors, in which you investors they are invited to promote settings permanent with the aim of increasing the value of shares on the stock market (GOMES; LEHER; COSTA, 2020).

And, second you authors Carvalho (2005), Fávero, Bechi (2007), Krawczyk (2005), among others, debate that there is one commercialization of education, mainly by institutions private. From _ of that great debate about The education in Brazil and the world, research search to understand the relationship between the earnings indicators financial resources and the quality of teaching in the groups educational institutions in Brazil listed in [B] ³. To analyze whether there is one industry influence _ financial at quality of teaching, or that is, if there is one relationship positive or negative with the increase in earnings financial at quality of teaching. This study he has as delimitation you groups educational institutions that are operating in [B] ³ and that focus on higher education , aiming Identify you main indicators financial to measure the result groups ' finances educational in [B] ³; Map you main teaching quality indicators existing in Brazil ; Analyze whether the educational market he has had a result superior to the market and above other sectors and apply the regression that relates indicators financial indicators with teaching quality indicators using as covariates data from institutions and the situation economic . To analyze whether there is one relationship positive or negative with the increase in earnings financial at quality or negative with the increase in earnings financial at quality of negative with the increase in earning sing as covariates data from institutions and the situation economic . To analyze whether there is one relationship positive or negative with teaching.

II. Material And Methods

In search of arriving to the goal scientific, research it needs climb some steps. By search can be conceived as the formal and systematic process of method development scientific and has per goal discover answers to problems through the use of procedures scientific (GIL, 2008).

This job has a research nature descriptive, because he has per goal describe the characteristics of a particular population or phenomenon or the establishment of a relationship between variables (GIL, 2008).

The method used is the quantity that, according to Gomes, Araújo (2005) methods quantitative research is based on the paradigm positivist, whose rationality reigns absolutely and the characteristics of thought positivist are the unit of the method scientific, the character eminently empirical and the strong influence of mathematics. Carvalho (2013) argues that there is one tendency towards the commodification of education and that companies educational they are linked to universities corporate, at distance universities and universities profitable.

With this, according Sebim (2019) exists one inclusion of higher education in stock exchange and Brisolla _ *et al.* (1997) states that the stock exchange is a market where they are carried out purchase and sale transactions. So, it is an environment to buy and sell fractions of companies, with the aim of raising funds to grow and produce plus the context of this research is the insertion of *players* educational at stock exchange, earnings analysis financial of these *players* and if there is correlation between the earnings financial resources and the quality of education developed by the groups educational.

The search he has as delimitation you groups educational institutions that are operating in $[B]^3$ and that have focus on higher education. In view of this, the research he has three big ones steps: first using the program *R-Studio*, will compare the sector at education listed at stock exchange $[B]^3$ with others companies listed also in $[B]^3$, to calculate the return financial sector educational compared to those in other sectors as companies: Weg, Petrobras and Vale.

Choosing these companies to compare with the sector educational, it was due to shipping in your sectors. The valley is the biggest company in market value in Brazil, worth 546.4 billion, Petrobras is second

company in marked value worth 301.5 billion and Weg is the largest company Santa Catarina in the machinery and equipment sector, whose market value is assessed in 158.5 billion (JEHNIFFER, 2021).

Second step was measure the correlation between the earnings financial resources and the quality of education of groups educational listed in [B] 3[,] based on the correlation coefficient.

On the third step, it was verified the impact of gains financial at quality of teaching using regression, being used the metrics Return, Index *Sharpe* and CAPM to measure you results economic groups educational listed at stock Exchange. The comeback can be calculated by the equation:

$$Rt = \frac{Pt - Pt - 1}{Pt - 1}$$

Where Rt is the stock return t is the periodicity, Pt is the stock price and Pt - 1 is the price in previous period (PERRONI *et al.*, 2021). The CAPM model (*Capital Asset Pricing Model*) is a method that analyzes the relationship between risk and the return expected from an investment. CAPM determines the rate of return theoretical. The CAPM formula is:

$$Ri = Rf + \beta i (Rm - Rf)$$

Where: Ri = Return Expected Return of Investment; _ _ Rf = Risk *-free Rate*; β i = Beta of *the* investment; Rm = Return Expected *Return of* Market; (Rm – Rf) = Market Risk *Premium* (REIS, 2021). The CAPM model is a way of measuring the sensitivity of the company's action in relationship to the market.In 1990, William Sharpe created an index that serves to calculate the profitability of an asset considering your _ risk . The Index *Sharpe* measures the degree of efficiency that a fund it achieves deliver to the investor, based in one formula mathematics:

$S=(Ri-RF)/(\sigma i)$

S = Index *Sharpe*; Ri = return on asset analyzed; Rf = risk -free return, normally represented by the *Selic Rat*; σi = asset risk (CERBASI, 2021).

Yet he was accomplished one correlation between the earnings financial resources and the quality of teaching, followed by a regression in panel *Person* 's correlation coefficient, which according to Moore (2007, p. 100) "measures the direction and degree of the linear relationship between two variables quantitative". *Person* 's correlationcoefficient is a _ measure of linear association between variables (FIGUEIREDO FILHO; SILVA JÚNIOR, 2009).

regression set is probably the most used in data analytics looking for understand the relationship between the behavior of a given phenomenon and behavior of a or more variables (FÁVERO; BELFIORE, 2017). It will be used one multiple linear regression. A regression equation is:

$$Y_{it} = \alpha + \beta_{it}DE + \sum_{k=1}^{K} \gamma_{it}X_k + \sum_{l=1}^{L} \delta_{it}W_l + \varepsilon_{it}$$

Since Y represents the variable dependent (teaching quality) of the model for each observation *IT* (being i = os groups educational t= time), α is the slope coefficient or intercept, β is the performance impact at education and the variables independent: DE (performance financial), institution data educational (number of students, revenue, monthly fee average), W is the conjuncture economic (inflation, GDP, unemployment, spending public). The metrics will be calculated for the *R-Studio*.

Data collection The package was used program *tidyquant R-Studio*, because it connects automatically to financial data in [B] ³. To have access to the data, the company codes _ educational listed at [B] ³ in the package *tidyquant*. Below, in Table 7, are exposed you group codes _ educational, WEG, Petrobras and Vale, listed in [B]

	0 =
ANIMA	ANIM3
BAHEMA	BAHI3
COGNA ON	COGN3
EDU CRUISE	CSED3
BE EDUCATED	SEER3
YDUQS PART	YDUQ3
WEG	WEGE3
PETROBRAS	PETR3
OK	VALE3

Table 1 – Code in stock Exchange).		_
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Source: Authors

Youother financial data of the groups educational they were obtained from their own institutions educational in your *websites*. Regarding to current situation data economic IPEADATA was used. Given these data, it will be elaborate one table with all the data to perform correlation and regression.

III. Result

Firstly he was carried out one comparison between _ groups educational with other *players* listed in [B] ³, to check at what level of performance financial they are you groups educational in [B] ³.

They were identified you groups educational: Anima Education, Being Educational, Yduqs Educational, Cogna Education, Cruzeiro do Sul Educacional and Bahema Education. You groups educational Bahema and Cruzeiro do Sul were left out of the research, due to do no't suit to the objective, as Cruzeiro do Sul began The operate in $[B]^3$ in 2021 and Bahema per focus on Basic Education and not Higher Education.

Subsequently, a correlation between companies in the sector educational with some factors that can to have degree of association. You factors selected were: performance educational groups _ educational selected, the performance financial of these groups educational and aspects of the current situation economic such as: GDP, inflation, unemployment and spending public. And why end, it was carried out one regression to analyze the relationship between performance educational, the factors of the situation economic, performance groups ' finances educational studied and the quality of teaching in the groups selected.

When analyzing the market value of groups educational in comparison the others companies: WEG, Vale do Rio Doce and Petrobras, it is clear that these companies have a great value above companies educational, how is it possible see in Graph 1.





Source: Statusinvest

From the *R-Studio software*, profitability was sought in $[B]^3$ of companies educational institutions, WEG, Vale and Petrobras. As shown in Table 2.

	Table 2 –	Profitability	companies '	annual educational	l institutions ,	WEG, Val	e and Petrobras.
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Companies	Year	Profitability
PETR3.SA	2008	-0.47
VALE3.SA	2008	-0.52
WEGE3.SA	2008	-0.49
YDUQ3.SA	2008	-0.47
PETR3.SA	2009	0.55
VALE3.SA	2009	0.84
WEGE3.SA	2009	0.51
YDUQ3.SA	2009	0.95
PETR3.SA	2010	-0.25
VALE3.SA	2010	0.13
WEGE3.SA	2010	0.21
YDUQ3.SA	2010	0.15
PETR3.SA	2011	-0.22
VALE3.SA	2011	-0.25
WEGE3.SA	2011	-0.11
YDUQ3.SA	2011	-0.32
COGN3.SA	2012	1.03
PETR3.SA	2012	-0.13
VALE3.SA	2012	0.13
WEGE3.SA	2012	0.47
YDUQ3.SA	2012	1.34
ANIM3.SA	2013	0.10
COGN3.SA	2013	0.73
PETR3.SA	2013	-0.18
SEER3.SA	2013	0.37
VALE3.SA	2013	-0.13
WEGE3.SA	2013	0.18
YDUQ3.SA	2013	0.48
ANIM3.SA	2014	0.67
COGN3.SA	2014	0.62
PETR3.SA	2014	-0.38
SEER3.SA	2014	0.27
VALE3.SA	2014	-0.35

34 | Page

	The Relationship Between	The Indicators Of F	inancial Gains And The	Quality Of Education
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WEGE3.SA	2014	0.30
YDUQ3.SA	2014	0.16
ANIM3.SA	2015	-0.60
COGN3.SA	2015	-0.37
PETR3.SA	2015	-0.11
SEER3.SA	2015	-0.74
VALE3.SA	2015	-0.37
WEGE3.SA	2015	0.00
YDUQ3.SA	2015	-0.40
ANIM3.SA	2016	0.01
COGN3.SA	2016	0.44
PETR3.SA	2016	0.98
SEER3.SA	2016	1.47
VALE3.SA	2016	0.98
WEGE3.SA	2016	0.06
YDUO3.SA	2016	0.28
ANIM3.SA	2017	1.09
COGN3.SA	2017	0.42
PETR3.SA	2017	0.00
SEER3.SA	2017	0.79
VALE3.SA	2017	0.64
WEGE3.SA	2017	0.59
YDUO3.SA	2017	1.11
ANIM3.SA	2018	-0.39
COGN3.SA	2018	-0.50
PETR3.SA	2018	0.52
SEER3.SA	2018	-0.49
VALE3.SA	2018	0.32
WEGE3.SA	2018	-0.04
YDUO3.SA	2018	-0.22
ANIM3.SA	2019	0.75
COGN3.SA	2019	0.30
PETR3.SA	2019	0.28
SEER3.SA	2019	0.97
VALE3.SA	2019	0.07
WEGE3.SA	2019	1.01
YDUQ3.SA	2019	1.04
ANIM3.SA	2020	0.21
COGN3.SA	2020	-0.59
PETR3.SA	2020	-0.06
SEER3.SA	2020	-0.42
VALE3.SA	2020	0.71
WEGE3.SA	2020	1.20
YDUO3.SA	2020	-0.29
ANIM3.SA	2021	-0.30
COGN3.SA	2021	-0.47
PETR3.SA	2021	0.30
SEER3.SA	2021	-0.31
VALE3.SA	2021	0.05
WEGE3.SA	2021	-0.12
YDUQ3.SA	2021	-0.37

Source: R-Studio. Adapted by the authors.

When analyzing profitability, it is clear that the sector educational has a performance very similar to companies in other sectors. For example: companies Anima, Cogna and Being Educational performed very similar to each other, a result slightly lower than that of the company Vale do Rio Doce and a result better to that of the company Petrobras, which among the companies, had the worst result.

When summing up the profitability, it is demonstrated with more clarity of differences and similarities in profitability between companies. As shown in Graph 2.

Graph 2 – Return of companies between 2008-2021.



Source: R-Studio

Profitability of groups highlighted educational, we sought the profitability of $[B]^{3}$ itself. How is it possible note in Graph 3.





When relating the profitability of groups educational and [B]³, it is clear that the sector educational it is at a level of superiority in in relation to [B]³. Using ROA (*Return on Assets*) or Return on Assets, asset profitability index that demonstrates how much one company is profitable in relationship to the your set of assets, you can analyze the quality of management financial position of the company and its efficiency in the use of assets. It is worth highlighting that, when talking in assets that make up ROA, is included all what makes up the company's assets, such as: assets, credits and rights. Given this, it is noticeable to understand like profit margin increases or decreases, in addition to evaluating the working capital management of a company. The higher the ROA, the more the company it is winning in your active. A low percentage, for your time, it means that the company assets _ no they are managed efficiently, as Graph 4, which shows the comparison of companies with the sum of ROA.



From the sum of ROA, it can be seen that two of the companies educational he has one great performance in comparison to Vale do Rio Doce and Petrobras, Cogna and Ânima they are at a level above Petrobras. That demonstrates that companies educational have a big return on invested capital.

Using the Index *Sharpe* there is the size that companies educational they are at a good level next to the companies with a market value much higher than theirs. As seen in Table 3.

Table 3 – Index Sharpe.										
COMPANY	Sharpe(Rf=0%,p=95%)									
COGN3.SA	0.000392997									
ANIM3.SA	0.006019909									
SEER3.SA	0.001962682									
YDUQ3.SA	0.014956799									
WEGE3.SA	0.011116623									
PETR3.SA	0.002320283									
VALE3.SA	0.006935643									
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Source: *R-Studio*.

Sharpe _ measures the relationship between the risk and return of an investment and, companies searched have a return positive. This indicates that companies he has return above risk - free investment. In

Table 1 you can see The Weg company and the company educational *Yduqs* having the best risk return with a value of 0.011 and 0.014 respectively, but in general companies educational are at the same level as relationship to the return *Sharpe*.

From the analysis of profitability, ROA, market value, Index *Sharpe* and [B]³ itself, it can be seen that the market value of companies educational no they are comparable to the biggest companies that operate in [B]³ (Weg, Vale and Petrobras), but in relation to profitability, ROA and Index *Sharpe*, the companies educational he has one profitability approximate that of companies in other sectors.

As presented in Graphs 2, 3, 4 and 5, and results, it is concluded that if an investor to assemble one market portfolio and place companies educational Cogna, *Yduqs*, Anima and Educational Being, he will have one profitability equal or higher than big ones companies with a lot of capital above companies educational and with the level of risk return very similar to large capital companies that operate at stock Exchange.

The correlation coefficient measures the strength of the association between variables (GUJARATI; PORTER, 2011), which can be negative or positive, that is, how much more close to 1 stronger and reaching 1 has one correlation perfect positive and reaching -1 has one correlation perfect negative.

In seeking to respond to research objectives, the correlation coefficient was used to measure the degree of association of the variables. Table 4 shows the correlation that was carried out with data from the groups educational and the current situation economic only from the year 2015.

	ActivePremium	Alpha	Beta	InformationR atio	TrackingError	TreynorRatio	ESSharpe	DesempMercado	DesempEduCI	DesempEdulGC	MediaAlunos	Alunos	LucroLiquido	ReceitaLiquida	MensalidadeMedia	Inflacao	PIB	Desemprego
Alpha	0,85																	
Beta	-0,51	-0,66																
InformationRatio	0,97	0,72	-0,35															
TrackingError	-0,23	-0,20	0,01	-0,33														
TreynorRatio	0,07	-0,19	0,33	0,26	-0,81													
ESSharpe	0,95	0,77	-0,36	0,98	-0,41	0,29												
DesempMercado	0,42	0,77	-0,68	0,26	-0,18	-0,26	0,34											
DesempEduCl	-0,13	-0,49	0,23	-0,01	0,08	0,29	-0,14	-0,63										
DesempEdulGC	0,00	0,01	0,18	-0,01	0,18	-0,08	0,01	-0,13	0,18									
MediaAlunos	-0,20	-0,04	0,51	-0,21	0,04	-0,12	-0,22	0,01	-0,24	-0,02								
Alunos	-0,17	-0,01	0,47	-0,19	0,01	-0,12	-0,20	0,05	-0,27	-0,02	0,99							
LucroLiquido	-0,14	-0,04	0,60	-0,12	-0,04	0,01	-0,11	-0,08	-0,24	0,08	0,95	0,94						
ReceitaLiquida	-0,27	-0,14	0,64	-0,25	0,00	-0,02	-0,25	-0,11	-0,14	0,06	0,98	0,96	0,95					
MensalidadeMedia	-0,19	-0,27	0,18	-0,12	-0,06	0,28	-0,06	-0,36	0,26	0,62	-0,49	-0,50	-0,30	-0,36				
Inflacao	-0,39	-0,58	0,84	-0,28	0,29	0,07	-0,30	-0,72	0,29	0,48	0,29	0,24	0,38	0,41	0,35			
PIB	0,31	0,33	-0,71	0,24	-0,23	-0,01	0,18	0,33	-0,02	-0,53	-0,30	-0,27	-0,40	-0,41	-0,36	-0,78		
Desemprego	-0,21	-0,33	0,49	-0,14	0,45	-0,01	-0,15	-0,34	0,23	0,30	0,17	0,10	0,20	0,24	0,20	0,62	-0,69	
GastoPublico	0,31	0,32	-0,71	0,25	-0,22	0,01	0,19	0,30	0,00	-0,55	-0,31	-0,29	-0,41	-0,43	-0,36	-0,76	0,99	-0,61
Source: Authors.																		

Table 4 – Correlation year 2015.

When analyzing the correlation carried out it is noted that there are levels of association with more several degrees. It can be seen that there is a self- level of association negative -0.63 between performance educational (CI) and market performance. Also there is an auto level of membership negative -0.72 between performance educational (CI) and inflation.

Correlating data from 2016, the results vary a little, but not exist one change drastic results obtained at previous correlation, as can be seen in Table 5.

Table 5 – Correlation year 2016.



Source: Authors.

The correlation carried out with 2017 data, the performance educational (CI), in relationship to the performance financial it was left at 0.28 and the performance educational (IGC) became by 0.02. As can be seen in Table 6.

Table 6 – Correlation year 2017.																		
	ActivePremium	Alpha	Beta	InformationRatio	TrackingError	TreynorRatio	ESSharpe	DesempMercado	DesempEduCI	DesempEdulGC	MediaAlunos	Alunos	LucroLiquido	ReceitaLiquida	MensalidadeMedia	Inflacao	PIB	Desemprego
Alpha	0,85																	
Beta -0,44 -0,49																		
InformationRatio 0,97 0,72 -0,34																		
TrackingError	-0,20	-0,20	-0,07	-0,30														
TreynorRatio	0,06	-0,18	0,31	0,24	-0,79													
ESSharpe	0,94	0,76	-0,29	0,97	-0,39	0,29												
DesempMercado	0,39	0,73	-0,21	0,21	-0,19	-0,17	0,30											
DesempEduCl	-0,14	-0,38	0,33	-0,06	0,07	0,28	-0,12	-0,28										
DesempEdulGC	-0,05	0,00	0,22	-0,05	0,10	-0,02	0,00	0,02	0,42									
MediaAlunos	-0,21	-0,10	0,49	-0,21	-0,07	-0,07	-0,18	-0,02	-0,25	-0,11								
Alunos	-0,19	-0,07	0,45	-0,19	-0,07	-0,08	-0,18	0,00	-0,28	-0,12	0,99							
LucroLiquido	-0,16	-0,09	0,49	-0,14	-0,16	0,03	-0,09	-0,04	-0,22	-0,10	0,92	0,90						
ReceitaLiquida	-0,28	-0,19	0,48	-0,24	-0,10	0,00	-0,20	-0,12	-0,19	-0,09	0,93	0,91	0,93					
MensalidadeMedia	-0,17	-0,18	-0,01	-0,11	-0,04	0,20	-0,05	-0,16	0,32	0,51	-0,49	-0,50	-0,25	-0,20				
Inflacao	-0,28	-0,48	0,21	-0,17	0,36	0,00	-0,22	-0,69	0,03	0,08	0,07	0,08	0,03	0,15	0,12			
PIB	0,33	0,32	-0,64	0,27	-0,23	-0,04	0,17	0,17	-0,19	-0,43	-0,25	-0,22	-0,28	-0,35	-0,31	-0,52		
Desemprego	-0,14	-0,05	0,63	-0,15	-0,06	0,09	-0,06	0,31	0,40	0,40	0,20	0,14	0,29	0,23	0,20	-0,43	-0,38	
GastoPublico	0,34	0,30	-0,67	0,29	-0,20	-0,02	0,19	0,13	-0,17	-0,47	-0,27	-0,25	-0,30	-0,36	-0,31	-0,47	0,99	-0,41
						So	urce	· Δ1	itho	re								

In Table 13 it is shown one correlation with data from 2018. An association level of 0.47 can be seen between performance education (CI) and unemployment. Another membership level perceived of the variable unemployment is with a beta of 0.66, the beta is a measure of risk and measures the variation of action. Regarding to the market performance and the IGC and CI, a variation negative, with a bias more acute with the performance educational CI. As shown in Table 7 below.

Table 7 - Correlation year 2018.

	ActivePremium	Alpha	Beta	InformationRatio	TrackingError	TreynorRatio	ESSharpe	DesempMercado	DesempEduCI	DesempEdulGC	MediaAlunos	Alunos	LucroLiquido	ReceitaLiquida	MensalidadeMedia	Inflacao	PIB	Desemprego
Alpha	0,86																	
Beta	-0,48	-0,53																
InformationRatio	0,97	0,72	-0,38															
TrackingError -0,16 -0,13 -0,09 -0,27																		
TreynorRatio	0,04	-0,17	0,30	0,23	-0,79													
ESSharpe	0,94	0,76	-0,34	0,97	-0,35	0,27												
DesempMercado	0,47	0,78	-0,30	0,29	-0,13	-0,16	0,37											
DesempEduCl	-0,22	-0,44	0,35	-0,12	0,03	0,27	-0,18	-0,36										
DesempEdulGC	-0,10	-0,07	0,18	-0,09	0,05	-0,01	-0,05	-0,06	0,50									
MediaAlunos	-0,21	-0,12	0,51	-0,20	-0,06	-0,06	-0,18	-0,05	-0,25	-0,21								
Alunos	-0,19	-0,09	0,47	-0,19	-0,07	-0,08	-0,17	-0,03	-0,29	-0,21	0,99							
LucroLiquido	-0,19	-0,15	0,51	-0,16	-0,14	0,03	-0,12	-0,10	-0,21	-0,20	0,93	0,90						
ReceitaLiquida	-0,30	-0,25	0,53	-0,26	-0,10	0,01	-0,22	-0,19	-0,16	-0,17	0,93	0,91	0,94					
MensalidadeMedia	-0,23	-0,27	0,03	-0,17	-0,07	0,19	-0,11	-0,25	0,41	0,58	-0,49	-0,50	-0,27	-0,21				
Inflacao	-0,13	-0,22	0,07	-0,07	0,37	-0,01	-0,11	-0,42	-0,08	-0,01	0,03	0,04	-0,03	0,04	0,00			
PIB	0,26	0,20	-0,54	0,23	-0,24	-0,04	0,13	0,09	-0,13	-0,33	-0,21	-0,19	-0,22	-0,27	-0,24	-0,53		
Desemprego	-0,27	-0,26	0,66	-0,24	-0,10	0,10	-0,17	0,03	0,47	0,39	0,20	0,15	0,30	0,28	0,29	-0,53	-0,25	
GastoPublico	0,21	0,10	-0,50	0,19	-0,22	-0,01	0,10	-0,02	-0,05	-0,32	-0,20	-0,20	-0,21	-0,23	-0,19	-0,53	0,97	-0,19
Source: Authors																		

The correlation carried out with data only from 2019 indicate that the market performance in relationship to the performance educational (CI) has one variation negative of -0.21. Analyzing performance educational (IGC) in relationship to the performance financial it was left one association of 0.00. Staying at a level similar to the correlation carried out in 2018. As can be seen in Table 8.



After accomplish correlations per year, from 2015 until 2019, was accomplished one correlation with data from 2015 to 2019, it is clear from the correlation that the market performance in relationship to the IGC and CI were at 0.19 and 0.02 respectively. It is noted that the correlation made per year, mostly, the ratio associative between variables he was negative, in correlation carried out from 2015 to 2019, the variables had one relationship positive, as shown in Table 9.

Table 9 – Correlation 2015-2019.

	Data	ActivePremium	Alpha	Beta	InformationRatio	TrackingError	TreynorRatio	ESSharpe	DesempMercado	DesempEduCl	DesempEdulGC	MediaAlunos	Alunos	LucroLiquido	ReceitaLiquida	MensalidadeMedïa	Inflacao	PIB	Desemprego
ActivePremium	0,24																		
Alpha	0,23	0,95																	
Beta	-0,04	-0,01	0,01																
InformationRatio	0,21	0,98	0,93	-0,05															
TrackingError	-0,76	-0,38	-0,44	0,02	-0,36														
TreynorRatio	0,32	0,96	0,95	-0,14	0,94	-0,48													
ESSharpe	0,31	0,93	0,95	-0,09	0,92	-0,44	0,96												
DesempMercado	0,34	0,97	0,96	-0,04	0,94	-0,49	0,97	0,97											
DesempEduCl	0,43	0,12	0,13	-0,52	0,13	-0,13	0,20	0,21	0,19										
DesempEdulGC	0,06	0,01	0,07	-0,53	0,05	-0,02	0,07	0,07	0,02	0,78									
MediaAlunos	-0,02	-0,14	-0,04	0,76	-0,17	-0,21	-0,14	-0,10	-0,11	-0,64	-0,54								
Alunos	-0,02	-0,12	-0,02	0,77	-0,16	-0,21	-0,13	-0,09	-0,10	-0,64	-0,54	1,00							
LucroLiquido	-0,06	-0,16	-0,09	0,54	-0,19	-0,23	-0,14	-0,13	-0,13	-0,66	-0,55	0,91	0,91						
ReceitaLiquida	0,12	-0,23	-0,12	0,60	-0,27	-0,24	-0,17	-0,14	-0,17	-0,54	-0,53	0,91	0,91	0,84					
MensalidadeMedia	0,18	-0,15	-0,11	-0,77	-0,13	0,02	0,01	-0,07	-0,11	0,60	0,54	-0,63	-0,64	-0,49	-0,32				
Inflacao	-0,78	-0,40	-0,40	0,10	-0,36	0,88	-0,50	-0,43	-0,52	-0,26	-0,06	0,02	0,03	-0,02	-0,01	-0,05			
PIB	0,86	0,21	0,16	-0,03	0,20	-0,80	0,25	0,17	0,25	0,24	0,06	-0,02	-0,02	0,00	0,04	0,08	-0,87		
Desemprego	0,74	0,41	0,42	-0,12	0,36	-0,87	0,52	0,46	0,55	0,27	0,06	-0,02	-0,03	0,02	0,01	0,05	-0,99	0,81	
GastoPublico	0,95	0,09	0,06	-0,03	0,07	-0,74	0,15	0,10	0,17	0,35	0,06	-0,02	-0,02	-0,03	0,09	0,16	-0,80	0,95	0,74
	Source: Authors.																		

Considering you results of the correlations, with the correlation analysis whose main objective is to measure the force or the degree of linear association between two variables, is closely related to regression analysis, but conceptually it is very different. The correlation coefficient _ measures the strength of this (linear) association (GUJARATI, PORTER. 2011).

We sought from the regression check the relationship between the variables. the term regression he was created by Francis Galton. In an article, Galton found that although existed one tendency for tall parents to have tall children and parents lows have children low, the stature average of children born to parents of a given height tended to move or " regress " to the height population average as a whole. Therefore the regression analysis it says respect to the study of dependence on a variable, the variable dependent in relation to a or more variables, variables explanatory, aiming estimate and/ or predict the average value (of the population) of the first in terms of values acquaintances or fixed (in sampling repeated) of the second (GUJARATI; PORTER, 2011).

They were 4 regression models were carried out taking as variable dependent performance educational (CI) in the 4 models, variables independent of model 1, being: market performance, monthly fee average, unemployment, income liquid; model 2 are the same _ variables minus the monthly fee average; already in model 3 were variables removed _ monthly payment average and revenue liquid; and, in model 4, only the variable was used unemployment as variable independent. You models they are shown at Table 1

Table 1 – Regression													
Indicator	Model 1	Model 2	Model 3	Model 4									
Intercept 2.7520 2.8700 2.8703 2.8653													
Unemployment -0.2018 -0.2387 -0.19145													
Average monthly fee	0.0003												
Unemployment 0.1000 0.1158 0.09547 0.0895													
Net Revenue 0.0000 -0.0001													
R ²	0.4943	0.4673	0.2556	0.2771									
Source: <i>R-Studio</i> .													

It can be seen in Table 3 that the model 1 has meaningfulness only in market performance and unemployment and the R² it was left by 49%; in model 2 there is significance of market performance, unemployment and revenue liquid and R² became by 46%; in model 3 there is only significance of unemployment and R² it was left by 25%; and, in model 4, unemployment he has significance and the R² had 27%. Model 2 has the variables with the most significance and the p-value was less than 0.05, R² adjusted it

was left at 41.4%, very similar to model 1 ^{than} R 2 adjusted it was left by 42%, but not even all variables _ gave significant. Table 3 shows the regression with data from model 2.

Indicator	Coefficient	Standard error	t-ratio	p-value	
Intercept	2.87047	0.226056	12.70	1.34e-013	
DesempMercado	-0.238746	0.0937222	-2.547	0.0162	
Unemployment	0.115824	0.0242283	4,781	4.33e-05	
Net Revenue	-8.51724e-08	3.37588e-08	-2.523	0.0172	
$\mathbf{C}_{\mathbf{r}}$, $\mathbf{r}_{\mathbf{r}}$, \mathbf{D} $\mathbf{C}_{\mathbf{r}}$, \mathbf{I}^{*}					

Table	2 - 1	Regression	model
rame	2 - 1	Negression	moue

Source: R-Studio.

The regression carried out in model 2 resulted in: the variable unemployment explains the variable dependent, because each percentage point that increases unemployment there is a 0.11 increase in performance educational groups searched. Regarding to the market performance exists one relationship negative, in which each point of increase in performance there is a decrease of -0.23 in quality of teaching. Regarding revenue liquid, it can be seen one variation very small in a negative way.

IV. Conclusion

After analyzing the results of the research, it was identified that the profitability of the groups ' performance educational at [B]3 in relation to other sectors is approximate.

Correlations were carried out based on the researched data seeking out to understand The association between the variables, it was noticed with the correlation one association in general at the level negative between performance financial and the quality of education.

From the correlation _ they were carried out some regressions and the result showed that there is one relationship negative between earnings financial resources and the quality of education, or that is, when there is a greater gain financial in some aspect, the quality of teaching decreases. That represents what many authors emphasize that the education became a business, because profit is a variable very important and why times she becomes the greatest _ relevance to the educational institution.

In view of the research carried out, it is noted how the theme researched is relevant and the research is simple it gave some contributions to reflection about you groups educational. But, as the topic is broad and has a lot of complexity, research have yours limitations. The 1st limitation is the complexity of the topic and how the search for financial data and the quality of teaching they are too many difficult; The 2nd limitation they are the data that your periodicity is annual, the amount of data does not he was very extensive and, with a bigger amount of data could expand more with search.

But even with the difficulties inherent to research, the results they are great was worth it, as they shed light on point it deserves big reflection and enables as contribution one gamma more information form students and also for institutions educational. This theme he leaves lots of possibilities for further research by example: how you groups educational they can search gain financial and have one better teaching quality or to do one analysis corporate accounting education that does not they are in [B]3. These are some of the possible_ research that the topic us he leaves as perspective.

Given the results, it can be seen that in relationship to the goal specific 3, the educational market has a result like those of the big players that operate in [B]3, as can be seen in graphs 2, 3, 4 and 5. The only aspect that the groups educational they are very lower is the market value of each group in relationship to the others companies compared (Weg, Vale and Petrobras).

Regarding goal resolution specific 4, based on the results obtained by correlation and regression, there are variables that have meaningfulness.

How it was exposed in model 2 of the regression, there is one relationship negative relationship between teaching quality and market performance but what is the reason for this relationship? negative? You can search some answers at literature. Well, there are authors who emphasize that there is one relationship more teaching marketing by the groups educational than the search for a improving teaching practiced.

It is clear that higher education has been stared as business profitable, merchandise that generates value, especially with scrapping promoted in the sector after the Amendment Constitutional No. 95/2016. It is like characteristic of the financialization circuit, the system's profit increases (CARVALHO SOARES NETO; PINHEIRO, 2020). Novaes, Nascimento, Gonçalves (2022), in one analysis of distance learning courses, based on a review search bibliographic and documentary analysis, realized that Higher Education comes being used for the private for- profit sector, represented by big ones publicly traded companies in the educational market, such as one opportunity to leverage you profits.

Marques (2013) exposes one matter made for the Journal Estado de São Paulo, which shows some universities private being accused of selecting you best students to take the National Student Performance Exam (ENADE), increasing artificially your performance. Morey (2001) exposed in search carried out with investment

funds that had interests in investing at education, they had as requirement to improve education _ as last aspect analyzed Oliveira (2009), in your conclusion of the article ' Transformation of education in merchandise", does one question: a education turned into merchandise? And on sequence he emphasizes that yes, the education has become one important merchandise Given this, when exist improvement in results financial he can generate relaxation with _ _ teaching quality indicators.

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