CASH DISTRIBUTION TO SHAREHOLDERS AND IMPACTS OF A TAX REFORM IN BRAZIL

ABSTRACT

In a context of tax reform in Brazil, the effects of the possible taxation of dividends and the possible end of interests on equity are discussed. Cases like the Brazilian one, in which a high tax differential is present, can provide greater capacity for tax planning and bias shareholders and executives to prefer a form of shareholder compensation to the detriment of others. The present study seeks to understand the factors associated with the amount of earnings paid in the form of dividends and interest on equity (JCP), and the influence of different forms of compensation on the market value of companies. The results found indicate a relation of substitution between dividends and JCP, a strong relationship between the size of the company and its distribution of JCP, and a possible preference for dividends over JCP influencing the market value of listed companies in Brazil.

Keywords: tax reform; dividend policy; *juros sobre capital próprio;* dividends; shareholder; valuation; Brazil.

1. INTRODUCTION

The present study focuses on the impacts of taxes in shareholder compensation and the possible outcomes of a reform on companies and shareholders. An extensive literature review on factors that may impact dividend policies is presented, and data from companies listed in Brazilian stock exchange during the period of 1994 to 2022 was gathered and subject to evaluation in a panel study. This study investigates the behavior of dividend and interest on equity (*juros sobre capital próprio* - JCP) payouts since the 90's. The results suggest a relationship of substitution between dividends and JCP, a positive and significant relation between the size of the company and its distribution of JCP, and a possible preference for dividends over JCP influencing the market value of listed companies in Brazil.

Fiscal challenges have been an important threat in Brazil for several decades. In 2023, as the roll-over of debt became increasingly expensive, a new fiscal plan was approved and the discussions of a tax reform started to find support once again in Brazilian Congress, thus becoming an unavoidable issue for the years ahead.

In the center of discussions, dividends have been tax-exempt in Brazil since 1995. After almost three decades facing the opposition of several draft bills, it is likely that this exemption will not hold valid for long. Besides that, another aspect that should concern investors is the possible end of JCP, a common form of capital distribution to shareholders in Brazil. JCP were created in the late 90's after the de-indexation of the Brazilian economy and allow for companies to distribute cash in a tax advantageous form.

In terms of dividends and JCP, the reform goes in the opposite way of the late 90's, when both the dividend exemption and the creation of JCP were approved. With that in mind, previous studies and the history of Brazil may give us a hint about the impacts to be expected.

Finally, the aim of this work is to provide an extensive view of the taxation in the Brazilian stock market and a study of the factors influencing companies to prefer some form of compensation to shareholders over others. Conversely, the influence of cash compensation on firm value is also tested.

2. LITERATURE REVIEW

Several authors have dedicated their work to the importance of dividends. From behavioral aspects to the impacts of tax rates on equality, dividends have extensively been in the center of discussions about shareholder compensation, usually in comparison to the impacts of stock repurchases and capital gains in stock trades.

Among important contributions to the literature, Lintner's (1956) work on the factors influencing dividends brings the perspective of executives on dividend payout decisions. According to him, executives define a target level of payout to be maintained over time, and this relative stability is valued by the market. In fact, his other study (Lintner, 1962) suggests that the market value of a company is positively related to its levels of dividends, so long as the dividends are stable and predictable.

The propositions from Lintner find further support in more recent studies. In DeAngelo et al. (1992), NYSE firms were studied during the period of 1980 to 1985, and more than half of the companies reporting losses reduced dividends, while only 1% of firms without losses did so, indicating a relative stability in dividends.

Similar to Lintner's experiment, Baker (2001) runs surveys with the executives of Nasdaq-listed companies and finds a pattern of past dividends, stability of earnings and the level

of current and future earnings as strong determinants of dividends. Brav et al. (2005) study financial executives, and also find conservatism as a trait of dividend payments. The authors find that executives frequently take payouts as given. A difference in the results, however, is that executives became more flexible after the rise of stock repurchases, as this compensation allows for punctual use of residual cash.

Gordon (1959) reinforces stockholders' preference for dividends rather than future income with his bird in the hand theory, reinforcing the risk averseness of shareholders. For Gordon, shareholder preference would be associated mainly with risk-averseness, favoring the liquidity provided by dividends.

An opposing view is provided by Modigliani and Miller (1961), who bring one of the most important works ever in corporate finance, the dividend irrelevance theory. The authors argued for conditions under which the dividend policy should not interfere in the market value of a company. These conditions were the perfect market, rational behavior and perfect certainty. The idea was that the free cash flows, rather than dividends or retained earnings, would be responsible for the market value of companies. Despite the importance of the irrelevance theory to finance, the simplifications assumed are usually different from the ones companies face in real life. These differences usually include agency costs, information asymmetry, behavioral aspects and tax differentials rather than the idealistic market.

One of the situations under which Modigliani and Miller (1961) state the irrelevance theory may not hold valid, the incidence of taxes was subject to further studies relating it to shareholders' preference. Total taxes incurred on dividends and on capital gains are usually different, and depend on the tax circumstances of the investors. If rationality is assumed, investors will prefer stocks that maximize their after-tax returns and companies will adapt, creating a dividend clientele based on taxes.

In fact, even Gordon (1959) admits that higher tax rates on dividends than on capital gains may make shareholders more inclined to prefer capital gains rather than dividends. Moreover, Modigliani and Miller(1961) also argue for the possibility of different clienteles based on market imperfections, such as individual tax treatment.

The literature therefore suggests that a change in tax differentials, as the one expected to happen in Brazil, may shift the preference of different clienteles in an avoidance response to the change in taxes. It is also an important moment for companies to rethink their dividend

policies, in order to adapt their strategy to the new conditions. Thus, it is imperative to comprehend how investors behave when their potential gains, be it in dividend or capital gains, are altered by fiscal matters.

A recent example of an increase in taxes on dividends is found in Boissel et al. (2022). The authors study the effects of a threefold increase in taxes over dividends in France in 2013. The increase applied for companies with high concentration, whose owner-managers were formerly subject to a 15.5% tax on dividend, instead of a 46% upper bracket tax rate on labor. Therefore, the measure was intended to reduce disparity between taxes on labor and on dividends for these groups. The study covers the universe of French firms from 2008 to 2017 and the results suggest a reduction of payouts and an increase in liquidity, in reinvestment and in credit to the companies' customers in affected companies.

Another largely controversial event, the 2003 Dividend Tax Cut in the U.S. was announced as a stimulus for companies to raise equity for new investment and as a response to what was considered double-taxation. In this case, an increase in dividend distribution was observed. However, Edgerton (2010) finds that the increase in dividend payouts was much smaller than that of share repurchases and that there is no significant difference in dividend payouts when compared to a control-group not affected by the dividend tax cut Act.

Buchanan et al. (2017) investigate firms' behavior in anticipation to the termination of the 2003 dividend tax cut, in a scenario of uncertainty. As expected, the results suggest the issue of last-minute dividends prior to changes in tax law. Controversially, the authors also find a pattern of stocks repurchase in the year before a shift in taxation, thus inconsistent with the hypothesis of substitution between dividends and repurchases.

Recent studies on dividend policies include a variety of other factors as possible determinants of payouts. Uncertainty, signaling and governance have been frequent topics in the discussion. The signaling effect of dividends from banks during rollover crises is studied by Juelsrud (2019). The author finds that U.S. banks distributed high payouts during the financial crisis, despite their losses, indicating possible signaling of liquidity.

Relating to governance, Tao et al. (2022) relate a higher likelihood and ratio of dividends in Chinese stocks when directors with foreign experience are present. The research includes 3480 companies in the period of 2008 to 2018. Gender diversity in boards and higher payouts

are positively associated in Ye et al. (2019), in a set of 8873 firms in 22 different countries from 2000 to 2013.

Regarding the influence of dividends on valuation, Hauser et al. (2017) investigate U.S. companies in the period of 1982 to 2010, excluding financial firms and utilities, and find that dividends were associated with increased valuation of mature companies and reduced valuation of non-mature companies during that period. Therefore, the author proposes that the life-cycle stage of a firm, together with its dividend policy will influence its valuation.

In a similar study, Karpavičius et al. (2018) develop on the existence or not of a premium in valuation for dividends on U.S. industrial firms between 1976 and 2010. The authors find that dividend paying firms have an equity premium of around 17% when compared to non-paying firms.

Among many possible determinants of dividend policies and firms' valuation, the impact of a tax reform now gains prominence in Brazil. Several authors have investigated the determinant factors to dividend policies in emerging markets and specifically in Brazil. Aivazian et al. (2003) compare dividend policies in emerging markets to policies in the U.S. and find that profitability, debt and market-to-book ratio explain dividends across markets.

Forti et al. (2015) investigate factors determining the cash disbursement distribution policies of Brazilian companies, concluding that size, liquidity and profitability are significantly related to dividends in the period of 1995 to 2011. Vancin et al. (2016) explore the difference in dividend determinants between firms paying minimum mandatory dividends and those paying above the minimum. The authors argue for a distinction between deciding to pay extra dividends and complying with legal requirement. The study provides empirical evidence for share concentration and ROE as determinants of dividends above the minimum.

Boulton et al. (2012) investigate the distribution of JCP and its determinants, indicating that profitable companies with higher payouts are more inclined to JCP. A later study suggests that JCP is considered to be the preferred form of compensation by some groups of shareholders. Colombo (2022) develops on this preference in a specific time-period in Brazil. His conclusions, presented later on, help in the understanding of different clienteles in Brazilian stock markets.

Finally, the banking sector is also known to be positively affected by the tax advantages of the distribution of JCP (Pêgas, 2021). In fact, the payments of JCP among financial

institutions were twice as frequent as that of dividends between 2001 and 2006 (Weber, 2008). Banks are expected to favor JCP because of their higher tax rates and higher potential for tax avoidance in the use of JCP. In fact, the sector is now targeted in the reforms at hand.

3. TAXES ON DIVIDENDS AND CAPITAL GAINS IN BRAZIL

The discussion around capital gains or dividends being the preferred form of compensation is more challenging in Brazil. Investors face a favorable situation in the country: since the approval of Law no. 9.249, of 26 December 1995, dividends are not taxed. Along with dividends, JCP is a common form of compensation. JCP allows for companies to pay shareholders in cash and to deduct the paid values from the taxable income as financial expenses, thus reducing the total corporate income tax. The existence of JCP constitutes a third way shareholders may be paid, and the paragraphs that follow develop on the tax matters regarding each of the options.

Capital gains in Brazil may be taxed at various rates, depending on the characteristics of the trades. When it comes to gains in the stock market, the rates depend mostly on the nature of the trade and the amount traded in a given period. The rule for the taxation of swing trades is expressed at Law 13.259, of 2016, and it is considered an ordinary capital gain.

In Brazil, capital gains of up to BRL 5 million a year are taxed at 15%, up to BRL 10 million at 17,5%, up to BRL 30 million at 20%, and 22,5% if above that limit. An exception occurs if the monthly proceeds of sale executed do not surpass a limit of BRL 20 thousand in a given month. In this case, the capital gains on the sales of the month are exempt.

Going in the opposite way, dividends in Brazil are currently not taxed. Even though the differential rates favor these instead of capital gains, JCP may have an even higher tax advantage.

Previous studies have found a preference for JCP as the main form of capital distribution, especially when institutional investors, such as investment and pension funds, are relevant, since the overall taxation is reduced even further (Colombo, 2022). This occurs because JCP may be considered a financial expense in the income statement of the interest paying company. Therefore, the corporate taxable income is reduced, while the JCP may be taxed at the investor level at much lower rates than the income perceived by the company,

especially in the cases of private investors and funds, taxed at 15% flat rate and exempt, respectively.

Colombo (2022) also suggests that the tax relief of JCP, that benefits private investors and funds, is not so advantageous for controlling companies. In this case, gains are taxed as financial revenues at the controller level and other taxes apply, namely PIS and COFINS. Therefore, these groups of shareholders may be expected to prefer other types of compensation.

The amount a company may distribute in the form of JCP, taking advantage of its tax benefits, is limited. The amounts destined to investors as JCP by a company should not surpass a reference interest rate over its equity. This rate is the long-term interest rate, or taxa de juros de longo prazo (TJLP), in portuguese. Also, Law 9.430 of 1996, article 78 limits the amount to 50% of the retained earnings of the company and 50% of its profit before JCP deduction, whichever is more restrictive.

Finally, JCP is subject to a withholding tax of 15%, which does not apply for investment and pension funds. This is a major benefit, when compared to the most common marginal corporate tax rate in Brazil, of 34%. In the case of financial institutions, the corporate tax rates are even higher.

4. DATA AND METHODOLOGY

4.1. Data

The current study uses data from companies listed in Brazil, in the period of 1994-2022. The year of 1994 is a milestone of the beginning of Plano Real, the plan for a stable currency in Brazil, while 2022 was the most recent year for analysis.

The initial sets of data included proxies for company size, leverage, liquidity, profitability, risk, the dividend payout, the JCP payout and the TJLP. These include the book debt/equity, earnings per share, current ratio, net debt/EBITDA, dividends per share, JCP per share, outstanding shares, net earnings, EBIT, P/BV, ROE and main shareholder.

The database used for listed companies was Economatica and both active and inactive companies, or companies not in activity anymore, operating in the aforementioned period were considered. The initial dataset was composed of 1402 different tickers, representing a total of 859 companies. Since redundancy occurs at a ticker level, for companies with multiple tickers,

the aggregate behavior of the shares was used in the calculation of the variables. Also, companies from the banking sector were not subject to analysis, due to expected different behavior on JCP distribution. The information regarding the main investor was also gathered from Economatica, and only the largest investor in descending order of number of voting shares was considered.

The database of the Central Bank of Brazil was used for the historical data on interest rates (Selic) and TJLP of the corresponding periods. The macroeconomic data considers the rates for the 31st of December of each year. Two sets of data were used to test the hypotheses. The first one (group 1) included every company from the initial data set after the initial treatment for consistency. The second group (group 2) is composed of companies that paid either dividends or JCP for at least 10 years during the observed period.

In order for the data to be used in this study, some adjustments were necessary. These included aggregating data from different tickers, representing ordinary stocks, preferred stocks and units of the same company; adjusting information from a per share basis to total values, as pieces of information such as dividends were initially given in a per-share basis; classifying main shareholders as per their nature; and adequating the information to the proposed variables of the model, establishing a consistent measure for the payouts.

The classification of shareholders divided investors in a binary variable: 1 representing private investors, whose total tax burden is reduced in case of JCP distribution, and funds, exempt from the 15% withholding tax), and 0 representing other types of main shareholders[1].

Another important step in data treatment was the evaluation of inconsistent data. Some occurrences of annual dividends were incompatible with the size of the paying firms. For this purpose, some simple rules were defined for the consistency of total dividends and JCP regarding their ratios over total assets and revenues. If the total dividends or JCP were larger than both total assets and revenues, the observation was treated as inconsistent. This criterium was adopted in order to avoid the influence of errors of magnitude in the database. In group 1, 3 occurrences were eliminated by this criterium alone.

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[1] For this classification, keywords such as LTDA, Cia, S.A., llc, ltd, inc, Gmbh, plc, llp, limited, and LP were used to identify companies, while funds were mainly identified by the keywords Fundo, FIA, FI, FIP and private investors were classified manually.

After that first treatment, the data for group 2 was considered to establish the statistics for data consistency. For consistency, the payouts considered for both dividends and JCP were the dividend/EBIT and JCP/EBIT ratios.

The choice for the EBIT as denominator of the payouts, instead of the traditional net income, was due to the accounting nature of JCP. Since this compensation is considered a financial expense, its position in the income statement makes EBIT an adequate denominator for both the dividend and JCP payouts to have a common base for comparison. This choice also reduces the number of inconsistencies due to a negative denominator. Moreover, as the EBIT is a measure that does not apply to banks, the influence of banking institutions on the study is minimized.

The criterion for data consistency considered zero as the inferior limit for the JCP/EBIT and dividend/EBIT payouts, in order to eliminate the influence of negative values on the results. Finally, Table 2 shows the variables collected and used in this study.

Table 2 – Description of Variables

Name	Definition	Formula
JCP/EBIT	JCP payout	JCP divided by EBIT
DIV/EBIT	Dividend payout	Dividends divided by EBIT
LIQ	Liquidity	Current assets dividend by total assets
DEB/EQ	Indebtedness[1]	Debt divided by shareholders equity
DEB/EBITDA	Indebtedness[2]	Net Debt divided by EBITDA
ROE	Profitability	Return on Equity
TJLP	Long- Term Interest Rate	TJLP Rate
SELIC	Interest Rate	Selic Interest Rate
P/B	Price/Book Value Multiple	Price/Book Value of Equity
LOGEQ	Log of shareholders' equity	Log of shareholders equity
SH	Classification of shareholder	Binary variable considering main shareholder. If the main shareholder is a private investors or funds, the value is 1. Otherwise, the value is 0.
BETA	Risk	5-year stock beta (volatility)

4.2. Methodology

The method employed in this study consists of a panel data analysis of companies listed on the Brazilian stock market in the period of 1994-2022. The fixed effect and difference GMM were estimated, considering statistical significance at 5% for the coefficients. The J-statistic and the Arellano-Bond test for the instruments were set at a 0.1 threshold.

The main equations are listed below. We estimate each for groups 1 and 2 during the entire period from 1994 to 2022. We also estimated the models in 2 subperiods (1994- 2008 and 2009- 2022) in order to evaluate the proposed hypotheses and possible changes in behavior during time.

(1) $JCP/EBIT_{i,t} = \alpha_0 + \alpha_1(LIQ_{i,t}) + \alpha_2(DEB/EBITDA_{i,t}) + \alpha_3(DEB/EQ_{i,t}) + \alpha_4(ROE_{i,t}) + \alpha_5(TJLP_t) + \alpha_6(LOGEQ_{i,t}) + \alpha_7(SH_{i,t}) + \varepsilon_{i,t}$

(2) $DIV/EBIT_{i,t} = \alpha_0 + \alpha_1(LIQ_{i,t}) + \alpha_2(DEB/EBITDA_{i,t}) + \alpha_3(DEB/EQ_{i,t}) + \alpha_4(ROE_{i,t}) + \alpha_5(TJLP_t) + \alpha_6(LOGEQ_{i,t}) + \varepsilon_{i,t}$

(3) $P/B_{i,t} = \alpha_0 + \alpha_1(JCP/EBIT_{i,t}) + \alpha_2(DIV/EBIT_{i,t}) + \alpha_3(LIQ_{i,t}) + \alpha_4(DEB/EBITDA_{i,t}) + \alpha_5(DEB/EQ_{i,t}) + \alpha_6(ROE_{i,t}) + \alpha_7(SELIC_t) + \alpha_7(BETA_{i,t}) + \varepsilon_{i,t}$

4.3. Hypotheses

Variables of interest rate, size, liquidity, indebtedness, profitability and company betas have been extensively investigated in the literature and, even though part of our model, these are not our main object of interest here. The list of hypotheses is found below along with the underlying motivations for each hypothesis.

Boulton et al. (2012) argue that dividends and JCP are close substitutes. To test this hypothesis, we propose that the response to the tax advantage of JCP was the replacement of dividends by this form of compensation, and therefore a negative relation is expected.

● H1: Dividends are negatively correlated with JCP.

As Colombo (2022) proposes, the tax advantage of JCP is more inviting for some groups. The author finds a statistical relation between institutional investors and higher JCP payouts. As the total tax burden is reduced for these groups and for private investors, a positive relation between JCP and this dummy variable representing these groups is expected.

● H2: Private investors and funds are positively associated with JCP.

We also test if cash compensation, be in the form JCP or dividends, is related to a higher relative valuation. The proxy for valuation is the price/book (P/B) value multiple, consistent with Hauser (2017) and Karpavičius (2018). Black (1976) proposes that dividends are expected to reduce the value of a company. However, this proposition is based on the tax disadvantage of dividends in the US. The idea of a dividend premium is in line with the results found in Karpavičius (2018). In this study, both JCP and dividends to be positively related to the market-to-book value of firms.

- H3: Companies that pay more dividends have higher market-to-book value multiples;
- H4: Companies that pay more JCP have higher market-to-book value multiples.

4.4.   Limitation of the Study

Economatica database was the source of the data here used. As the database does not provide aggregate data on total dividends and total JCP, simplification was assumed and the average compensation per share and the number of shares of the end of the year were considered for the total cash compensations. Furthermore, some pieces of information were found to be inconsistent during data treatment. Thus, information regarding total dividends and JCP were treated with the criteria defined previously.

The information regarding main shareholder was manually examined, since the classification here provided is not available in the database. Furthermore, the limitation of classifying only one main shareholder may be misleading because the average profile of shareholder is not considered.

Another limitation of the study is that our sample does not include banks. Their aggregate behavior may be different from other companies, and several studies reinforce their frequent use of JCP as preferred form of cash distribution. Therefore, the conclusions drawn in this study may not apply to this specific group.

Moreover, some other explanatory variables of the literature are not considered in this analysis. This study does not separate companies by sector, a factor that may further affect the market-to-book value multiple, nor includes the growth of revenues, factors of governance, or the maturity of firms.

Finally, some of the results in the GMM analysis were subject to Arellano-Bond first-order or second-order autocorrelation. This may lead to inefficient estimates. These cases are indicated in the tables.

5. RESULTS

5.1 Empirical Results

Table 3 shows the descriptive statistics for the dividend and JCP payout ratios for group 1 (all companies) and group 2 (companies paying either dividends or JCP for at least 10 of the 28 observed years).

The table shows that the median found for the dividend/EBIT payout in group 1 is 0%, while in group 1 is 8.64%, reflecting the existence of nonnull entries in bigger proportion in group 2. The average payout was 12.2% for group 1 and 19.1% for group 2. In terms of JCP/EBIT payout, the averages are 3.29% for group 1 and 5.43% for group 2.

Table 3: Descriptive Statistics of Dividend and JCP Payout

Statistic	Group 1 (All companies)		Group 2 (Paying companies)	
	DIVEBIT	JCPEBIT	DIVEBIT	JCPEBIT
Mean	0.1219	0.0329	0.1810	0.0543
Median	0.0000	0.0000	0.0864	0.0000
Maximum	1.4398	0.5612	1.3991	0.5612
Minimum	0.0000	0.0000	0.0000	0.0000
Std. Dev.	0.2178	0.0836	0.2396	0.1024
P10	0.0000	0.0000	0.0000	0.0000
P90	0.4069	0.1416	0.5135	0.2087
Observations	8323	8027	4222	4209

Figures 1 and 2 show the average amount of the dividends and JCP distributed through time for both groups of companies. We can see that the gap between the payouts of the two types of cash distribution seems to be narrowing along time, specially between 1998 and 2006. In fact, the results can be explained by the adoption curve for JCP distribution. While the number of companies paying JCP face a tenfold increase between 1998 and 2006, the number of companies paying dividends faced an 11% increase.

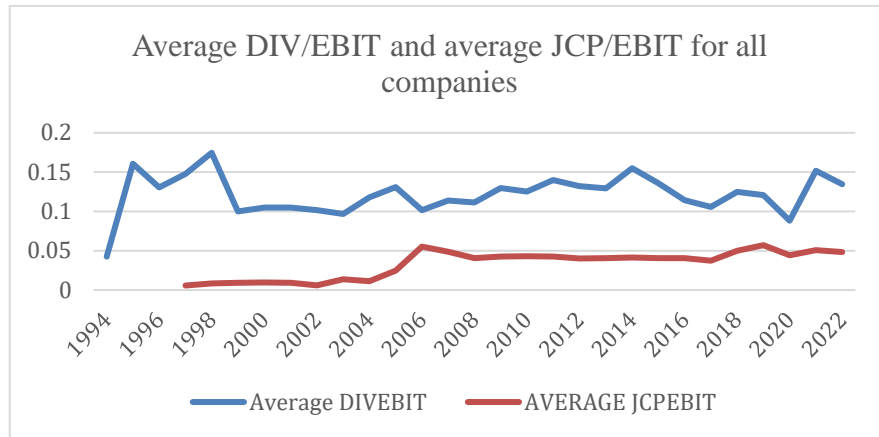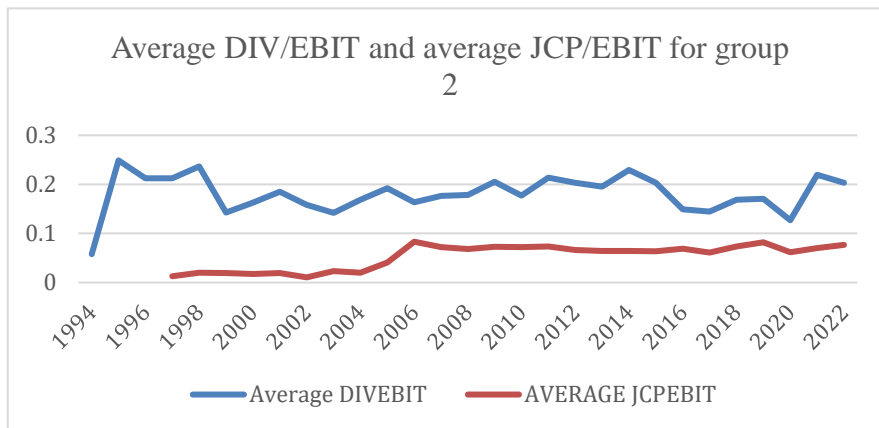Figure 1: Annual Evolution of Dividend and JCP Payout for All Companies

Figure 2: Annual Evolution of Dividend and JCP Payout for Group 2

The following tables will present the results of the panel regressions. For each test, equations (1) and (2) represent the results in fixed effect and GMM, respectively, in periods of 1994 to 2008 (1997 to 2008 when JCP is the dependent variable), while (3) and (4) represent these results from 2009 to 2022. Table 4 presents the results for the panel regressions of price/book value as dependent variable from 1994 to 2008 and from 2009 to 2022 for all companies.

Table 4 provides the specifications por Price-to-Book value for group 1. The Selic interest rate is negative and significant at 1% for every scenario. Regarding cash distribution to shareholders, dividend/EBIT is negative and not significant, while JCP/EBIT is positive and not significant at fixed effect in 1994 to 2008. Finally, between 2009 to 2022, JCP/EBIT is negative in both fixed effect and GMM, but not significant at fixed effect, while dividend/EBIT positive and significant. Moreover, the debt-to-equity ratio is positive and significant at 1% from 1994 to 2022, while ROE and liquidity are positive and significant between 2009 and

2022. Very similar results were found for group 2, except that in the period from 2009 to 2022 JCP/EBIT is also negative, but significant this time.

Table 4: Regressions of Price-to-Book from 1994 to 2008 and from 2009 to 2022 for All Companies

Variable	(1)	(2)	(3)	(4)
P_BV(-1)		-0.24*** (0.01)		-0.01*** (0.00)
C	1.24* (0.70)		1.86*** (0.42)	
DIV/EBIT	-0.03 (0.83)	-0.61*** (0.16)	**1.27*** (0.38)**	**2.01*** (0.00)**
JCP/EBIT	0.57 (1.12)	3.63*** (0.47)	**-0.92 (0.57)**	**-2.33*** (0.00)**
LIQ	-0.17 (0.19)	0.39*** (0.06)	**0.13** (0.06)**	**0.69*** (0.00)**
DEB/EQ	**0.00*** (0.00)**	**0.00*** (0.00)**	**0.00*** (0.00)**	**0.01*** (0.00)**
DEBT/EBITDA	0.01 (0.02)	-0.61*** (0.03)	0.00 (0.01)	-0.02*** (0.00)
ROE	0.03*** (0.01)	-0.02*** (0.00)	**0.03*** (0.01)**	**0.05*** (0.00)**
SELIC	**-5.55*** (1.63)**	**-11.11*** (0.51)**	**-10.37*** (1.58)**	**-12.75*** (0.00)**
BETA	**0.91* (0.50)**	**1.64*** (0.19)**	-0.33 (0.34)	-2.37*** (0.00)
Adjusted R squared	0.552		0.744	
J-Statistic (Probability)		38.61 (0.442)		168.18¹ (0.333)

Obs: The standard errors are reported in parentheses below the coefficients.
***, **, * denote statistical significance at 1%, 5% and 10%, respectively.
¹ and ² Subject to Arellano-Bond AR(1) and AR(2) autocorrelations.

Table 5 presents the results for the panel regressions using JCP/EBIT as dependent variable for all companies from 1997 to 2008 and from 2009 to 2022.

Regarding size and main shareholder, the log of shareholders' equity is positively and significantly associated with the dependent variable in both periods, while the classification of main shareholder is not significant in fixed effect in any of the scenarios. The first result is as expected in the hypotheses, while the second is not conclusive. Moreover, ROE is positive and significant for the period of 1997 to 2008 and negative and significant from 2009 to 2022. None of the variables of indebtedness and liquidity finds consistent results in fixed effects and GMM.

Similar results were found for group 2, expect that ROE was negative and significant in both periods for that group.

Table 5: Regression of JCP Payout from 1997 to 2008 and from 2009 to 2022 for All Companies

Variable	(1)	(2)	(3)	(4)
JCP/EBIT(-1)		0.30 (0.18)		0.18*** (0.00)
C	-0.23*** (0.04)		-0.10*** (0.03)	
LIQ	0.00 (0.00)	0.00 (0.00)	0.00*** (0.00)	-0.00*** (0.00)
DEB/EQ	0.00*** (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
DEB/EBITDA	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00*** (0.00)
ROE	**0.00*** (0.00)**	**0.00** (0.00)**	**-0.00*** (0.00)**	**-0.00*** (0.00)**
TJLP	-0.33*** (0.05)	0.19 (0.21)	0.05 (0.16)	1.13*** (0.02)
LOGEQ	**0.02*** (0.00)**	**0.04** (0.01)**	**0.01*** (0.00)**	**0.01*** (0.00)**
SH	0.04 (0.04)	-0.01 (0.07)	-0.01 (0.00)	-0.08*** (0.00)
Adjusted R squared	0.2939		0.507921	
J-Statistic (Probability)		7.94 (0.44)		163.36 (0.33)

Obs: The standard errors are reported in parentheses below the coefficients.
***, **, * denote statistical significance at 1%, 5% and 10%, respectively.
[1] and [2] Subject to Arellano-Bond AR(1) and AR(2) autocorrelations.

Table 6 presents the results for the panel regressions using dividend/EBIT as dependent variable for all companies. The log of shareholders' equity, liquidity and TJLP are positive and significant, while JCP/EBIT is negative and significant, between 1994 and 2008. On the other hand, net debt/EBITDA is negative and significant in the period of 2009 to 2022. Very similar results were found for group 2, but debt-to-equity and log of shareholders equity were negative and significant at fixed effect this time.

Table 6: Regressions of Dividend Payout from 1994 to 2008 and from 2009 to 2022 for All Companies

Variable	(1)	(2)	(3)	(4)
DIV/EBIT(-1)		0.02 (0.02)		0.06*** (0.00)
C	-0.22* (0.12)		0.18* (0.09)	
JCP/EBIT	**-0.40*** (0.06)**	**-0.42*** (0.07)**	-0.03 (0.05)	0.11*** (0.00)
LIQ	**0.01*** (0.00)**	**0.07*** (0.01)**	0.00 (0.00)	0.00*** (0.00)
DEB/EQ	0.00* (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00*** (0.00)
DEB/EBITDA	-0.00 (0.00)	-0.00 (0.00)	**-0.00** (0.00)**	**-0.00*** (0.00)**
ROE	0.00 (0.00)	0.00*** (0.00)	0.00* (0.00)	-0.00*** (0.00)
TJLP	**0.65*** (0.19)**	**2.10*** (0.18)**	0.07 (0.39)	-1.08*** (0.00)
LOGEQ	**0.02*** (0.00)**	**0.1*** (0.01)**	-0.00 (0.00)	-0.01*** (0.00)
Adjusted R squared	0.354		0.409	
J-Statistic (Probability)		97.05 (0.16)		256.02 (0.47)

Obs: The standard errors are reported in parentheses below the coefficients.
***, **, * denote statistical significance at 1%, 5% and 10%, respectively.
[1] and [2] Subject to Arellano-Bond AR(1) and AR(2) autocorrelations.

After testing the hypotheses with fixed effect and first-difference GMM techniques, some conclusions can be drawn.

In line with the expected results, dividends were negatively correlated with JCP in the period of 1994 to 2022. This is aligned to the hypothesis that JCPEBIT and DIVEBIT are close substitutes (Boulton et al., 2012). On the other hand, no significant positive relation was found between higher JCP payouts and the main investor being private investors or funds. This is not in line with the findings of Colombo (2022).

Regarding dividend/EBIT, the specifications find liquidity as positive and significant in the period of 1994 to 2008. Net debt over EBITDA was found to be negatively related to Dividend/EBIT payouts in the most recent period in both specifications, while debt-to-equity is also found to be negative and significant in group 2. Even though indebtedness finds

controversial results in the literature, the results are according to the findings of Forti et al.(2015).

Regarding JCP/EBIT, ROE was found to be negatively associated to JCP/EBIT in both groups in the period of 2009 to 2022. This is not in line with previous results in Brazil (Forti et al., 2015; Vancin et al., 2016; Colombo et al., 2022). Results on the period of 1997 to 2008 are positive and significant for group 1, and negative for group 2.

Higher shareholder equity was positively associated with JCP payouts for every scenario, the only non-significant result being for group 2 in 1997-2008. Dividends were positively and significantly associated with shareholder equity in group 1 for the period between 1994 and 2008.

JCP payout and dividend payout were both explanatory of the price/book value multiple in the second period in group 2. In fact, DIV/EBIT is positively and significantly associated with P/B in both specifications, while JCP/EBIT is negatively and significantly associated for group 2, in line with Karpavičius et al. (2018). There is also evidence that other variables, such as debt-to-equity, are statistically associated with higher P/B multiples. Finally, as expected by financial theory, the P/B multiple finds a strong and negative relation with the interest rate, Selic, in every scenario.

5.2. Discussion

The influence of cash distribution and interest rates on companies' valuation and of size, financial health, interest rates and nature of the main shareholder cash distribution to shareholders was tested for a better understanding on how the Brazilian financial market may respond to changes on taxation.

Dividend payouts

Among the results, the negative relation between dividends and JCP in the first period suggests that one form of compensation was distributed to the detriment of the other, indicating a relation of substitution between the two in that period of time. This pattern was expected for the period of 1997-2008, when JCP allowed for a tax-relief after the deindexation of Brazilian economy and it was confirmed in this study.

Also, regarding dividends, the negative effect of net debt on dividend payouts observed in the period between 2009 and 2022 in both databases is according to the expected in the literature, and suggests that the more indebted Brazilian companies are, the less likely they are to pay dividends to the shareholder.

JCP Payout

The classification of the main shareholder was not found to have a significant effect on JCP payout, different than expected. The limitation of considering only the main shareholder as a proxy, instead of their share in capital composition is likely to have affected the results. Moreover, a loophole not considered in this study is that depending on the nature of their fiscal regimes and tax clienteles, some holdings may further distribute the incoming JCP, avoiding the difference in income tax, normally at 19%, but absorbing just a 9,25% burden of PIS/COFINS. Therefore, the matter can be much more complex.

The JCP payout is positively and significantly associated with the log of shareholders' equity in 7 of the 8 specifications. This indicates that larger companies are more propense to pay JCP than smaller ones.

Finally, the results show a negative relation between JCP and ROE for both groups in the period between 2009 and 2022. These results, although unexpected, may be explained by the negative effect of JCP on net profit and in ROE, as a consequence. The influence of ROE on JCP was then tested considering a one period lag. In this scenario, the results do not show consistence.

Price over book value

The results of the influence of dividends and JCP on P/B multiples suggest a possible preference for dividends over JCP in the most recent period, especially for group 2. JCP is significantly associated with lower market to book values in the period between 2009 and 2022 for group 2. These results raise a question regarding the reason for such a preference. Even though this matter is complex, a timeline of changes in the understanding of taxes on JCP may be helpful.

The JCP was created in 1995 and its tax benefits and use took place at first in 1997. New understandings from laws 10.637, of 2002 and 10.833 of 2003 establish that, in case of payments of JCP to other companies, PIS and COFINS taxes apply to the receiving company,

in addition to the income tax differential. This may partially explain a possible avoidance for JCP in the second period. Moreover, as the matter was for long subject to debate, Brazilian Tax Authority (Receita Federal do Brasil - RFB) issued binding precedents Cosit 84/2016 and Cosit 148/2023 reinforcing the incidence of these taxes.

Other factors influencing the market value of companies, debt-to-equity ratio shows consistent positive relation to the P/B for both databases, while ROE is positive and significant in the period of 2009 to 2022 for both groups. While higher ROE is expected to be favored by investors, a higher D/E ratio alone is neither a good nor a bad sign compared to others. As companies grow, so do their needs for capital to expand operations, and, in this context, an increase in the ratio may be associated to borrowing for expansion.

Finally, the negative influence of the interest rate, Selic, on the P/B is expected and is explainable by financial theory in different ways. Since the risk-free rates are associated with interest rates, the cost of capital of companies is also increased in a scenario of higher rates, and thus the valuation of companies is affected downwards. Also, as investors have access to higher returns at a lower risk, investing on equity becomes less desirable and the prices of assets are driven down.

6. CONCLUSION

This study focused on shareholder compensation and aimed at evaluating changes in shareholder preference and the responses of companies to changes in tax law. A possible preference for dividends and avoidance to JCP was observed during the period of 2009 to 2022. Evidence of a pattern of substitution between dividends and JCP during 1997 to 2008 was found and, as expected by financial theory, interest rates have shown a great influence on companies' value.

Major changes in taxation are expected in Brazil for the upcoming years. Some of the expected outcomes are a reduction in corporate income tax accompanied by the taxation of dividends and the possible end of JCP.

Even though this study found no statistical evidence that companies prioritize JCP when their main shareholders are private investors and funds, the end of JCP's deductibility affects private investors, funds and holdings that receive this type of compensation, due to the increase in total tax burden. On the other hand, this study found that JCP is not positively, but rather

negatively and significantly associated with P/B. Therefore, there's no evidence that the end of JCP alone is expected to negatively affect the aggregate valuation of the Brazilian stock market.

Moreover, JCP is a hybrid form of compensating stockholders. By paying interests instead of dividends, firms can benefit from the tax shields of JCP. Thus, its end is likely to favor debt to issuing new equity as preferred form of financing of companies, since the tax differentials make debt usually a cheaper form of financing than equity and the tax benefit on its interests is substantial.

A preference for debt to the detriment of equity, ceteris paribus, drives net debt/EBITDA up by the means of indebtedness. Moreover, as results here show, higher net debt/EBITDA is associated to lower dividends. Thus, dividends may be expected to be reduced due to a preference for debt.

If a pattern of optimization is considered, a reduction in dividends is also expected as a consequence of taxation. If the now existent tax differential to capital gains ceases to exist, reinvestment and buybacks are also likely to be favored by the measures.

As additional remarks, even though the reform is still being shaped, possible responses to dividend taxation may include an anticipation of dividends and JCP before the law is valid, as observed in Buchanan (2016), a reduction in companies' minimum mandatory dividends.

Finally, legislators should be cautious of loopholes when defining the new rules. A critical analysis should consider the effects of taxation in a chain, especially when institutional investors are involved.

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