

Financial constraints, payout, and economic performance in emerging markets

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Abstract

Financial constraints distort corporate policies and influence the performance of companies. In constrained firms, payout is used as a substitute for internal capital to enhance external financing capacity and mitigate ownership conflicts, without considering the effects on long-term survival. In this context, this research evaluates the moderating effect of payout on the relationship between financial constraints and economic performance in emerging markets of the G-20 bloc from 2000 to 2021. The research sample consists of 5,821 publicly traded dividend-paying companies. The results indicate that in G-20 emerging countries, financial constraints negatively influence economic performance, payout negatively influences economic performance only in unconstrained firms, and there is a negative moderating effect between payout and financial constraints on economic performance. Therefore, the greater the degree of financial constraint and distributed payout, the greater the wealth destruction generated for shareholders in the long term. The research adds a significant contribution to explaining the financial behavior of companies with financial constraints: when they opt for a payout policy, there is a substitution between payout and investment that sacrifices long-term value generation, rejecting the pecking order theory for constrained firms.

Keywords: Financial Constraints, Payout, Performance, Emerging Markets.

JEL: G30, G35.

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Declarations of interest: none.

Acknowledgement

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

1 Introduction

How financial constraints and payout affect corporate behavior is a central question in corporate finance. Financial constraints refer to the inelastic supply of a company's capital that hinders them from accessing external financing (Fazzari et al., 1988). Payout, on the other hand, involves distributing profits to shareholders through dividends and stock repurchases, who have invested capital in the company (DeAngelo, 2022).

Due to credit scarcity, financially constrained firms are unable to access market opportunities at an affordable cost. Consequently, the investment decision is considered endogenous, contrary to the teachings of the pecking order theory (Fama & French, 2002). Thus, constrained firms rely on internal funds and asset tangibility for capital financing (Almeida & Campello, 2007).

Resource savings and the collateralization of assets have been widely disseminated in the literature as key factors for firms to alleviate financial constraints and increase survival chances (e.g. Whited, 1992; Cleary, 2006; Acharya et al., 2007; Musso & Schiavo, 2007; Denis & Sibilkov, 2010). For constrained firms, the premise "cash is king" is perceived as a mantra, as these companies are understood to need to accumulate more cash than unconstrained firms to finance present and future investments and to hedge against exogenous market shocks.

The payment of dividends or stock repurchases, in turn, becomes a market anomaly for constrained firms since it reduces financial flexibility to respond to exogenous shocks and increases the internal financing deficit. This could worsen financial constraints when the available internal capital is insufficient to fund capital offerings (Xu & Xu, 2019). However, as constraints are not directly observable, managers distribute payouts to meet market expectations.

Research has shown an incentive behavior toward payouts in financially constrained firms, regardless of their momentary financial condition, as observed in Chen and Wang (2012) and Pathan et al. (2016) in the U.S., He et al. (2016) and Xu and Xu (2019) in China, Ranajee et al. (2018) in India, Machokoto (2021) in Africa, and Kim et al. (2021) in South Korea. The main argument is related to payout being used as a strategy to enhance future external financing capacity, if the payment policy signals profit growth and could encourage share issuance and access to bank credit for companies.

In the meantime, there is an unaddressed gap in the literature concerning the moderating effect of payout on the relationship between financial constraints and economic performance. If this effect is positive, there is evidence that financially constrained firms strategically opting for payout can alleviate financial constraints and enhance their long-term performance. However, if the moderating effect is negative, there is a tendency toward organizational decline, as capital scarcity becomes more severe, and constrained firms struggle to allocate internal capital to investment projects that maximize the company's value.

Consequently, this research evaluates the moderating effect of payout on the relationship between financial constraints and economic performance in emerging markets. Eleven emerging countries from the G-20 bloc were observed: South Africa, Saudi Arabia, Argentina, Australia, Brazil, China, South Korea, India, Indonesia, Mexico, and Russia.

Financial constraint was measured by investment sensitivity to cash flow and asset tangibility, based on Almeida and Campello model (2007). Payout was calculated as the sum of dividends paid and stock repurchases, and economic performance was measured by the net return on invested capital. The sample comprised 5,821 publicly traded dividend-paying companies, with data spanning from 2000 to 2021 and totaling 59,722 observations. Data analysis was guided by GMM-AB regression (Arellano & Bond, 1991).

Emerging markets provide a conducive environment for studying this relationship, as weak legal-institutional systems imply ownership conflicts, favor risk aversion, and investor

preference for payout (Park, 2022). Moreover, this environment is suitable for studying financial constraints, given high regulation, a limited number of financial instruments, and credit volume, ensuring capital rationing and higher costs of accessing external financing (Guizani, 2021). The G-20 bloc is crucial in this context as it brings together the world's largest developed and emerging economies in terms of national income, trade flows, and capital market capitalization.

The study of financial constraints is justified because access to external financing is related to corporate financial decisions, and private investment influences macroeconomic fluctuations (Almeida & Campello, 2010). Research on payout is timely because profit distribution to shareholders determines the company's equity value and is valued by investors (DeAngelo, 2022).

Economic performance represents the financial condition from the perspective of investor evaluation, capital providers, and policy formulators (Ahamed et al., 2022). It differs from financial performance by incorporating the concept of the cost of capital in the analysis of the company's return (Stark, 2004). Therefore, the relationship between financial constraints, payout, and economic performance is justified, as credit access and payment decisions influence the company's wealth generation (Poursoleiman et al., 2020).

Several contributions emerge from this work. The findings reinforce the negative spectrum of financial constraints on investment and their effects on management, aligning with recent research by Poursoleiman et al. (2020), Zhang (2020), Levine and Warusawitharana (2021), and Bağır and Seven (2022), but in a broader sample of countries. Thus, they emphasize that financial constraints are detrimental to the survival of firms.

A second contribution, distinguishing itself from the research of Chen and Wang (2012), Pathan et al. (2016), He et al. (2016), Kim et al. (2021), is the use of a cross-country strategy in the 11 largest emerging economies of the G-20 over a more recent analysis period, from 2000 to 2021, and a more specific measure of financial constraint for the context of emerging countries that considers debt contractibility issues in line with Kirch and Terra (2020).

The third contribution is the innovation in analyzing the moderating role of payout in the relationship between financial constraints and economic performance. The results identify a significant and negative moderating effect of payout after controlling for endogeneity, indicating that the intensity of this effect diminishes performance in emerging market environments. This exposes financially constrained firms to a significant deterioration in financial condition compared to unconstrained ones.

The practical contribution for investors is the demonstration that pricing financially constrained firms with a payout policy should be differentiated from others, taking into consideration the exposure to long-term decline risk. Lastly, for capital market regulatory bodies, a reformulation of policies mandating minimum dividend payments becomes necessary since financially constrained firms will be adversely affected by the forced distribution of profits.

In addition to this introduction, this work is organized into four sections. Section 2 presents the theoretical framework, and Section 3 describes the study methodology. Section 4 highlights the research results, and finally, Section 5 addresses concluding remarks, limitations, and suggestions for future research.

2 Theoretical Framework

The classical theory of corporate finance asserts that the objective of the capitalist organization is the maximization of investment value (Durand, 1952). In asset valuation, maximizing investment incorporates evaluating the discounted value of future income and financing costs. This definition leads to the notion of an optimal capital structure that maximizes

market value, as the cost of capital can be reduced up to a certain limit through the combination of capital sources. When the leverage goal is surpassed, the company's risk becomes inappropriate, and investment should be financeable up to the debt risk limit.

Still, from this theoretical perspective, payout should be defined in conjunction with the investment policy (Lintner, 1956) when value-generating opportunities for the company's growth are scarce, or when there is high uncertainty about the organization's future. This creates investor preferences for dividends over capital gains (Gordon, 1963). However, the modern theory of finance (Modigliani & Miller, 1958; 1961) established a paradigm of the irrelevance of capital structure and dividends, based on perfect capital markets and complete information assumptions.

Supported by research explaining the effects of asymmetric information on credit rationing in capital markets and corporate financing policies, Fazzari et al. (1988) initiated an alternative discussion on corporate investment behavior. According to them, financing frictions limit access to external funds for some companies, forcing them to rely on internal funds for self-financing. These companies are considered financially constrained.

Fazzari et al. (1988) concept of financial constraint argues for the existence of a wedge between the opportunity cost of a company's internal and external capital access, regardless of the elasticity of the capital supply curve. This occurs because the cost of new debt and stock issuance is more expensive than the opportunity cost of using internal financing sources, such as cash flows or accumulated profits. Therefore, financial constraints arise when a company's capital supply becomes inelastic to external financing, or in other words, when the company's investment is less sensitive to external funds and becomes dependent on internal funds for financing.

The theoretical-methodological transition became a challenge in the hands of Fazzari et al. (1988) when they classified constrained and unconstrained companies based on dividend payments. The debate became influential with Kaplan and Zingales (1997) when they pointed out that dividends are a less useful indicator for classifying financial constraints. New measures were developed based on company characteristics such as credit ratings, age, size, and leverage degree (e.g., Lamont et al., 2001; Whited & Wu, 2006; Hadlock & Pierce, 2010). However, there has been no consensus on which measures better capture the spectrum of financial constraints.

Farre-Mensa and Ljungqvist (2016) indicate that none of the popular measures of financial constraints accurately classify publicly traded companies. Public companies do not face leverage difficulties when credit supply increases, engaging in stock recycling and bank loans. On the other hand, private companies have significant differences in financing structure and appear financially constrained.

Even though the methodological challenge persists, research indicates differentiated characteristics in the financial behavior of publicly traded companies classified as constrained and unconstrained. Lewellen and Lewellen (2016), for example, reveal that these groups have different capital utilization needs, leading to different responses to generated cash flow: financially constrained firms need to spend more on capital investment and working capital than unconstrained firms to survive.

In addition to the above, it is known that debt issuance in constrained firms is negatively related to cash flow, driven by short-term debt repayment, as indicated by Park (2019). This suggests behavior contrary to the pecking order theory (Myers & Majluf, 1984; Almeida & Campello, 2010). Research also reinforces that investment sensitivity to internal funds is significantly higher in constrained firms compared to unconstrained ones, influenced by asset tangibility (Kirch & Terra, 2020) and the country's financial risk (Guizani, 2021; Park, 2022).

The difference in financial behavior between constrained and unconstrained firms becomes a central point of debate in corporate finance to understand the extent of the effects of

shocks on capital markets on financing policies (Campello & Chen, 2010). However, research presents mixed results between financial constraints and different performance measures (Ahamed et al., 2022).

In emerging economies, for instance, evidence indirectly points to a negative relationship between financial constraints and economic performance. Ahangar (2020) finds in India that financial constraints slow down the adjustment speed of working capital compared to unconstrained firms, making decisions about production levels and trade credit more challenging.

In Iran, Poursoleiman et al. (2020) observed that financial leverage is inversely related to future financial constraints, and hence, high levels of debt reduce profitability due to increased cost of capital and the loss of the tax benefit of leverage. In China, Zhang (2020) discovered that higher levels of constraints are associated with a greater likelihood of bankruptcy. In Turkey, Bağır and Seven (2022) point out that financial constraints reduce productivity growth using debt and trade credit.

Due to emerging countries having underdeveloped capital markets compared to developed economies, with higher barriers to access financial products and a credit scarcity (Guizani, 2021), along with a high financial risk due to corruption levels (Park, 2022), the cost of capital becomes higher and accentuates the negative effect of financial constraints on firm performance. Therefore, based on the above, the first research hypothesis was established:

H₁. There is a negative relationship between financial constraints and economic performance in emerging economies.

In addition to financial constraints, the economic performance of companies is conditioned by financial policies, especially the payout decision. Increases in dividends result in a decrease in the opportunity cost of capital, especially when the return of companies is lower than the cost of equity capital (Dempsey & Sheng, 2023). Therefore, payout is relevant to signal the value of the company to investors.

According to Cooper and Lambertides (2018), large dividend increases are followed by a significant increase in leverage in recent years. Gyimah et al. (2021) find that financially constrained firms are more likely to engage in debt-funded share repurchases. To maintain payment stability, Hoang and Hoxha (2020) show in China and Taiwan that payout smoothing is cushioned by the issuance of new debt or reduction in investments, not by generating free cash flow.

According to Graham (2022), the explanation provided by executives of large companies is that once the payout policy is defined, it becomes rigid because it is a priority for investors compared to debt or fixed investments. However, an excess of payout has long-term detrimental effects, as indicated by Andriosopoulos et al. (2021), as it is associated with underinvestment, reduced future sales, and asset growth, increasing the likelihood of financial difficulties.

Although payout signals positive short-term profit growth, the need for a trade-off between investment and debt to maintain an active payout policy in emerging markets, coupled with financial risk and high credit costs, may negatively influence long-term economic performance. Therefore, the second hypothesis of the study was established:

H₂. There is a negative relationship between payout and economic performance in emerging economies.

In the presence of financial constraints, maintaining payout is considered a market anomaly. From a managerial perspective, payout signals positive prospects for the company's

performance to investors to improve external financing capacity. This behavior was identified in share buybacks in the U.S. by Chen and Wang (2012) and Pathan et al. (2016), as well as in dividend payments in China by He et al. (2016). In India, Ranajee et al. (2018) indicate that payout levels in constrained firms are associated with cash flow volatility, and payments occur even during periods of crises and economic recovery.

According to Machokoto (2021), in emerging African countries in the presence of financial constraints, there is a budget allocation hierarchy contrary to the pecking order. African companies save most of the operational cash flow and spend in the following order: first distribute dividends, then pay debts, repurchase stocks, and lastly, invest in capital.

In South Korea, Kim et al. (2021) indicate that constrained firms maintain and increase dividends in conjunction with innovation performance to increase the company's market value. Chen et al. (2021) observes that constrained firms from emerging countries cross-list stocks in the U.S. through ADRs and increase payout to expand the shareholder base and reduce the cost of equity capital, aiming to decrease the cost of external financing.

The relationship between investment efficiency, dividend payments, and internal capital has been well explored by Xu and Xu (2019). They argue that investment efficiency is related to the amount of free cash flow and the availability of internal capital, and payout is not harmful when the financing structure is surplus, as it alleviates overinvestment when there is excess cash flow and avoids resource waste. However, when investment demand exceeds internal capital, as is the case with financially constrained firms, payout reduces internal liquidity and encourages underinvestment, shifting the external financing supply curve and further raising the cost of external capital, exacerbating financial constraints.

In the long term, the evidence presented suggests that maintaining a payout policy accentuates the effects of financial constraints on the economic performance of firms, especially in emerging markets with a high cost of capital compared to developed economies. Therefore, the third hypothesis of the study was established:

H₃. There is a negative moderating effect of payout on the relationship between financial constraints and economic performance in emerging economies.

In summary, the environment of emerging markets encourages negative effects of financial constraints and payout on the economic performance of firms. Payout may moderate the expressed relationship and thus destroy shareholder wealth. The next chapter presents the operationalization of the study hypotheses.

3 Methodology

The research population consists of 7,844 non-financial public dividend-paying companies listed on the stock exchanges of 11 emerging economies within the G-20 bloc, with a total of 89,852 observations for the period between 2000 and 2021. Except for Turkey, which is also part of the bloc, all other countries provided the necessary information for calculating the variables of interest.

The studied emerging economies include South Africa, Saudi Arabia, Argentina, Australia, Brazil, China, South Korea, India, Indonesia, Mexico, and Russia. To include companies in the sample, the first criterion was the exclusion of observations from companies with less than two consecutive years of data, as the empirical model utilizes lagged variables.

The second criterion was the exclusion of companies with negative net worth, as they are subject to bankruptcy (Kirch & Terra, 2020). The third criterion was the exclusion of companies with missing data for the calculation of variables. The fourth criterion was the

exclusion of companies with Tobin's Q less than zero or greater than 20, to avoid measurement problems in Q, in line with Almeida and Campello (2007).

The fifth criterion was the exclusion of companies with significant jumps in business fundamentals, for which investment equations become inappropriate, by removing observations with negative investment, cash flow, and tangibility (Kirch & Terra, 2020). The last criterion was the exclusion of company-years with payout over net profit either negative or greater than 10 times, as they do not represent normal circumstances in the distribution of results (Machokoto, 2021).

The final sample comprises 5,821 public companies and 59,722 observations, with the highest concentration of observations in Asian markets (China and South Korea) and Australia. Following the methodology of Almeida and Campello (2007), the sample was divided into two groups: constrained and unconstrained companies, based on the criterion of the size of the companies' assets, with companies in the 1st tercile (smaller total assets) classified as constrained and those in the 3rd tercile (larger total assets) classified as unconstrained. Table 1 presents the research sample.

Table 1. Sample

G-20 Countries	Total Sample		Constrained Firms		Unconstrained Firms	
	N	%	N	%	N	%
Argentina	950	1.06%	205	0.69%	282	0.94%
Australia	15,182	16.95%	7,912	26.50%	4,196	14.05%
Brazil	2,493	2.78%	422	1.41%	1,153	3.86%
China	25,049	27.96%	11,879	39.78%	9,807	32.84%
India	5,536	6.18%	617	2.07%	2,347	7.86%
Indonesia	5,971	6.67%	1,164	3.90%	1,711	5.73%
South Korea	28,093	31.36%	6,972	23.35%	7,567	25.34%
Mexico	1,569	1.75%	134	0.45%	547	1.83%
Saudi Arabia	1,762	1.97%	202	0.68%	575	1.93%
South Africa	2,678	2.99%	278	0.93%	1,579	5.29%
Russia	299	0.33%	74	0.25%	99	0.33%
Total Observations	89,582	100.00%	29,859	100.00%	29,863	100.00%

Source: data research.

The dependent variable in the study is economic performance, theoretically represented as the company's internal rate of return at a given point in time (Stark, 2004) and measured by the return on invested capital (ROIC). ROIC is a crucial indicator for investors in evaluating companies (Patel et al., 2020). ROIC is calculated by dividing the net operating profit after taxes (NOPAT) by the invested capital, represented by the sum of debts and equity.

The independent variable of payout refers to the effective sum of the net profit distributed in dividends and share repurchases to shareholders. Following Machokoto (2021), the payout is scaled by total assets.

The independent variable of financial constraint is measured by the Almeida and Campello (2007), which considers the sensitivity of investment to cash flow and the recoverable portion of tangible assets as explanatory factors for capital supply. The model represents capital investment as a function of lagged investment opportunities, cash flow, tangibility, and a credit multiplier effect, considering the heterogeneity of firms in firm and time fixed effects.

Following the authors' model, the weights of the tangibility equation were recalculated to represent the liquidation value of assets ($\text{tangibility} = \text{cash and equivalents} + 1.48 \times \text{accounts receivable} + 0.79 \times \text{inventory} + 0.63 \times \text{fixed assets} / \text{total assets in } t-1$). As financial constraints

are not directly observable, the procedures of Almeida and Campello (2007) were followed, segregating the sample using an ex-ante criterion based on the size of total assets for the application of the investment equation (Eq. 1).

Based on the model coefficients, a financial constraint indicator (Eq. 2) was constructed at the company level to measure the influence of financial constraints on economic performance and the moderating effect of payout in this relationship.

$$I_{it} = \beta_1 Q_{it-1} + \beta_2 CF_{it} + \beta_3 TANG_{it} + \beta_4 (CF \times TANG)_{it} + \sum_i \gamma_i + \sum_t \mu_t + \varepsilon_{it} \quad (1)$$

$$FC_{it} = \beta_2 + \beta_3 + \beta_4 \times TANG_{it} \quad (2)$$

Two control variables were included in this study. The first one is the debt variation, which, influenced by the reduction in the cost of third-party capital, consequently, lowers the weighted average cost of capital and increases economic performance (Machokoto, 2021).

The second variable is related to the legal environment, with the Corruption Perception Index (CPI) from Transparency International being selected. This index describes the private sector's perception of the extent of corruption in the country (Park, 2022). More corrupt countries are more likely to face financial constraints and imply higher financial risk, thus providing an unfavorable business development environment and reducing economic performance. Table 2 presents the definition of the variables.

Table 2. Variables definition

Variable	Definition	Equation	Source
ROIC	Economic Performance is the return on invested capital	$ROIC = \frac{NOPAT}{IC}$	Patel et al. (2020)
PAYOUT	Payout is the sum of dividends and share repurchases	$\frac{\text{Dividends} + \text{Repurchase Shares}}{\text{Total Assets}}$	Xu e Xu e (2019)
FC	Financial Constraints is a Cash Flow Sensitivity to Tangibility Index	$FC_{it} = \beta_2 + \beta_3 + \beta_4 \times TANG_{it}$	Almeida e Campello (2007)
ΔD	Total Debt variation	$\frac{\text{Total Debt}_t - \text{Total Debt}_{t-1}}{\text{Total Assets}}$	Machokoto (2021)
CPI	CPI is the perceived degree of corruption in the country by private agents	CPI Index	Park (2022)

In this research, data from financial reports annually disclosed by companies on December 31 were used, available in the Eikon Refinitiv database. All financial values were standardized in US dollars. For data analysis, dynamic panel models in Eviews 12 Student Lite software were used.

The empirical model of the study is applied through the GMM-AB panel regression proposed by Arellano and Bond (1991) to address the problem of unobserved heterogeneity. According to Barros et al. (2020), the transformation of variables can be expressed as $\Delta y_{it} = \beta \Delta x_{it} + \Delta \mu_{it}$, $i = 1, \dots, N$, $t = 1, \dots, T$, where $\Delta y_{it} = y_{it} - y_{it-1}$, $\Delta x_{it} = x_{it} - x_{it-1}$, and $\Delta \mu_{it} = \mu_{it} - \mu_{it-1}$, eliminating unobserved heterogeneity in $\Delta \eta_i = 0$ by the first difference. This procedure is classified as fixed effects and does not assume a correlation $\Delta \eta_i$ e Δx_{it} .

For model adequacy analysis, the Sargan test (1968) of instrument overidentification was applied, assessing the J statistic with a p-value > 0.05 . Additionally, the absence of second-order autocorrelation of residuals was verified, with the p-value > 0.05 for AR (2) to confirm the moments' condition. The empirical model of the research (Eq. 3) is presented below.

$$ROIC_{it} = \beta_1 ROIC_{it-1} + \beta_2 ROIC_{it-2} + \beta_3 FC_{it-1} + \beta_4 PAYOUT_{it-1} + \beta_5 (FC_{it-1} \times PAYOUT_{it-1}) + \beta_6 \Delta D_{it-1} + \beta_7 CPI_{it-1} + \sum_t \mu_t + \varepsilon_{it} \quad (3)$$

In which ROIC represents economic performance; FC denotes financial constraints; PAYOUT signifies dividends and share repurchases; and FC x PAYOUT represents the moderation between the terms. Among the control variables, we have the variable ΔD representing debt variation and CPI as the country-level corruption perception index; μ_t represents fixed effects for the year. The i term represents the cross-sectional, while t represents the periods. The terms β_1, \dots, β_n , are the parameters, and ε_{ij} represents the residuals. The next section presents the results.

4 Data Analysis

A descriptive summary of the sample of constrained and unconstrained firms is presented in Table 3. On average, restricted companies have a positive ROIC of 10%, while unconstrained companies have a negative ROIC of 12%. Regarding PAYOUT, constrained companies distribute an average of 1% of total assets, and unconstrained distribute about 2%.

Both sub-samples show a positive financial constraint index, but there are clear differences in their financial behavior: constrained firms invest less, have fewer growth opportunities, negative cash flow, and more tangible assets compared to unrestricted companies, in line with the literature (Almeida & Campello, 2007; Lewellen & Lewellen, 2016; Kirch & Terra, 2020).

Regarding the control variables, it is observed that constrained companies are in emerging countries and periods with higher corruption perception compared to unconstrained companies. It is also noted that debt variation is negative and of greater magnitude in restricted companies compared to unrestricted companies. Therefore, constrained and unconstrained firms exhibit similar characteristics to what the literature discusses.

Table 3 – Descriptive statistics

Variables	Constrained Firms			Unconstrained Firms		
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
<i>ROIC</i>	-0.12	0.00	0.53	0.10	0.08	0.13
<i>FC</i>	0.01	0.00	0.27	0.54	0.13	1.53
<i>I</i>	0.86	0.14	4.38	1.54	0.31	5.66
<i>Q</i>	2.95	1.88	3.44	3.12	2.05	3.47
<i>CF</i>	-2.70	-0.04	10.08	2.58	0.69	6.98
<i>TANG</i>	3.05	1.32	6.56	0.74	0.66	0.59
<i>PAYOUT</i>	0.01	0.01	0.06	0.02	0.01	0.07
<i>CPI</i>	0.41	-	0.80	0.19	-0.04	0.76
ΔD	-0.19	-	15.89	-0.02	-	10.48

Notes: ROIC is return on invested capital, FC is financial constraints, I is fixed capital, Q is market opportunities, CF is cash flow, TANG is assets tangibility; PAYOUT is sum of dividends paid and repurchase shares, CPI is a corruption perception index and ΔD is debt variation.

Source: data research.

A latent concern for hypothesis testing with a moderating relationship is multicollinearity. The VIF test was conducted with the variables of the empirical model for the

sample, and there are no signs of multicollinearity among the financial variables of the study. The results are presented in Table 4.

Table 4 – Multicollinearity FIV test

Variable	Constrained Firms	Unconstrained Firms
$ROIC_{it-1}$	1.53	2.20
$ROIC_{it-2}$	1.61	1.71
FC_{it-1}	1.15	1.37
$PAYOUT_{it-1}$	1.75	1.98
$FC_{it-1} \times PAYOUT_{it-1}$	1.91	2.11
CPI_{it-1}	2.23	2.41
ΔD_{it-1}	1.46	1.23

Notes: ROIC is return on invested capital, FC is financial constraints, PAYOUT is sum of dividends paid and repurchase shares, CPI is a corruption perception index and ΔD is debt variation.

Source: data research.

The research findings are presented in Table 5. Preliminary analysis of panel models indicates the absence of over-identification of instruments, based on the J statistic (p-value > 0.05). All models also showed no second-order autocorrelation of residuals, based on the AR (2) test (p-value > 0.05), thus indicating good model fit for GMM-AB analysis of data.

For both constrained and unconstrained firms, the FC coefficient results indicate that financial constraints significantly and negatively influence economic performance, supporting H₁. Consistent with Ahamed et al. (2022), financial constraints are negatively associated with economic performance similarly to financial performance, being differently associated from market performance.

In contrast, PAYOUT signals a positive effect for constrained companies, but with significance only in model (1), and a negative and significant effect for unconstrained companies in all estimated models. Therefore, the results are inconsistent for the constrained companies, supporting H₂ for the unconstrained companies. These results align with recent research by DeAngelo (2022). Thus, once a payment policy is established, unconstrained companies paying dividends sacrifice future returns to meet shareholder needs in the short term.

For the group of constrained companies in emerging markets, the positive short-term effect of payout is justified by high information asymmetry, which raises the cost of external financing and is associated with monitoring deficiencies in governance forms and institutional structures, in addition to reduced growth opportunities for companies (Machokoto, 2021).

An alternative explanation is that high asymmetry in the political environment of emerging markets stimulates corruption, and the financial effect of corruption leads companies to hold less cash due to high capital costs, hence distributing dividends or share repurchases when there is a cash surplus (Park, 2022).

However, the coefficients of the moderation relationship FC x PAYOUT demonstrate negative and significant effects for restricted companies but positive and significant effects for unrestricted companies, even though the variation for models (4) and (5) is almost negligible. Based on the results for restricted companies, H₃ is accepted.

The results of this research reinforce the argument that there is a negative moderating effect between payout and financial constraint on economic performance in emerging markets. In line with Xu and Xu (2019), the deterioration in economic performance seems to result from a deficient financing structure of constrained companies, which use payments to meet investors' immediate needs instead of focusing on growth, exacerbating the effects of financial constraints.

Additional robustness tests for models (3) and (6), excluding observations from China, indicate that there is no dominant country effect in the study sample, and the results remain consistent for both restricted and unconstrained companies.

The control variables reveal that the country's financial risk, observed by the degree of corruption perception, is a relevant variable and has a negative relationship with economic performance, similarly to Park (2022). Meanwhile, debt variation has a positive and significant relationship with performance in constrained companies, suggesting that external financing expansion is essential for optimizing returns.

Table 5 – Results and robustness

Independent var.:	Constrained Firms			Unconstrained Firms		
	(1)	(2)	(3)	(4)	(5)	(6)
$ROIC_{it-1}$	0.09*	0.09*	0.10*	0.39*	0.38*	0.20*
$ROIC_{it-2}$	0.00	0.00	-0.00	0.05*	0.05*	-0.00*
FC_{it-1}	-0.05*	-0.04**	-0.03**	-0.00*	-0.00*	-0.09*
$PAYOUT_{it-1}$	0.21*	0.21	0.29	-0.07*	-0.12*	0.00*
$FC_{it-1} \times PAYOUT_{it-1}$	-	-35.35*	-28.36**	-	0.02*	0.11*
CPI_{it-1}	-0.70*	-0.70*	-1.09*	-0.05**	-0.05**	-0.00***
ΔD_{it-1}	0.00*	0.00*	0.00*	0.00	0.00	-0.00*
Cross-sectional fixed	F.D.	F.D.	F.D.	F.D.	F.D.	F.D.
Period Fixed	Yes	Yes	Yes	Yes	Yes	Yes
R.E. Clusterisizing	Yes	Yes	Yes	Yes	Yes	Yes
Sargan J Test (Prob.)	0.08	0.10	0.14	0.14	0.11	0.21
AR (1)	-8.09*	-8.19*	-7.65*	-5.05*	-5.08*	-4.98*
AR (2)	-0.39	-0.47	0.18	0.61	0.53	0.74
Cross sections included	3,094	3,094	1,924	2,727	2,727	2,097
Total Observations	15,693	15,693	8,566	15,918	15,918	12,670

Notes: ROIC is return on invested capital, FC is financial constraints, PAYOUT is sum of dividends paid and repurchase shares, CPI is a corruption perception index and ΔD is debt variation. *, **, *** it's a significance level of 1%, 5% and 10%, respectively. F.D. its first differences. Robustness errors clusterisizing (R.E.) apply White period correction from heteroskedasticity. Models (1) and (4) considered only directed effects for total sample; models (2) and (5) considered directed effects and moderated effect for total sample; models (3) and (6) considered directed effects and moderated effect for sample without China observations.

Source: data research.

5 Discussion and Conclusion

The presence of payout in companies with financial constraints is considered a market anomaly, and its effects on economic performance have not been thoroughly explored in the literature, especially in the context of emerging markets. To address this gap, this research assessed this relationship in 11 emerging countries of the G-20 Bloc between 2000 and 2021 and found relevant differences in the behavior of restricted and unrestricted companies.

Firstly, the evidence has been extended that financial constraints negatively impact the economic performance of companies. Secondly, for unconstrained companies, payout has a negative effect on economic performance, but for restricted companies, the results in this study are inconclusive. Thirdly, a negative and significant moderating relationship between financial constraints and payout on the economic performance of companies was evidenced, suggesting that maintaining a payment policy in constrained firms makes the financing structure deficient and promotes a decline in economic returns by reducing investment and increasing the cost of capital.

Theoretically, the results of this research support that constrained companies in emerging markets choosing a payout policy do not follow the pecking order (DeAngelo, 2022), as the distribution of dividends and share repurchases reduces internal capital and the

opportunity cost of accessing external financing. On the contrary, the moderation relationship points to an incentive for underinvestment, as evidenced in Machokoto (2021), and the deviation from the capital structure, like Poursoleiman et al. (2020), as neither investors nor financial institutions will have incentives to make new investments in undercapitalized companies in the long term.

This result is important for a new interpretation in asset valuation: the higher the degree of financial constraint and the distributed payout, the greater the destruction of wealth generated for shareholders in the long term. This is because the increase in payout in case of financial constraint increases the opportunity cost of capital, as the negative return observed in restricted companies increases the cost of shareholders' equity (Dempsey & Sheng, 2023).

The research adds important empirical evidence to the explanation of the financial behavior of companies with financial constraints: when opting for a payout policy, there is a substitution between payout and investment that sacrifices value generation in the long term. Although the discussion on the classification of financial constraints remains debated, our approach reinforces that financially restricted companies have distinct financial behavior from unrestricted companies: they invest less, have fewer growth opportunities, higher internal fund needs, and asset tangibility.

Among the study limitations, the absence of Turkey's G-20 data for model estimation is mentioned. A second limitation refers to the absence of data between 2000 and 2021 due to the foundation of stock exchanges, such as Indonesia in 2007 and Russia in 2011. Another limitation relates to the construction of a financial constraint index for a latent variable, which has conceptual and methodological limitations, although the instruments and the moment condition were attested in the GMM-AB method.

The recommendations are that the implications of the obtained evidence be considered in asset pricing, structures, and policies of the capital market in emerging economies.

For investors, it is important to consider financial constraints when assessing dividend-paying companies, considering not only the market risk premium but also a premium for the financial constraint factor. Investors should be vigilant about companies financing payout with new debts or having excessive payments without generating cash flow to meet present and future capital demands. These companies may underperform in the long run.

Obviously, financial constraints are not easily observable, but intrinsic characteristics such as constant generation of negative cash flow, underinvestment, high dependence on collateralizable assets, weighted average cost of capital, and the momentum of the country's financial risk lead investors to reassess the fundamentals of financially restricted companies.

For policymakers, the streamlining of the financial intermediation structure, democratization of financial products, and improvement of incentives for the contractibility of resources are initiatives that help reduce information asymmetry in the credit market and, consequently, the effects of financial constraints. On the other hand, fiscal rules, and the legal obligation to distribute dividends limit capital reinvestment in financially restricted companies and encourage underinvestment, exposing these companies to the risk of survival.

Future research can build on the obtained results by extending the Almeida and Campello (2007) model regarding the composition of the tangibility variable, incorporating the efficiency of debt execution at the country level (Kirch & Terra, 2020) into a single measure that better represents the recoverable fraction of assets.

A second suggestion is to analyze the causality between productivity and investment sensitivity to cash flow to better identify companies with financial constraints. This is because less productive companies tend to be more inefficient in capital allocation, and such a measure could be related to future financial constraints.

A third research suggestion is to analyze the influence of payout on long-term economic performance funded by cash flows, new debts, or share issuance to verify the marginal effect

on the company's cost of capital. A fourth research suggestion is the incorporation of institutional factors in the analysis of the effects of financial constraints, such as the degree of economic freedom, governance, and regulatory quality.

Finally, the moderating effect found in this research indicates that liquidity is the channel between the payment decision, financial constraints, and economic performance. Therefore, new studies that decompose internal liquidity into different microstructures (such as cash and equivalents, trade credit, working capital, loan banks, and derivatives) and relate them to decisions between financing, investment, and payment, as well as their effects on economic performance, can help shape future patterns of corporate policies and explain the behavior of companies in emerging economies.

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