THE ROLE OF TOTAL VALUE ADDED TO BE DISTRIBUTED TO REDUCE THE NEGATIVE EFFECTS OF THE PANDEMIC ON THE SHARE PRICE

GEOVANE CAMILO SANTOS[1]
Universidade Federal Fluminense
https://orcid.org/0000-0003-3253-830X
geovane_camilo@yahoo.com.br

ABSTRACT

This research analyzes the relationship between the total value added to be distributed and the share price in the before, during, and post-pandemic periods. The data were collected on the Securities and Exchange Commission (CVM) website and Refinitiv Eikon®, resulting in 1,910 observations of Brazilian companies from 2010 to 2022 from all sectors, except Government Activity (due to lack of data). The data were treated using descriptive statistics and the Generalized Least Squares (GLS) regression model. The results revealed that i) the disclosure of the TVAD is relevant to explain the share price; ii) there is a negative relationship between the pandemic period and the share price; and iii) the interaction between the TVAD and the pandemic has a positive relationship with the share price. The results contribute to investors, suggesting that the Value Added Statement (VAS) information can increase the share price in periods of more significant uncertainty. With managers, it shows that the generation of more wealth can increase the price of shares, which can help them obtain better returns since part of the remuneration is usually linked to the performance of the shares. With Brazilian regulators, the results may indicate that the mandatory disclosure of VAS during the pandemic is relevant to assisting shareholders in decision-making. The gap explored in this research is the lack of analysis of the relationship between TVAD and the pandemic. The study's relevance is to highlight to the shareholders what information from the VAS contributes to an increase in the share price in periods of greater instability. Therefore, the impact of the study is that users can use the VAS information for share pricing, especially in periods of greater economic instability.

Keywords: Value Added Statement. Total value added to be distributed. Covid-19. Value relevance.

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1 INTRODUCTION

Users need accounting information to make decisions about allocating their capital in the share market. In this context, researchers have sought to present a relationship between accounting information and share prices since the end of the 60s, with the seminal research being those of Ball (1968) and Beaver (1968). (Marques et al., 2022). It should be noted that, despite the studies being investigated since the 1960s, it was only in 1993 that they received the name of value relevance with the study of Amir et al. (1993).

The value relevance is a proxy used in the accounting literature to measure the quality of accounting information (QAI) (Dechow et al., 2010). It identifies whether accounting information can make a difference in users' decision-making regarding the organization's capital contribution (Barth et al., 2001; Marques et al., 2022). It is measured by the significant relationship between accounting information and the share price (Collins et al., 1997; Marques et al., 2022).

The value relevance model proposed by Ohlson (1995) considers profit per share (PPS) and equity value of shares (EVS) as variables that can affect the share price. This model was used to measure the relationship of this information with the share price. Empirically, the model was tested by Collins et al. (1997), who found a significant and positive relationship between these variables and the share price. Over the years, researchers have been including other information (financial or non-financial) that can also affect the share price.

In national surveys, scholars began to include Value Added Statement (VAS) information to explain the share price. The VAS aims to highlight the generation and distribution of the organization's wealth in the period and became mandatory with the changes caused by Law 11.638/2007 (Comitê de Pronunciamento Contábil, 2008; Lei nº 11.638, 2007). This statement is crucial for users' decision-making, providing greater transparency in the generation and distribution of wealth and allowing investors to assess the organization's primary sources of wealth generation and consumption (Mandal & Goswami, 2008). The VAS study in Brazil is justified by being the only one to require the disclosure of this statement of publicly-held corporations (Lunardi et al., 2021).

Barros et al. (2013) analyzed whether the total value added to be distributed (TVAD) is relevant for investors to price the shares. Martins et al. (2014) evaluated whether the TVAD presents additivity for users to price the shares of Brazilian companies. Santos et al. (2019) identified that investors consider TVAD information and return on equity (ROE) for share pricing. Barros and Rocha (2022) investigated the *value relevance of* TVAD and ROE in Brazilian agribusiness companies.

Albuquerque (2021), Díaz et al. (2021), Ding et al. (2021), and Kordestani et al. (2022) revealed that share prices reduced significantly after the onset of the pandemic. Santos and Tavares (2023) found that the average share price in Latin American companies post-pandemic was lower and presented more significant variation. Therefore, the gap explored in this study is the analysis of VAS information during the pandemic. This is justified by this statement showing the generation and distribution of wealth of organizations (Comitê de Pronunciamento Contábil, 2008; Santos et al., 2022). Users can use this information to share prices during periods of uncertainty.

The study differs from previous ones (Albuquerque, 2021; Barros et al., 2013; Barros & Rocha, 2022; Díaz et al., 2021; Ding et al., 2021; Kordestani et al., 2022; Martins et al., 2014; Santos et al., 2019; Santos & Tavares, 2023) in two points: i) the inclusion of the pandemic and ii) the inclusion of the interaction of the pandemic and VAS. Including the pandemic (dummy) allows us to understand how investors priced the shares of Brazilian companies during this period of uncertainty. The analysis of the interaction between the disclosure of VAS information and the pandemic allows us to identify whether companies with greater capacity to generate wealth present a higher or lower share price. In this context, the research question is: What is the relationship between the total value added to be distributed and the share price? To answer this question, this

study analyzed the relationship between the total value added to be distributed and the share price before, during, and post-pandemic.

The findings of this study have implications for accounting reporting practices during economic crises and provide insights valuable to investors, managers, and regulators. For investors, there are indications that the information available in the VAS can contribute to the increase of the share price in periods of more significant uncertainty, which can be crucial for the management and growth of their capital. Managers, in turn, will have important information indicating that generating more wealth can positively affect the share price. This suggests that strategies focused on the efficient creation and distribution of value can positively impact the performance of the company's shares. Brazilian regulators will also have indications of whether the VAS can be a performance indicator used by the market to price the shares during turbulent periods since this disclosure is mandatory only in Brazil. This perception can influence future regulatory policies and highlight the importance of transparency and disclosure of relevant information in times of economic crisis.

The study of the relationship between value added and the price of shares during the pandemic is justified since the disclosure of information about the wealth generated allows users to assess the potential for return and risk associated with investments in this period of economic turmoil. In the academic field, this research can contribute to the scientific literature, offering insights concerning the interaction of financial and economic variables in periods of crisis. Therefore, by examining the relationship between value added and share price during the pandemic, the study can indicate how investors evaluate and price companies in challenging times, enriching the understanding of financial market dynamics in adverse situations.

2 THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Value added can be understood as a net contribution of the organization to the economy. It is important to emphasize that it can be analyzed from the economic and accounting perspective, with differences between these two fields of action. From the economic perspective, value added is understood as the difference between the gross value of production and intermediate consumption (Simonsen, 1979), playing a crucial role in generating gross domestic product (GDP) (Malacrida & Santos, 2022). From the accounting perspective, value-added results from the difference between realized sales and input costs (Luca, 2009). Santos et al. (2022) highlight that the discrepancy between these two perspectives lies in the temporal aspect; in the economic view, the wealth generated is associated with production, while in the accounting view, it is linked to the realization of income.

The market validates the added value generated when sales are made, at which time the distribution occurs among the agents who contributed to its generation. The unsold items do not integrate the measurement of the wealth generated (Malacrida & Santos, 2022). In addition, it should be noted that, from the accounting perspective, the value added is disclosed in the VAS, demonstrating the entity's ability to meet the interests of multiple shareholders (Malacrida & Santos, 2022).

The VAS is a mandatory financial statement for Brazilian companies, mainly characterized by the evidence of the wealth generated and distributed by companies (Dolabella, 1992; Santos et al., 2022). This statement allows one to serve more users than the income statement, being easier to interpret and an excellent analysis instrument (Cunha et al., 2005). Thus, the VAS allows one to perceive how the wealth created was distributed to the agents and identify which consumed the most (Cunha et al., 2005).

Through VAS, managers can identify the organization's primary sources of value creation and the main consumers of the wealth generated (Ortelan et al., 2022; Santos et al., 2022). Thus, the VAS is expected to be an indicator for evaluating efficiency in production, sales, employee

retention, profit generation, and distribution. Therefore, managers can obtain information to direct efforts to improve efficiency and increase value generation (Bagieńska, 2016; Ortelan et al., 2022).

The VAS can also contribute significantly to investors since it is possible to assess the degree of company commitment to the return to shareholders, the remuneration of employees, and the expenses with third parties and with the government by allowing the understanding of how wealth is distributed among the *shareholders* (Santos et al., 2022). With this comprehensive view, investors can assign greater or lesser relevance to this information for share pricing (Barros & Rocha, 2022; Santos et al., 2019).

The information disclosed by companies in the VAS can be entered into the models that calculate the value relevance (Santos et al., 2019). Barros et al. (2013) analyzed whether TVAD had a significant relationship with the share price from 2000 to 2009. They found that the relationship was significant between 2000 and 2007, while not significant in the later two years. This indicates that, until 2007, investors considered VAS information for share pricing. During this period, VAS disclosure was optional. Martins et al. (2014) evaluated whether the VAS information presented additivity for users to price the shares of Brazilian companies from 2008 to 2010. The created wealth, the TVAD, was used as a proxy of VAS. The results showed no significant relationship between the wealth created and the share price.

Santos *et al.* (2019) verified whether the informational content of the VAS is relevant to investors, using two proxies for the content of VAS (TVAD and ROE) from 2011 to 2015. The results indicated that TVAD has a significant and positive relationship with the share price, while ROE showed no significant relationship. Barros and Rocha (2022) investigated the value relevance of VAS in Brazilian agribusiness companies from 2012 to 2018. They used both TVAD and ROE to explain the share price. The results revealed that TVAD is relevant to explain the share price, but ROE showed no significant relationship.

Therefore, considering that the TVAD information can affect the share price by evidencing the wealth generated, hypothesis 1 is formulated:

H$_1$: TVAD has a positive relationship with the share price.

As a result of the pandemic and unprecedented challenges for companies worldwide, innovation-focused strategies were necessary to remain in business (Nassif et al., 2020; Ratten, 2020)since they have significantly impacted their financial results (Marques et al., 2023). Even studies concerning the pandemic showed a drop in the share price during the pandemic (Díaz et al., 2021; Ding et al., 2021), with investors seeking safer investments, such as gold. (Salisu et al., 2021). The research by Santos and Tavares (2023) compared the periods before and after the beginning of the pandemic and revealed a reduction in the share price of Latin American companies. Sahlian et al. (2023) found that accounting information showed a higher r^2 to explain the share price during the pandemic. Thus, considering the uncertainties and economic challenges generated by the pandemic, hypothesis 2 is formulated:

H$_2$: The pandemic has a negative relationship with the share price.

Considering that the pandemic tends to reduce the share price and that VAS information can increase the share price, the interaction between TVAD and the pandemic is expected to have a positive and significant relationship with the share price. This is based on the ability of entities to manage the challenges imposed by the pandemic, with the potential to generate value and distribute wealth to shareholders as an indication of their resilience (Santos et al., 2019; Sousa et al., 2022). Therefore, the disclosure of information on value added can be a strategic tool for investors in periods of greater economic instability since the VAS can enable the evaluation of the economic performance of organizations by showing how the company generates and distributes its wealth (Santos et al., 2022; Sousa et al., 2022).

Sousa et al. (2022) found a significant reduction in the distribution of total value added and wealth distribution to shareholders in the retail sector during the pandemic. Checon e Santana (2023)verified that the share of value-added concerning the total asset is, on average, 25%,

presenting a reduction in 2020, demonstrating that the pandemic reflected the generation of value added. Mello Júnior et al. (2023) found that companies increased the percentage of third-party capital by over 100% and reduced the return on equity by over 50% in the first quarter of 2020. Therefore, VAS can increase users' information in periods of greater economic instability, allowing investors to understand the potential for return and the risk associated with investments in uncertain scenarios. Thus, hypothesis 3 is formulated:

H3: The interaction of TVAD and the pandemic has a positive relationship with the share price.

3 METHODOLOGICAL ASPECTS

This section presents the methodological procedures, including data collection and processing, value relevance measurement, and econometric models.

3.1 Data collection and processing

VAS's consolidated, standardized financial data was collected on CVM's website, while the remaining information was collected on Refinitiv Eikon®. The initial sample consisted of 6,370 observations of Brazilian companies from 2010 to 2022. The final sample consisted of 1,910 observations grouped by sector, according to Table 1. The financial sector was maintained in this study, following previous studies on value relevance (Miralles-Quirós et al., 2018; Santos & Tavares, 2023).

Table 1
Number of survey observations per country

Sector	Initial sample	Exclusion	Final sample
Educational	98	48	50
Basic materials	462	295	167
Cyclic consumption	966	585	381
Non-cyclical consumption	490	324	166
Energy	182	103	79
Financial	1,078	882	196
Government activity	14	14	0
Health	252	173	79
Industrial	784	495	289
Construction	966	729	237
Technology	378	290	88
Utilities	700	522	178
Total	6,370	4,460	1,910

Source: Prepared by the author.

To treat the outliers, the data were winsorized at 95% (2.5% in each tail). The Bacon test was also applied to search for multivariate outliers. The results showed the absence of outliers after winsorization. Subsequently, these data were treated in regression models with an unbalanced short panel. The following tests were applied to determine the type of panel to be considered: F-Chow (POLS x fixed), Breusch-Pagan Lagrange Multiplier (Pooled X random), and Hausman (fixed X random).

In addition, the Variance Inflation Factor (VIF) test was applied to identify the presence of multicollinearity. The value found was less than 2 (in all variables), demonstrating the absence of multicollinearity. According to Akinwande et al. (2015), multicollinearity is found when the value exceeds 5.0. The Generalized Least Squares (GLS) model was used due to the presence of heterogeneity (Breusch-Pagan/Cook-Weisberg test) and autocorrelation (Wooldridge test). The

GLS model corrects these problems by allowing distinctions between observation variances and a correlation structure, producing more efficient and consistent estimates (Cameron & Trivedi, 2022).

3.2 Value relevance measurement

The valuation model described by Ohlson (1995) was used to calculate the value reference, which considers the equity and net income values as variables that affect the company's market value, according to Equation 1.

$$P_{i,t+1} = \beta_0 + \beta_1 LPA_{i,t} + \beta_2 VPA_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where: P is the share price of the company *i* in the period *t+1*; PPS is the net profit per share of the company *i* in the period *t*; EVS is the equity value per share of the company *i* in the period *t*.

Three dates as a form of robustness to the arbitrariness of choosing only a specific date were considered as the share price: i) March 31st of the year following the disclosure of the result, which occurs on December 31st; ii) April 30th; iii) average between March 31st and April 30th. The value relevance considered in this article is measured by incremental association, as proposed by Holthausen and Watts (2001), which seeks to identify whether the pandemic or TVAD is statistically associated with the share price.

3.3 Econometric models

Three models were proposed to answer the three hypotheses. The first model analyzes the relationship between the TVAD and the price per share, according to Equation 2. This model has been adapted from Santos *et al*. (2019).

$$P_{i,t+1} = \alpha_{i,t} + \beta_1 VPA_{i,t} + \beta_2 LPA_{i,t} + \beta_3 VATD_{i,t} + \beta_4 Ativo_{i,t} + \beta_5 End._{i,t} + setor + ano + \varepsilon_{i,t} \quad (2)$$

Where: P is the share price of the company *i* in the period *t+1*; PPS is the net profit per share of the company *i* in the period *t*; EVS is the equity value per share of the company *i* in the period *t*; TVDA is the total value added to be distributed per share of the company *i* in the period *t*; Asset is the logarithm of the total assets of the company *i* in the period *t*; End. is the ratio of the chargeable liabilities to the total assets of the company *i* in the period *t*.

The first model analyzes the relationship between the pandemic and the price per share, according to Equation 3.

$$P_{i,t+1} = \alpha_{i,t} + \beta_1 VPA_{i,t} + \beta_2 LPA_{i,t} + \beta_3 Pandemia_{i,t} + \beta_4 Ativo_{i,t} + \beta_5 End._{i,t} + setor + ano + \varepsilon_{i,t} \quad (3)$$

Where: P is the share price of the company *i* in the period *t+1*; PPS is the profit per share of the company *i* in the period *t*; EVS is the equity value per share of the company *i* in the period *t*; Pandemic is a dummy variable assuming 1 for 2020 and 2021, and, 0, otherwise; Asset is the logarithm of the total asset of the company *i* in the period *t*; End. is the ratio of the chargeable liabilities to the total assets of the company *i* in the period *t*.

The third model analyzes the relationship between the TVAD and the pandemic with the price per share interaction, according to Equation 4.

$$P_{i,t+1} = \alpha_{i,t} + \beta_1 VPA_{i,t} + \beta_2 LPA_{i,t} + \beta_3 VATD * Pandemia_{i,t} + \beta_4 Ativo_{i,t} + \beta_5 End._{i,t} + setor + ano + \varepsilon_{i,t} \quad (4)$$

Where: P is the share price of the company *i* in the period *t+1*; PPS is the net profit per share of the company *i* in the period *t*; EVS is the equity value per share of the company *i* in the period *t*; TVAD*pandemic is the interaction between the total value added to be distributed per share of the company *i* in the period *t* and the dummy variable pandemic, which assumes 1 for 2020 and 2021, and, 0, otherwise; Asset is the logarithm of the total asset of the company *i* in the period *t*; End. is the ratio of the chargeable liabilities to the total assets of the company *i* in the period *t*.

Table 2 presents the expected relationships between the explanatory and control variables with the dependent variable (share price).

Table 2
Expected relationship of the dependent variables and control with the share price.

Variables	Composition	Relationship	Justification	Authors
PPS	Net income / Number of shares	+	Present profit can indicate future profit; therefore, investors use this past information to predict the company's ability to generate future results. This is because the higher the result, the higher the dividend distributed and the greater the organization's survivability.	(Marques et al., 2022; Ohlson, 1995; Santos et al., 2019)
EVS	Equity / Number of shares	+	Companies with higher equity tend to indicate a greater ability to return. This is because this equity may contain comprehensive income, that is, results that do not carry over to the result of the financial year and may affect the organization's future accounting results.	(Marques et al., 2022; Ohlson, 1995; Santos et al., 2019)
TVAD	Total value added to be distributed / Number of shares	+	Companies that generate more wealth can arouse greater investor interest in the company's shares since they expect to receive part of the profits (dividends) and/or still expect that the increase in profits will increase the future value of the shares.	(Barros & Rocha, 2022; Santos et al., 2019)
Pandemic	Binary variable, in which 1 represents the years 2020-2021 and 0, otherwise	-	There was a reduction in the share price due to increased uncertainties during the pandemic period. In this context, investors chose investments that were considered safer, such as gold.	(Díaz et al., 2021; Ding et al., 2021; Salisu et al., 2021)
TVAD*Pandemic	TVAD and pandemic interaction variable	+	The value added is expected to represent a greater possibility of profit distribution and future appreciation of the shares, especially during periods of uncertainty such as the pandemic due to the disclosure of more information. Therefore, such information can increase the interest of investors and, accordingly, the price of shares. Therefore, investors tend to value companies that demonstrate a greater capacity to generate value and distribute profits, making them	(Díaz et al., 2021; Ding et al., 2021; Marques et al., 2022; Ohlson, 1995; Santos et al., 2019)

			more attractive as investment options in economic uncertainty.	
Asset	Natural logarithm of the asset	+	Typically, larger companies are already consolidated in the market, suggesting greater stability, the possibility of paying dividends, and a lower perception of risks. Larger companies may also diversify their businesses and assets more, contributing to reduced exposure to industry-or market-specific risks.	(Marques et al., 2022; Ohlson, 1995; Santos et al., 2019)
End.	(Current liabilities + non-current liabilities) / total assets	-	More indebted companies may have higher agency costs and higher risks of bankruptcy. Higher levels of indebtedness can also increase the company's vulnerability to economic fluctuations or financial crises, increasing the risk of business discontinuity.	(Marques et al., 2022; Ohlson, 1995; Santos et al., 2019)

Source: Prepared by the author

Caption: PPS: profit per share of the company i in the period t; EVS: equity value per share of the company i in the period t; TVAD: total value added to be distributed per share of the company i in the period t; Pandemic: is a *dummy* variable assuming 1 for 2020 and 2021, and, 0, otherwise; Asset: logarithm of the total asset of the company i in the period t; End.: ratio of the chargeable liabilities to the total assets of the company i in the period t.

The following section presents the results of the research, including descriptive statistics, correlation analysis, regression model, and robustness analysis.

4 RESULTS

This section presents the research results, addressing descriptive statistics, regression models, and robustness analysis.

4.1 Descriptive statistics and correlation

Table 3 shows that the share price (March, April, and mean) is close to BRL 15.50, with a coefficient of variation of approximately 100%. This indicates variability in the results since the lowest quote is BRL 1.91 (March price), while the highest is BRL 65.67 (April price).

Table 3

Sample descriptive statistics

Panel A - Descriptive statistics for quantitative variables					
Variables	Obs	Mean	CV	Minimum	Maximum
April price	1,910	15.832	99.420	1.970	65.670
March price	1,910	15.532	97.955	1.910	62.870
Mean price	1,910	15.705	98.841	1.920	64.685
PPS	1,910	1.003	235.202	-4.270	7.750
EVS	1,910	13.958	147.046	-10.080	86.870
TVAD	1,910	16.762	208.721	0.360	150.091
Asset	1,910	22.554	6.829	19.968	25.424
End.	1,910	0.616	37.361	0.234	1.145

Panel B - Descriptive statistics for qualitative variables				
Variable	Freq. Absol.		Freq. Relat.	
	Yes	No	Yes	No
Pandemic	382	1,528	20%	80%

Source: Prepared by the author.

Caption: April price = Company's share price in April; March price = Company's share price in March; Mean price = Mean share prices between March and April; PPS = profits per share; EVS = equity value per share; TVAD = total value added to be distributed per share; Asset = logarithm of total asset*;* End. = ratio of liabilities to total assets; CV = coefficient of variation.

The companies are profitable, generating, on average, BRL 1.00 of profit per share, but with a high coefficient of variation since companies present a loss of -BRL 4.27 to companies with a profit of BRL 7.75. The average size of equity per share is BRL 13,958, with a coefficient of variation of approximately 150%. The TVAD is BRL 16.76 per share, whose coefficient of variation is 208.72%, suggesting significant result variability. Company applications (assets) have almost 62% of their origin derived from third-party capital (chargeable liabilities). This result is close to that of Santos et al. (2022), which was 64.73%. Table 4 shows the correlation results.

Table 4

Correlation matrix

	1	2	3	4	5	6	7	8	9	10
April price (1)	1.000									
March price (2)	0.991*	1.000								
Mean price (3)	0.998*	0.998*	1.000							
Pandemic (4)	0.123*	0.146*	0.136*	1.000						
PPS (5)	0.380*	0.379*	0.380*	-0.013	1.000					
EVS (6)	0.455*	0.457*	0.457*	-0.080*	0.391*	1.000				
Asset (7)	0.143*	0.142*	0.143*	0.044***	0.243*	0.255*	1.000			
End. (8)	0.016	0.017	0.017	0.0456**	-0.072*	-0.187*	0.201*	1.000		
TVAD (9)	0.446*	0.442*	0.445*	-0.079*	0.337*	0.476*	0.085*	0.234*	1.000	
ROE (10)	0.318*	0.313*	0.316*	0.016	0.632*	0.357*	0.267*	-0.194*	0.326*	1.000

Source: Prepared by the author.

Caption: April price = Company's share price in April; March price = Company's share price in March; Mean price = Mean share prices between March and April; PPS = profits per share; EVS = equity value per share; TVAD = total value added to be distributed per share; Asset = logarithm of total asset*;* End. = ratio of liabilities to total assets.

The correlation results (Table 4) demonstrate a positive relationship between the pandemic (*dummy*) and share price, suggesting an increase during this period. This result is not unexpected since previous studies have shown that more significant uncertainty has reduced the share price (Díaz et al., 2021; Ding et al., 2021). A possible explanation is that investors sought more profitable alternatives to apply their capital with the fall in the interest rate (SELIC). This can be corroborated by the number of people on the stock market practically doubling between 2019 and 2020, going from 1.22 million to 2.34 million (Alvarenga, 2020).

The PPS and EVS are positively associated with the share price, as expected, since companies with greater capacity to generate profit and with net worth have a higher share price, following the logic proposed by Ohlson (1995) and found in previous studies (Barros et al., 2013; Barros & Rocha, 2022; Marques et al., 2022; Martins et al., 2014; Santos et al., 2019).

The total assets positively correlate with the share price, indicating that larger companies tend to have higher share prices since they represent greater confidence and offer the possibility of dividend distribution, corroborating with Santos *et al.* (2019). The TVAD shows a positive and significant relationship with the share price, indicating that the higher the total amount to distribute, the higher the share price, according to Barros et al. (2013), Barros and Rocha (2022), and Santos *et al.* (2019).

4.2 Regression models

The regression results (Table 5) indicate that PPS and EVS are statistically significant in explaining the share price. This result is consistent with previous research (Barros et al., 2013; Barros & Rocha, 2022; Marques et al., 2022; Martins et al., 2014; Santos et al., 2019), which showed that the higher the company's ability to generate profits and the higher its net worth, the higher the share price.

TVAD maintains a significant relationship with the share price in all models, suggesting investors attach relevance to VAS information. This result supports the research by Barros et al. (2013), Barros and Rocha (2022), and Santos et al. (2019), which indicated that a higher TVAD per share is associated with a higher share price. Therefore, the results corroborate H1, confirming that investors attach relevance to VAS information and suggest that higher TVAD values indicate higher share prices.

According to Table 5, there is a significant negative relationship between the pandemic and the share price. This suggests that companies experienced a reduction in their share prices after the onset of the pandemic. This result was predictable since previous research has shown that the pandemic has increased the degree of investor uncertainty, leading them to seek safer investments, such as gold (Salisu et al., 2021), thus resulting in a reduction in share prices (Díaz et al., 2021; Ding et al., 2021). Therefore, this result confirms H2, indicating that the pandemic has reduced share prices. Table 5 shows the results of the econometric models.

Table 5

Regression model Total value added to be distributed

Variables	Statistics	April			March			Mean		
		M1	M2	M3	M4	M5	M6	M7	M8	M9
_cons	Coefficient	-16.501*	-5.911***	-14.285*	-23.601*	-10.795*	-20.928*	-19.760*	-8.952*	-16.231*
	Standard error	3.059	3.148	3.107	1.967	3.040	2.045	2.876	3.093	2.921
PPS	Coefficient	0.712*	0.823*	0.690*	0.617*	0.720*	0.570*	0.665*	0.716*	0.625*
	Standard error	0.098	0.104	0.099	0.093	0.102	0.092	0.094	0.102	0.094
EVS	Coefficient	0.340*	0.420*	0.355*	0.318*	0.410*	0.340*	0.325*	0.412*	0.348*
	Standard error	0.012	0.012	0.013	0.011	0.011	0.012	0.011	0.011	0.012
TVAD	Coefficient	0.094*		0.074*	0.097*		0.074*	0.093*		0.070*
	Standard error	0.007		0.009	0.007		0.008	0.007		0.008
Pandemic	Coefficient		-5.863*	-4.292*		-5.227*	-2.309*		-5.191*	-4.249*
	Standard error		1.118	1.099		1.069	0.877		1.127	1.029
TVAD*Pandemic	Coefficient			0.051**			0.057*			0.057*
	Standard error			0.021			0.020			0.020
Asset	Coefficient	0.975*	0.582*	0.900*	1.256*	0.803*	1.151*	1.134*	0.720*	1.005*
	Standard error	0.124	0.128	0.125	0.092	0.124	0.093	0.117	0.125	0.118
End.	Coefficient	-0.278*	-0.185***	-0.265*	-0.173**	-0.140	-0.111	-0.241*	-0.193*	-0.212**
	Standard error	0.087	0.098	0.085	0.081	0.093	0.080	0.083	0.096	0.083
Sector		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
χ^2		3,124.126*	2,617.767*	2,841.674*	6,480.54*	2,726.383*	6,382.176*	3,488.74*	2,701.294*	3,229.886*

Source: Prepared by the author.

Caption: April price = Company's share price in April; March price = Company's share price in March; Mean price = Mean share prices between March and April; PPS = profits per share; EVS = equity value per share; TVAD = total value added to be distributed per share; Pandemic = *dummy* variable with 1 for the years 2020 and 2021, and 0, otherwise; Asset = logarithm of total asset*;* End. = ratio of liabilities to total assets.

The TVAD and pandemic interaction variable demonstrated a positive and significant relationship with the share price, confirming H3. Therefore, companies that disclosed more value-added information achieved higher share prices during the pandemic. It is worth noting that all significant models showed economic significance (coefficient greater than 0), indicating that the variation of one unit of the explanatory variable affects the share price.

Company size is positively related to share price, suggesting that larger companies tend to have higher share prices. These results corroborate the study by Santos et al. (2019), indicating that larger companies are more consolidated in the market, which implies greater stability, the possibility of paying dividends, and lower risk perception. The significant and negative relationship between indebtedness and share price suggests that companies with higher levels of debt may face higher agency costs and bankruptcy risks, resulting in a less favorable perception by shareholders (Marques et al., 2022; Santos et al., 2019).

4.3 Robustness analysis

The complementary analysis adopted a model for each sector. The results show that the TVAD presented a significant negative relationship for the utilities sector. This result suggests that investors have a negative perception concerning the ability of public utility companies in Brazil to generate wealth. One possible explanation for this outcome is that investors already have a formed perception of the wealth the organization will produce, and/or the TVAD may have been lower than expected. This scenario is reinforced by the lack of a significant relationship between PPS and the share price, suggesting that profit had no impact on the share price in this sector.

The relationship between the TVAD and the share price is positive in the construction, industrial, health, financial, non-cyclical, and cyclical consumption sectors in all three variables that represent the share price. This suggests that, on average, a higher TVDA is associated with a higher share price when the company belongs to these sectors.

A negative and significant relationship is observed in the utility, technology, and non-cyclical consumption sectors concerning the relationship of the pandemic with the share price per sector. The negative relationship in the non-cyclical consumer sector can be explained by its performance influenced by economic fluctuations (Pandini et al., 2018). The relationship of the technology sector can be attributed to its high volatility, resulting from the need for rapid innovation and technological change (Rensburg & Pretorius, 2014). The negative relationship in the utility sector would not be expected since these companies deal with essential products and, most importantly, have their income "guaranteed" by long-term public contracts. One possible explanation is that investors may have opted for other sectors due to fear regarding the transactions of these companies with the State since they had to contribute many resources to the economy.

The results concerning the TVAD*pandemic interaction indicated a negative relationship between the public utility and education sectors. This suggests that companies that disclosed more information about TVAD during the pandemic presented a lower share price. This result may be due to the lack of surprise in the results in the public utility sector or the fact that economic factors influence the education sector (Pandini et al., 2018). Families may reduce spending on private education by seeking more affordable alternatives or postponing educational investments during this period of economic hardship. A positive and significant relationship existed between the TVAD*pandemic interaction and the share price in the construction, industrial, and essential materials sectors. This suggests that the companies that disclosed the most information about TVAD showed an increase in share prices during the pandemic.

Therefore, the research results corroborate the studies by Barros et al. (2013), Barros and Rocha (2022), and Santos et al. (2019), demonstrating that stock prices change due to the disclosure of TVAD. This reinforces the importance of mandatory VAS information by the Brazilian regulator, being even more relevant in periods of economic turbulence, such as that caused by the pandemic.

5 CONCLUSIONS

This research analyzes the relationship between the total value added to be distributed and the share price in the before, during, and post-pandemic periods. The study comprised 1,910 observations collected on the CVM website and Refinitiv Eikon®. The data were analyzed using descriptive statistics, correlation, and the GLS regression model.

The results allow us to conclude that investors consider VAS information in their decision-making, attributing relevance to these data to evaluate companies. In addition, the results indicated that shares showed a price reduction during the pandemic due to more significant uncertainty that led investors to seek safer investments. The analysis also points out that the companies that most disclosed information about TVAD during the pandemic had an increase in their share price. This

may indicate that investors perceive advantages in disclosing VAS information in periods of uncertainty, being another source of information for decision-making.

These results contribute to investors, highlighting the importance of VAS information. These data can positively impact the share price and, consequently, investors' capital, especially in periods of more significant economic uncertainty. For managers, the study shows that the company's greater capacity to generate wealth can increase its remuneration since it is often linked to share performance. Finally, the study can contribute to the Brazilian regulators since the VAS information can be helpful for shareholders, being mandatory only in this country.

The findings of this research reinforce the perspective that investors seek financial information sources such as VAS in addition to income statements and balance sheets. Therefore, these results corroborate the view of Brazilian regulators in requiring the disclosure of this statement since it may contain relevant information that contributes to improving user decisions.

The study is limited to the sample of Brazilian companies since VAS is mandatory only in Brazil. The research also presents methodological limitations due to the choice of control variables and the period under analysis. For future studies, we recommend analyzing the value relevance of the interaction between TVAD and *environmental and social practices and corporate governance* (ESG). In addition, we suggest examining whether the interaction of TVAD and participation in different levels of corporate governance are related to the share price.

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CONFLICT OF INTEREST

The author asserts that there is no conflict of interest regarding this submitted work.