

## **Increasing in liquidity and performance in Acquisitions with Golden Parachutes**

### **Aumento da liquidez e desempenho nas Aquisições com *Golden Parachutes***

**Abstract** The compensation system is a way to mitigate agency conflicts, aligning the interests of executives and shareholders. A type of corporate governance mechanism for managerial compensation is Golden Parachutes (GP), which benefits executives and, consequently, generates gains for companies in the acquisition process. This research aims to analyze the influence of GPs on the performance and liquidity of American publicly traded acquiring companies that participated in acquisition processes, using the Difference-in-Differences (DID) method. The estimation of the DID model indicates statistically significant differences in the results, showing an increase in the liquidity and performance of acquiring companies that used the Golden Parachutes mechanism in the process. The study points out that these clauses reduce informational asymmetries and agency problems, improving companies' performance in the post-acquisition phase.

**Keywords:** Golden Parachutes; leverage; liquidity.

**Resumo** O sistema de compensação é uma maneira de mitigar os conflitos de agência, alinhando os interesses dos executivos e dos acionistas. Um tipo de mecanismo de governança corporativa de compensação gerencial são os *Golden Parachutes* (GP), que beneficia os executivos e, por consequência, gera ganhos para as empresas no processo de aquisição. Essa pesquisa objetiva analisar a influência dos GP no desempenho e na liquidez de empresas americanas de capital aberto adquirentes que participaram de processos de aquisição, utilizando-se, para isso, o método de Diferença-em-Diferenças (DID). A estimação do modelo DID indica diferenças estatisticamente significativas nos resultados, evidenciando um incremento na liquidez e no desempenho das empresas adquirentes que utilizaram o mecanismo de *Golden Parachutes* no processo. O estudo aponta que essas cláusulas diminuem assimetrias informacionais e problemas de agência, melhorando o desempenho das empresas na fase posterior à aquisição.

**Palavras-chave:** *Golden Parachutes*; alavancagem; liquidez.

## **1. Introduction**

With the separation of ownership and management, agency conflicts emerged (Berle and Means, 1932), generating costs for the organizations (Jensen and Meckling, 1976). One of the main ways to avoid these agency costs is through a compensation system, with contracts that encourage the agent to act in accordance with the interests of the principal. The reduction of conflicts through corporate governance mechanisms occurs through implicit and explicit incentives and monitoring (Tirole, 2006).

For a long time, the theory of contracts has discussed ways in which CEO compensation can play the role of aligning the interests of managers and shareholders, as demonstrated by Jensen and Meckling (1976) and Jensen and Murphy (1990). Mansi et al. (2016) state that compensation packages are a way to reduce agency conflicts. These remuneration packages include large compensation payments for dismissals, rescission or forced renounce, mainly

occurring through hostile takeovers. When the organization is going through an acquisition process, there is also uncertainty about a possible management change, that is, the risk of the CEO losing his position (Harris, 1990). In this context, Golden Parachutes (GP) emerge, which are a type of management compensation governance mechanism used when the organization undergoes a change of control (Maskara & Miller, 2018).

In acquisition processes, acquiring companies generally experience gains in performance (Meng & Sutton, 2022), followed by an increasing in transparency and governance of the acquired companies. Studies such as Hussain and Loureiro (2023), Hussain et. al. (2023) and Hussain et al. (2024) found that there is a governance portability between acquiring and acquired companies in an acquisition process. In this case, assuming that GPs are governance mechanisms that reduce agency conflicts between acquiring and acquired companies (as they guarantee the well-being of executives after the acquisition process, reducing their possibility of using private benefits during the process), acquiring companies have a great advantage in using these clauses, reducing informational asymmetries and improving the efficiency of mergers and acquisitions (Zhang et al., 2022).

Furthermore, the separation of ownership and control can provide executives with the opportunity to use retained cash for inefficient or value-destroying mergers and acquisitions, increasing their private benefits of control (Jensen 1986; Shleifer & Vishny, 1989; Zhu et al., 2024). However, Golden Parachutes clauses generate incentives for managers to act in accordance with the company's interests and seek efficiency in these processes.

Based on these issues, we sought to analyze the influence of Golden Parachutes on the performance and liquidity of publicly traded American acquiring companies that participated in acquisition processes. To achieve this objective, the Difference-in-Differences (DID) method is used, which allows analyzing the influence of a shock to the model, by comparing two distinct groups, in which one is affected and the other is unaffected by the event under study (acquisition). The control group is composed by companies that did not adhere to the use of GPs and the treatment group is composed by companies that adhered to this shareholder protection mechanism.

In addition to its contribution to the debate about Golden Parachutes, analyzing the influence of their use on the performance and liquidity of publicly traded American companies, the research is justified by the increasing adoption of the use of GPs by smaller companies and by executives of lower levels, unlike what happened in the past, where its use was restricted to larger companies and high-ranking executives, thus becoming a topic that has aroused increasing interest. As a result, we identified statistically significant differences in the liquidity

and ROE indicators, showing that acquiring companies that used GP clauses in the process, increased their liquidity and market performance compared to those that did not use this mechanism. This result is in line with Rainville et al. (2022), who state that improvements in regulations involving corporate governance, can discipline company managers to reduce value-destroying acquisitions and conduct higher quality businesses.

## ***2 Golden Parachutes as a mechanism of governance in acquisition processes***

The agency conflict, consolidated by Jensen and Meckling (1976), arose from the separation between ownership and control, postulated by Berle and Means (1932). According to Fama and Jensen (1983), this dispersion of ownership, increases the power of the Chief Executive Officer (CEO), which allows them to use private benefits, acting in their own interests. According to Okafor and Ujah (2020), CEOs have individualistic instincts and, for this reason, are not trustworthy to shareholders, who are mainly responsible for keeping their interests aligned.

These conflicts of interest generate agency costs for organizations, making it necessary to draw up contracts to determine responsibilities, thus avoiding opportunism. As contracts are incomplete, corporate governance compositions are necessary to maintain this alignment of interests between the parties. Agency theory determines a compensation system, with a contract that causes the agent to act in accordance with the interests of the principal (Jensen & Meckling, 1976).

The reduction of conflicts through corporate governance mechanisms occurs through implicit and explicit incentives and monitoring. Tirole (2006) suggests that explicit incentives be achieved through compensation based on shares, options and remuneration. Compensation based on variable salaries, encourages CEOs to seek short-term gains, while compensation based on options and shares offers long-term benefits, both on CEO motivation and compensation, causing more significant impacts (Granzotto & Sonza, 2019; Okafor & Ujah, 2020). In the same line, Mahoney and Thorn (2006) and Murphy and Zabojnik (2004) indicates that shares and options are the best compensation incentives, since all the CEO's effort will be aimed at improving the organization's market performance.

Acquisition processes are advantageous, especially for acquiring companies, which generally increase their market value, generating considerable gains (Meng & Sutton, 2022), in addition to increasing the transparency and the governance of acquired companies. Furthermore, large institutions have greater incentives to be active shareholders, generating

greater engagement and governance (Lewellen & Lewellen, 2022). In this sense, Hussain and Loureiro (2023a), Hussain et. al. (2023) and Hussain et al. (2024) state that there is governance portability between acquiring and acquired companies in an acquisition process. Reducing agency problems in the decision-making process improves the efficiency of M&A (Zhang et al., 2022).

Generally, managers of the acquired company increase their uncertainty regarding their remuneration packages, as well as staying in their own job. For this reason, Mansi et al. (2016) state that compensation packages are a way to reduce agency conflicts and generate less uncertainty about the future of the executives in the organization. These compensation packages include large severance payments for dismissals, rescission or forced renounce, mainly occurring through hostile takeovers.

When there is the possibility of the organization undergoing an acquisition process, there is also uncertainty about a possible management change, that is, a risk of the CEO losing his position (Harris, 1990). In this context, Golden Parachutes become relevant, as they function as a governance mechanism, represented by managerial compensation used when the organization undergoes a change of control (Maskara & Miller, 2018). When the organization makes use of Golden Parachutes, this acquisition possibility ends up being seen in a more advantageous way, both for the shareholder and the CEO (Dah et al., 2017). Furthermore, the studies conducted by Schwab and Thomas (2006), Rusticus (2006) and Rau and Xu (2013) confirm that these contracts protect managerial human capital, both against opportunistic attitudes on the part of boards and the uncertainties of the risk inherent to the position. Another benefit of Golden Parachute's clauses in contracts is the fact that shareholders get managers who are more focused on achieving the company's goals, in addition to avoiding opportunism, as it reduces hiring uncertainties and generates an additional incentive (Gillan et al., 2009; Zhao, 2013). According to Rosen (1981), Terviö (2008), Frydman and Saks (2010) and Rau and Xu (2013), this mechanism is considered a way of competitive engagement, helping to attract the most efficient CEOs.

The term Golden Parachutes was first used in a Trans World Airlines contract with the CEO Charles Tillinghast Junior in 1961. The owner, Howard Hughes, was away from the company and Tillinghast Jr.'s contract had a clause that guaranteed him the right to receive a large sum of money if Howard returned to the company and they fired him. His role as CEO was successful and the Golden Parachutes mechanism was not necessary, but his contract became a reference.

From the end of the 70s and beginning of the 80s, the merger and acquisition processes intensified (mainly carried out in hostile takeovers), as did the use of Golden Parachutes, which, being in evidence, became the target of discussions. One of the greatest benefits of Golden Parachutes was the security for CEOs when they were fired or lost their position following mergers or acquisitions. The more these processes occurred, the greater the value of this compensation clause, a fact that ended up becoming quite controversial and the subject of debate. In 1984 there was a penalty regarding its use, discouraging clauses with high values (Bebchuk et al., 2014).

The use of Golden Parachutes is more controversial today than when it emerged in the 1960s. The Subprime Crisis, in 2008, highlighted that the lack of more explicit and rigid rules leads to financial crises, and is also decisive for reviewing Golden Parachutes clauses. Another questionable point that ended up being brought under scrutiny was the compensation of managers with generous benefits, even in cases where the institutions' performance was unsatisfactory, which ends up being perceived as a reward for failure. Thus, the Dodd-Frank Law, which regulated the financial market in 2010, contributed to regulation regarding the use of Golden Parachutes, as it determined that the adoption of these compensation agreements should be disclosed by the organization and included the requirement that their approval happens through the consultative vote of shareholders (Fich et al., 2013; Bebchuk et al., 2014; Loyola & Portilla, 2014).

Baron (1983), Stein (1988), Singh and Harianto (1989), Harris (1990), Comment and Schwert (1995) and Yermack (2006) state that, by making use of Golden Parachutes, organizations aim to align the interests of CEOs with those of shareholders, mitigating agency conflicts. Another relevant point is the feasibility of acquisition processes by Golden Parachutes, as they act as a counterpart to CEOs through possible losses, resulting from the dismissal of their functions when the acquisition is carried out, with the creation of a benefit that aligns the interests of CEOs and shareholders (Lambert & Larcker, 1985).

When CEOs are risk-averse, the role of Golden Parachutes is related to a protection, in addition to acting as compensation, which induces CEOs to take risks on more daring projects (Lys et al., 2007). In this way, Hartzell et al. (2002) state that Golden Parachutes can motivate CEOs to accept acquisition proposals, as this mechanism ends up financially compensating for their losses in remuneration, as CEOs are concerned about preserving their positions (Sonza & Kloeckner, 2014).

Baron (1983), Lambert and Larcker (1985), Stein (1988), Singh and Harianto (1989), Harris (1990), Machlin et al. (1993), Comment and Schwert (1995), Hall and Anderson (1997)

and Evans and Hefner (2008) state that there is a significant positive relationship between market performance and the value of the Golden Parachutes clauses, which converges with the existing literature, suggesting that there is better alignment between CEOs and shareholders to maximize value when organizations use this compensation mechanism. Furthermore, Brusa et al. (2009) and Bebchuk et al. (2010) affirm that, when the company is not supported by Golden Parachutes clauses, the company's value is lower and there is a greater probability of acquisitions. Furthermore, Golden Parachutes clauses can bring greater security to the CEO and reduce future uncertainties. However, Mansi et al. (2016) identified that there is a positive relationship between loan and debt costs and Golden Parachutes, which implies lower governance indices and a greater probability of hostile takeovers (Mansi et al. 2016).

Despite this criticism, overall, Golden Parachutes contribute to ensuring more effective and competent corporate governance, increasing market performance and encouraging ethical acquisition processes (Evans & Hefner, 2008). Golden Parachutes end up compensating for lost remuneration, but in a less costly and, consequently, more attractive way, since the CEOs do not participate in acquisition awards (Fidrmuca & Xia, 2019). According to Fich et al. (2013), the ideal would be if the Golden Parachutes clauses are able to align the interests of shareholders and CEOs, enabling them to achieve their objectives, while making advantageous agreements for shareholders. Based on the debate, the following research hypothesis is presented:

*H1: Acquiring companies that used Golden Parachutes clauses in their acquisition process perform better, when compared to companies that did not use this mechanism.*

Another important point to note is the relationship between Golden Parachutes and the company's liquidity, as it indicates the organization's ability to honor its short-term obligations. According to Amihud and Mendelson (1988; 1991; 2006) and Liu (2006), liquidity is the ease with which an asset is traded at its current market price. For Luo and Wang (2023), around 58% of transactions involving mergers and acquisitions are made with cash reserves, highlighting the importance of this relationship. This argument is reinforced by Eaton et al. (2022).

Among the main benefits of maintaining cash liquidity, we can mention the savings in transaction costs when raising funds, avoiding the need to liquidate assets to make payments, as well as independence for companies to finance investments with the use of these assets, especially when there are no other forms of financing available. According to agency theory (Jensen & Meckling, 1976), the greater the entrenchment of managers, the more available cash liquidity, as these managers choose to maintain more cash instead of paying more dividends to

shareholders (Bates, Kahle & Stulz, 2009). With greater cash availability, managers maximize the value of assets, consequently increasing their power over the company's investment decisions and would also avoid the need to obtain external capital, which benefits the company in terms of keeping its transactions confidential.

For Bates, Kahle and Stulz (2009), there are five reasons for companies to maintain liquidity: (i) transaction, when resources are needed to settle payments at a given time, generating lower costs of converting a non-financial current asset into a liquid current asset; (ii) speculation, when the company has a market opportunity, it needs available resources to get the best offer; (iii) precaution, maintaining liquidity when high-cost external financing occurs; (iv) taxes, because when companies maintain liquidity, they can mitigate the tax burden of repatriating profits from external operations, especially in multinational companies; and, (v) agency costs, arising from conflicts of interest between agent and principal.

Regarding the determinants of the degree of cash liquidity, companies that are financially limited, whether due to less access to the capital market or the high cost of debt, maintain greater liquidity (Acharya et al., 2007). For Han and Qiu (2007), companies with greater investment opportunities will also choose to maintain greater liquidity, as the cost of this lack would be high.

Uncertainties about cash flow are also related to liquidity in a positive way, according to Ozkan and Ozkan (2004), as the greater the risk, there is a greater need for liquidity, since in uncertain situations, the company may need greater cash available. In this context, Portal, Zani and da Silva (2012) and Acharya et al. (2007) state that, in companies with high external financing costs, they would maintain more cash reserves for investments.

Some studies indicate that the separation of ownership and control provides management with the opportunity to use cash holdings for inefficient or value-destroying mergers and acquisitions, increasing its private benefits of control (Jensen, 1986; Shleifer & Vishny, 1989; Zhu et al., 2024). However, Golden Parachutes clauses generate incentives for managers to act in accordance with the company's interests and seek efficiency in these processes. For this reason, the following hypothesis is formed:

*H2: Acquiring companies that used Golden Parachutes clauses in their acquisition process, have greater liquidity when compared to companies that did not use this mechanism.*

### 3 Methodology

To analyze the impact of Golden Parachutes on the performance and liquidity of North American publicly traded acquiring companies in acquisition processes, we applied the Diff-in-Diff (DID) method, which makes it possible to analyze the influence of a shock or intervention, by comparing two distinct groups, one of them affected and the other unaffected by the event under analysis.

The research classification, considering its approach, is quantitative. Related to its objectives, it is descriptive, as we aim to describe characteristics or phenomena of a given population under study, or to establish a relationship between variables, helping to understand or know a certain subject, which enables new research on the topic based on its results and conclusions. Due to its nature, the research is considered applied, as we aim to produce knowledge with practical application, seeking to solve problems characteristic of reality (Hair et al., 2005).

The database is composed of a sample of 70 publicly traded North American companies that participated in the acquisition process as acquirers during the period from 2000 to 2022, with 35 companies using Golden Parachutes clauses in this process and 35 companies who did not use this mechanism. The variables correspond to financial information from the balance sheet and financial reports of the acquiring companies, obtained with the Economatica financial software, in addition to information about the company's executives, obtained from reports on the Security and Exchange Commission (SEC) website.

Table 1 – Dependent Variables

<b>Dependent Variables</b>			
<b>Variable</b>	<b>Name</b>	<b>Description / Formula</b>	<b>Author</b>
Liquidity	LIQ	Current Assets/ Current liabilities	Ahmad and Wardani (2014)
Return on Equity	ROE	Net Profit / Equity	Gaur et al. (2015); Sonza and Kloeckner (2014); Aguiar and Pimentel (2017)
Return on Assets	ROA	EBIT/Total Assets	Yermack (1996); Frank and Goyal (2009); Gaur et al. (2015); Sonza and Kloeckner (2014).
Market-to-Book	MB	Market Value/ Equity	Lemmon et al. (2008); Frank and Goyal (2009)

Source: Elaborated by the Authors (2024).

The dependent variables used in the research correspond to liquidity, ROE and ROA (accounting performance) and Market-to-Book (market performance), are described in Table 1. Table 2 presents the main independent variable (DID) and the covariates (Risk, tangibility, total



assets, net revenue, ROA ROE, Market-to-Book, Leverage, sector fixed effects and temporal fixed effects).

Table 2 – Independent Variable and covariates

Independent Variable					
Variable	Name	Signal		Formula	Author
		Per.	Liq.		
Difference-in-Differences	DID	+	+	Event x Treatment	Zhang et al., (2022); Eaton et al. (2022); Couzoff et. al (2022); Luo and Wang (2023).
Covariates					
Variable	Name	Signal		Formula	Author
		Per.	Liq.		
Risk	RISK	-	-	EBIT standard deviation / Total Assets	Titman and Wessels (1988); Bastos and Nakamura (2009)
Tangibility	TANG	+	+	Fixed Assets / Total Assets	Lemmon et al. (2008); Kieschnick and Moussawi (2018); Tristão and Sonza (2021)
Total Assets	TA	+/-	+/-	Log (Total Assets)	Krauter (2013); Tristão and Sonza (2021); Aguiar and Pimentel (2017)
Return on Assets*	ROA	+	-	EBIT / Total Assets	Yermack (1996); Almeida et al. (2004); Frank and Goyal (2009); Gaur et al. (2015); Sonza and Kloeckner (2014).
Return on Equity*	ROE	+	-	Net Profit/ Equity	Sonza and Kloeckner (2014); Aguiar and Pimentel (2017)
Market-to-Book	MB	+	-	Market Value / Equity	Lemmon et al. (2008); Frank and Goyal (2009)
Net Revenue	NR	+/-	+/-	Log (Net Revenue)	Klapper and Love (2004); Almeida et al. (2004); Sonza and Kloeckner (2014); Tristão and Sonza (2021).
Leverage	LEV	+/-	+/-	Short- and Long-term debt/Total Assets	Frank and Goyal (2009); Rajan and Zingales (1995); DeAngelo and Roll (2015); Tristão and Sonza (2021).
Sector Fixed Effects	SFF			<i>Dummies</i> : 1 - Firm belongs to the sector; 0 – CC	Rajan and Zingales (1995); Frank and Goyal (2009); Sonza and Kloeckner (2014).
Time Fixed Effects	TFF			<i>Dummies</i> : 1 – Belongs to the year; 0 - CC	Frank and Goyal (2009); Sonza and Kloeckner (2014).

Note: \*These covariates will only be used when the dependent variables are not the same.

Source: Elaborated by the Authors (2024).

The Difference-in-Differences (DID) method aims to estimate the effect of a given shock, starting from testing the sample before and after the occurrence of the event (VIG, 2013), which makes it possible to evaluate its impact on the sample, comparing the results obtained after the occurrence of this event in the affected and not affected groups.

To apply the DID methodology, there are four established assumptions, according to Villa (2016): (i) it must be possible to identify two groups, a treatment group (affected by the event) and a control group (not affected by the event); (ii) there must be parallel trends in the period before or after the shock in both groups; (iii) it will be necessary to define an exogenous

shock or event; and, (iv) assumption that, in the absence of the shock, there would be a similar trend between the groups. According to Roberts and Whited (2013), the hypothesis of parallel trends is the fundamental assumption for estimating the technique.

According to Bertrand, Duflo and Mullainathan (2004), the methodology is based on a double subtraction, one of which occurs between the means of the outcome variable between the periods before and after the event for both groups, and the other is the subtraction of the first difference calculated between the groups. After this, an analysis takes place to determine whether the difference between these two differences is significant. The model to be considered is the dynamic DID, as the shock is mobile. To identify, within the control group, companies containing similar characteristics to those of the treatment group, we adopted the Kernel Propensity Score Matching (PSM) methodology, considering as a criterion the treatment company corresponding to the control companies (nearest neighbor), determined by the size and sector, as suggested by Ongsakul and Jiraporn (2019).

In the final sample, we considered 70 companies, 35 from the treatment group and 35 from the control group, totaling 281 observations (unbalanced). The sample considered 3 years before and 3 years after the period in which the acquisition process occurred in the company: to identify the shock (time), we placed “0” for each of the 3 previous years, and “1” for the 3 years after the shock. The other variable created is called “treatment” and refers to the treatment and control groups. For treatment, we considered acquiring companies that used Golden Parachutes clauses (assigning the number 1) and, for control, we considered companies that did not use these clauses (assigning the number 0). The interaction between these two variables, “time” and “treatment”, generates the difference-in-differences variable, presented in equation (1).

$$Y_{it} = \delta_0 + \delta_1 \cdot time_t + \delta_2 \cdot treatment_i + \delta_3 \cdot (treatment_i \times time_t) + \varepsilon_{it} \quad (1)$$

Where: *i* represents the company; *t* represents the year; *Y<sub>it</sub>* represents the dependent variable;  $\delta_1$  represents causal factors of changes in *Y* over time;  $\delta_2$  represents the differences between treatment and control groups;  $\delta_3$  represents the coefficient of interest and  $\varepsilon_{it}$  represents the error. Equation (2) estimates the coefficient of interest ( $\delta_3$ ) of the DID.

$$\hat{\delta}_3 = (\hat{y}_{(treatment, time=1)} - \hat{y}_{(treatment, time=0)}) - (\hat{y}_{(control, time=1)} - \hat{y}_{(control, time=0)}) \quad (2)$$

In addition, an Ordinary Least Squares (OLS) regression was performed to identify the effect of covariates on the model's dependent variables. The OLS model was estimated for two reasons: (i) because it allows capturing the heterogeneous effect of acquisitions on companies' liquidity and performance; and, (ii) allows checking the robustness of the results (Roberts & Whited, 2013). For this, all tests of the model's assumptions were applied: (i) Normality: Doornik-Hansen and Shapiro-Wilk; (ii) Covariance: Covariance Matrix; (iii) Wooldridge: Absence of Serial Autocorrelation; (iv) Homoscedasticity: Breusch-Pagan; (v) Linearity: Variance Inflation Factor (VIF); and, (vi) Endogeneity: Durbin-Wu-Hausman. Finally, we used the Placebo or Falsification Test and the Triple Difference Test to test the robustness of the model.

#### **4 Results and discussions**

This section presents descriptive statistics, correlation matrix and estimation of the Diff-in-Diff model, in addition to graphical analysis and robustness tests, with the aim of identifying the effects of acquisitions through the use of Golden Parachutes in the performance and liquidity of acquiring publicly traded American companies, in the period between 2000 and 2022.

The sample we used in the research is divided into two groups, treatment and control. These groups are subdivided into before and after acquisition using the Golden Parachutes (dynamic event of the model), enabling comparison between them. Table 3 presents the descriptive statistics of the variables selected for the research for both groups and for the periods before and after the shock. Due to the disparity between the mean and median, the variables were winsorized at 1%.

For the analysis of the sample's descriptive statistics (Table 3), we did not find significant changes in the indicators when comparing the treatment group before and after the event, with the exception of leverage, which increased from 0.544 to 0.647 (18.93%), at 5% of significance level, Market-to-Book, which decreased from 6.109 to 3.648 (40.28%), and ROE, which increased from -0.044 to 0.053 (220, 45%), both at 10% of significance level.

For the control group, the results were not the same. The ratio between current assets and liabilities decreased from 1,614 to 1,282 (20.57%), significant at 5%. Return on Equity (ROE) and Return on Assets (ROA) decreased from 0.116 to -0.046 (139.65%) and from 0.048 to -0.010 (120.83%), both significant at 5%. Total assets and net income increased from \$7.827 billion to \$8.204 billion (4.82%) and from 7.401 billion to \$7.601 billion (2.70%), both significant at 1%.

Table 3 – Descriptive Statistics

Treatment Group											
Before the event						After the event					T test
Var.	(n)	Mean	Var.	Med.	SD	(n)	Mean	Var.	Med.	SD	
LIQ	90	2.336	3.770	1.899	1.942	80	2.295	4.820	1.685	2.195	0.126
MB	86	6.109	215.816	2.369	14.691	77	3.648	40.550	2.274	6.368	1.359 *
ROE	84	-0.044	0.315	0.053	0.561	75	0.053	0.079	0.035	0.281	-1.352 *
RISK	90	0.079	0.013	0.037	0.112	80	0.075	0.013	0.035	0.113	0.232
TANG	83	0.045	0.003	0.028	0.053	73	0.043	0.004	0.022	0.067	0.233
TA	90	6.552	0.893	6.468	0.945	66	6.732	0.773	6.637	0.879	-1.210
NR	90	6.215	0.827	6.009	0.910	80	6.322	0.703	6.192	0.839	-0.799
ROA	92	0.013	0.018	0.023	0.132	80	-0.001	0.027	0.017	0.165	0.608
LEV	90	0.544	0.066	0.519	0.258	80	0.647	0.160	0.564	0.400	-2.019 **

Control Group											
Before the event						After the event					T test
Var.	(n)	Mean	Var.	Med.	SD	(n)	Mean	Var.	Med.	SD	
LIQ	76	1.614	1.572	1.270	1.254	67	1.282	0.407	1.061	0.638	1.957 **
MB	89	4.364	11.407	3.539	3.377	86	4.890	188.678	2.468	13.736	-0.351
ROE	83	0.116	0.226	0.138	0.476	75	-0.046	0.480	0.078	0.693	1.727 **
RISK	74	-0.031	0.180	0.019	0.425	70	-0.025	0.150	0.019	0.388	-0.095
TANG	67	0.042	0.001	0.030	0.033	61	0.038	0.002	0.019	0.050	0.517
TA	95	7.827	0.496	7.842	0.704	87	8.204	0.519	8.176	0.720	-3.567 ***
NR	77	7.401	0.285	7.345	0.534	70	7.601	0.235	7.498	0.484	-2.381 ***
ROA	83	0.048	0.024	0.056	0.156	75	-0.010	0.049	0.023	0.221	1.928 **
LEV	92	0.604	0.034	0.604	0.186	86	0.626	0.030	0.597	0.173	-0.817

Note: \*significant at  $p<0.01$ ; \*\* significant at  $p<0.05$ ; \*\*\* significant at  $p<0.1$ .

Source: Elaborated by the Authors (2024).

We can infer, based on these results, that acquisitions supported by Golden Parachutes clauses increased the acquiring companies' leverage, reduced their market value and increased their return on equity. Companies that did not use this clause had lower liquidity, lower accounting performance and increased their size. The next stage is described in Table 4, which presents the Pearson's correlation between the variables selected for the research and allows testing the relationship/collinearity between them.

Table 4 – Pearson's Correlation

	LIQ	MB	ROE	RISK	TANG	TA	NR	ROA
MB	-0.082							
ROE	-0.010	-0.578*						
RISK	0.101	-0.095	-0.102					
TANG	-0.180*	0.088	-0.135*	0.383*				
TA	-0.431*	-0.184*	0.219*	-0.194*	0.016			
NR	-0.430*	-0.043	0.131*	-0.214*	-0.038	<b>0.944*</b>		
ROA	-0.074	-0.382*	<b>0.762*</b>	-0.171*	-0.249*	0.273*	0.257*	
LEV	-0.384*	-0.005	0.118*	0.078	0.203*	0.320*	0.139*	0.017

Note: \*significant at  $p<0.05$ .

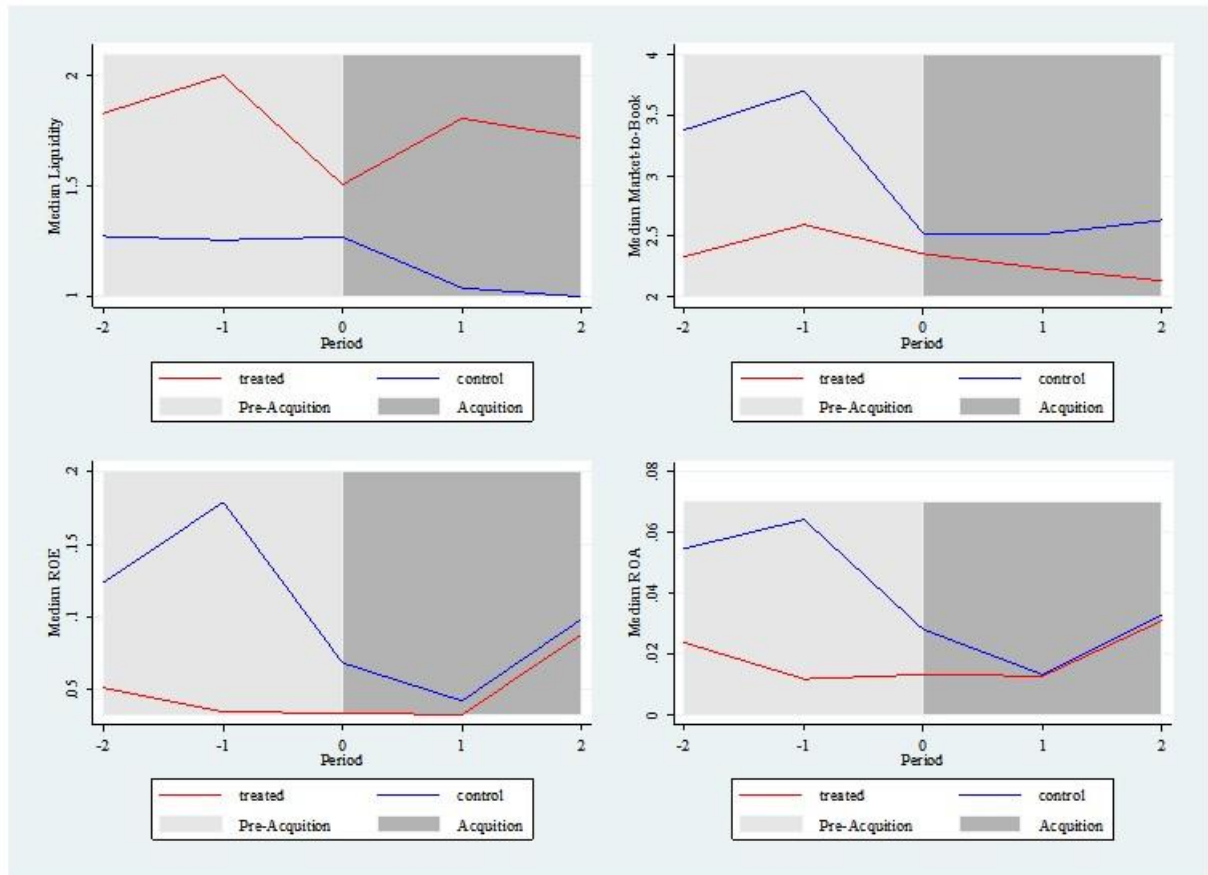
Source: Elaborated by the Authors (2024).

As can be seen, most of the variables showed a significant relationship at 5%. However, the only variables that present a relationship above 0.7 were between net income and total assets, and between ROE and ROA, which were not used in the same regression (total assets

were removed because it is a control variable and have a similar influence on the analysis as net income).

The next step is the estimation of the econometric model, using the Difference-in-Differences (DID) method. In Figure 1, there is the representation of the Liquidity, Market-to-Book, ROE and ROA indicators of companies in the treatment and control groups for the period from 2000 to 2022. The graphical comparison of these indicators makes it possible to analyze the behavior of the variables selected, to prove the hypothesis of Parallel Trends (Villa, 2016).

Figure 1 – Graphical analysis of Liquidity, Market-to-Book, ROE and ROA indicators



Source: Elaborated by the Authors (2024).

We can observe, in Figure 1, that the Liquidity, Market-to-Book, ROE and ROA indicators were affected by the event under analysis (acquisition process), which made the behavior of acquiring companies more similar after the shock, both in terms of treatment and control group. In terms of liquidity, companies in the treatment group have more current assets in relation to the total, suffering a decrease at the time of acquisition and an increase in the subsequent period. The opposite is observed in the control group. For Market-to-Book, there is a significant difference for the two groups before the acquisition process, with companies without Golden Parachutes having a higher market value, but this difference almost completely

disappears after the acquisition. Finally, in ROE and ROA, a significant difference is also noticed between the two groups, which decreases considerably one year after the event.

To produce the best unbiased estimator for OLS regression, some assumptions need to be satisfied, including normality, linearity, absence of autocorrelation, homoscedasticity, absence of multicollinearity and exogeneity of variables. In this sense, we presented, in Table 5, the tests used to identify whether these assumptions are met. The Doornik-Hansen multivariate normality test indicated that the sample does not come from a normal distribution, rejecting the null hypothesis at the 1% significance level (Doornik & Hansen, 2008). This same result was obtained using the Shapiro-Wilk test, as all variables had a p-value below 0.05 (Shapiro & Wilk, 1965). As for the covariance test, the null hypothesis that the matrix is diagonal (p-value less than 0.05) is rejected, that is, the response variables have no independent relationship (Karpeshina et al., 2002).

Table 5 – Tests of OLS model assumptions

Test	Classification	Type	Value	p-value	Result
Doornik-Hansen	Normality	$\chi^2$	7312.167	0.000	Reject
Shapiro-Wilk	Normality	Z	2.389	0.008	Reject
Covariance Matrix	Covariance	$\chi^2$	673.480	0.000	Reject
Wooldridge	Absence of Autocorrelation	F	4.613	0.034	Reject
Breusch-Pagan	Homoscedasticity	$\chi^2$	186.840	0.000	Reject
VIF	Linearity		3.100	-	Not reject
Durbin-Wu-Hausman	Endogeneity	F	430.00	0.000	Not reject

Source: Elaborated by the Authors (2024).

The Wooldridge test indicates that there is serial autocorrelation of order 1 between the sample variables, since the null hypothesis is rejected (p-value less than 0.05) (Wooldridge, 2010). For the Breusch-Pagan test, it is evident that the model has heteroscedasticity, that is, the variance of the residuals generated by the model estimation is not constant (Breusch & Pagan, 1979). The average value of the Variance Inflation Factor (VIF) is 3.10, indicating low dependence between the variables, since, according to Berk (1977), if the VIF exceeds 10, multicollinearity can be considered a problem. Finally, the Durbin-Wu-Hausman test highlighted an endogeneity problem in the variables, as the null hypothesis was not rejected (Davidson & MacKinnon, 1993). In short, it was identified that the sample is not normal, has first-order serial autocorrelation, the covariance matrix is not diagonal, the residuals are heteroscedastic and there is endogeneity in the variables. For this reason, a more robust model is needed to reduce these problems. In this case, the DID is indicated, which considers a more exogenous shock to the system.

In Table 6, we present the DID modeling estimates, identifying the difference (treatment - control) in the period before the event, as well as the difference (treatment - control) in the period after the event under analysis. Finally, the difference between these two measures is identified. From the analysis, we observed that, in the period prior to the event, only the ROE showed significant variation at the level of 1%. This result indicates that the control effect on Return on Equity of 0.152 was greater than the treatment effect in companies that underwent an acquisition process using Golden Parachutes, whose coefficient was -0.044, generating a difference of -0.196.

Table 6 – DID model estimates

	LIQ		ROE		ROA		MB	
<b>Before</b>	<b>Coef.</b>	<b>N</b>	<b>Coef.</b>	<b>n</b>	<b>Coef.</b>	<b>N</b>	<b>Coef.</b>	<b>N</b>
<b>Treatment</b>	2.230	76	-0.044	76	0.020	79	6.263	76
<b>Control</b>	2.026	64	0.152	64	0.055	64	4.496	63
<b>Dif.</b>	0.204	140	<b>-0.196</b> ***	140	-0.035	143	1.767	139
<b>DP</b>	(0.315)		(0.074)		(0.023)		(1.824)	
<b>T</b>	<i>0.650</i>		<i>-2.670</i>		<i>-1.530</i>		<i>0.970</i>	
<b>After</b>	<b>Coef.</b>	<b>N</b>	<b>Coef.</b>	<b>n</b>	<b>Coef.</b>	<b>N</b>	<b>Coef.</b>	<b>N</b>
<b>Treatment</b>	2.295	80	0.053	75	-0.001	80	3.648	77
<b>Control</b>	1.064	61	0.040	60	0.017	57	2.838	61
<b>Dif.</b>	<b>1.231</b> ***		0.013	135	-0.018	137	0.811	138
<b>DP</b>	(0.404)		(0.081)		(0.023)		(2.101)	
<b>T</b>	<i>3.050</i>		<i>0.160</i>		<i>0.780</i>		<i>0.390</i>	
<b>DID</b>	<b>1.027</b> **	281	<b>0.209</b> *	275	0.017	280	-0.956	277
<b>DP</b>	(0.512)		(0.110)		(0.032)		(2.783)	
<b>T</b>	<i>2.000</i>		<i>1.910</i>		<i>0.520</i>		<i>0.340</i>	

Note: \*significant at  $p < 0.01$ ; \*\* significant at  $p < 0.05$ ; \*\*\* significant at  $p < 0.1$ .

Source: Elaborated by the Authors (2024).

In the period after the event, we identified statistically significant differences at the 1% level in the liquidity variable, which demonstrates changes in the effects of the treatment and control groups with the event under study. The estimated liquidity coefficients after the shock, of 2.295 for the treatment companies and 1.064 for the control companies, indicate a greater impact of the treatment on liquidity, whose difference is 1.231. The ROA and MB variables did not show statistical significance for any of the groups before or after the event.

The DID estimator presented statistically significant coefficients for liquidity and ROE, indicating that acquiring companies that used the Golden Parachutes mechanism, had improvements in terms of cash availability, with a positive variation of 1.027, significant at 5%; and return on equity, with a positive variation of 0.209, significant at 10%. The same results were found for this variable in the OLS regressions (Table 7), where acquiring companies that

used Golden Parachutes, after the acquisition process, had a significantly positive increase in terms of liquidity and ROE, both significant at 5%.

Table 7 – OLS regressions

Variable	LIQ	t test	ROE	t test	ROA	t test	MB	t test
<b>Treat.</b>	<b>-0.551</b>	<i>(-1.760)</i>	*	-0.137	<i>(-1.560)</i>		0.001	<i>(0.030)</i>
<b>Time</b>	-0.179	<i>(-0.870)</i>		<b>-0.138</b>	<i>(-2.410)</i>	**	<b>-0.068</b>	<i>(-4.080)</i>
<b>DID</b>	<b>0.742</b>	<i>(2.150)</i>	**	<b>0.177</b>	<i>(2.380)</i>	**	0.035	<i>(1.540)</i>
<b>MB</b>	-0.003	<i>(-0.250)</i>		<b>-0.014</b>	<i>(-7.060)</i>	***	0.001	<i>(1.150)</i>
<b>ROE</b>	-0.007	<i>(-0.030)</i>		-	-		-	-
<b>RISK</b>	3.008	<i>(1.350)</i>		0.224	<i>(0.480)</i>		0.149	<i>(1.220)</i>
<b>TANG</b>	-2.430	<i>(-0.980)</i>		-0.284	<i>(-0.470)</i>		-0.281	<i>(-0.680)</i>
<b>NR</b>	<b>-0.548</b>	<i>(-2.720)</i>	***	0.036	<i>(0.800)</i>		<b>0.042</b>	<i>(2.980)</i>
<b>LEV</b>	<b>-2.377</b>	<i>(-4.680)</i>	***	0.055	<i>(0.670)</i>		<b>-0.116</b>	<i>(-1.810)</i>
<b>LIQ</b>	-	-		0.000	<i>(-0.030)</i>		0.000	<i>(-0.040)</i>
<b>Constant</b>	<b>7.997</b>	<i>(4.840)</i>	***	0.094	<i>(0.220)</i>		-0.192	<i>(-1.500)</i>
<b>SFE</b>		Yes		Yes		Yes		Yes
<b>TFE</b>		Yes		Yes		Yes		Yes
<b>N</b>		269		269		274		269

Note: \*significant at  $p < 0.01$ ; \*\* significant at  $p < 0.05$ ; \*\*\* significant at  $p < 0.1$ .

Source: Elaborated by the Authors (2024).

These results are corroborated by Eaton et al. (2022) and Luo and Wang (2023), who state that a large part of transactions involving mergers and acquisitions are made with cash reserves, showing that acquiring companies need to have more liquid financial resources to carry out acquisitions. This factor generates advantages for companies that have GPs, as they reduce the possibility of private benefits on the part of executives, as these clauses function as a governance mechanism. Furthermore, it corroborates the findings of Zhang et al. (2022), which state that GPs reduce agency problems, improving the Mergers and Acquisitions process and, consequently, the company performance.

A result that caught attention in Table 7 was the inverse relationship between Return on Equity and Market-to-Book, as both are performance indicators and much of the literature shows a positive relationship (Lemmon et al., 2008; Frank and Goyal, 2009; Sonza and Kloeckner, 2014; Aguiar and Pimentel, 2017). This result may be linked to the moderating effect of acquisitions, since, for both ROE and MB, the acquisition process negatively affected these indexes (represented by the “time” variable).

The size of the company, represented by net revenue, showed a negative relationship with liquidity, at 1% significance, corroborating Almeida et. al. (2004), when stating that less financially restricted companies (measured through size), are less liquid, as they have more



access to third-party capital. ROA, on the other hand, was positively related to this variable, in line with studies by Klapper and Love (2004), which state that the effect of size on performance is positive, as larger companies have more agency problems (due to greater difficulty in monitoring), and need to compensate with effective governance mechanisms, bringing greater returns.

Finally, leverage was negatively and significantly related to liquidity and ROA, at 1% and 10% significance level, respectively. These results are in line with the Peking Order theory (Myers, 1984), since more profitable companies end up increasing their cash reserves for investments, instead of using third-party resources, as they prefer financing through cash holdings (Frank & Goyal, 2009; Tristão & Souza, 2021). However, leverage was positive and significant at 5% for MB, contrary to the studies presented. Sector and time fixed effects were also considered in all analyses.

Table 8 - Placebo Test with Alternative shock

	<b>LIQ</b>		<b>ROE</b>		<b>ROA</b>		<b>MB</b>	
<b>Before</b>	<b>Coef.</b>	<b>N</b>	<b>Coef.</b>	<b>N</b>	<b>Coef.</b>	<b>n</b>		<b>n</b>
<b>Treatment</b>	2.314	76	0.044	76	0.003	79	4.816	76
<b>Control</b>	1.723	64	0.055	64	0.031	64	3.349	63
<b>Dif.</b>	0.591	140	-0.011	140	-0.028	143	1.466	139
<b>DP</b>	(0.392)		(0.050)		(0.025)		(1.807)	
<b>T</b>	<i>1.510</i>		<i>-0.220</i>		<i>-1.120</i>		<i>0.810</i>	
<b>After</b>		<b>N</b>		<b>N</b>				
<b>Treatment</b>	2.587	80	0.079	75	0.028	80	3.556	77
<b>Control</b>	1.322	61	0.122	60	0.049	57	2.982	61
<b>Dif.</b>	1.264		-0.043	135	-0.021	137	0.574	138
<b>DP</b>	(0.840)		(0.134)		(0.069)		(4.838)	
<b>T</b>	<i>1.50</i>		<i>0.32</i>		<i>0.31</i>		<i>0.12</i>	
<b>DID</b>	0.673	281	-0.032	275	0.007	280	-0.892	277
<b>DP</b>	(0.927)		(0.143)		(0.073)		(5.165)	
<b>T</b>	<i>0.730</i>		<i>0.220</i>		<i>0.090</i>		<i>0.170</i>	

Source: Elaborated by the Authors (2024).

Table 8 presents the Placebo robustness test carried out to investigate whether the model estimates were not influenced by other endogenous shocks. This test did not show statistical significance for any of the coefficients. The results corroborate the analyzes presented, that the groups were affected by the event under study and not by other shocks. The triple difference test (DDD) was also applied, which also confirmed the robustness of the results (not reported).

## 5 Conclusion Remarks

The study aimed to analyze the gains of acquiring companies, in terms of performance and liquidity, in acquisition processes that use Golden Parachutes clauses. As main results, the graphical comparison of the indicators made it possible to analyze the behavior of the selected variables, to prove the hypothesis of Parallel Trends. We can observe that the acquisition process affected the companies analyzed, which presented more similar behavior after the event, both in the treatment and in the control group. Furthermore, descriptive statistics showed that companies in the control group suffered more losses, where, despite having increased in size, presented lower liquidity and lower accounting performance.

The estimation of the DID model indicates statistically significant differences, showing that acquiring companies that used the GP mechanism in the acquisition process increased their return on equity (ROE), corroborating the findings of Zhang et al. (2022), who state that GPs reduce agency problems, improving the Mergers and Acquisitions process and, consequently, company performance. However, the results did not show significant differences in relation to market value (Market-to-Book) and Return on Assets (ROA). Even though some assumptions were not significant, the fact of finding significance for ROE does not completely reject hypothesis 1, where acquiring companies that used Golden Parachutes clauses in their acquisition process, present better performance when compared to companies that did not use this mechanism.

However, companies that used GP in their acquisition process showed a significant increase in their liquidity compared to others, in line with studies by Eaton et al. (2022) and Luo and Wang (2023), who state that a large part of transactions involving mergers and acquisitions are made with cash reserves, showing that companies need to have more liquid financial resources to carry out acquisitions. Furthermore, it corroborates Cousoff et al. (2022), who identified that the quality of corporate governance is related to a company's liquidity management policies and that resources, such as Golden Parachutes, reduce informational asymmetries, improving company performance. This result does not reject hypothesis 2, which stated that acquiring companies that used Golden Parachutes clauses in their acquisition process, have better liquidity when compared to companies that did not use this mechanism.

In addition to its contribution to the debate about Golden Parachutes, analyzing the influence of their use on the performance and liquidity index of acquiring publicly traded American companies, the research is justified by the increasing adherence to the use of GPs, including in smaller companies and by lower-level executives, unlike what happened in the

past, where its use was restricted to larger companies and high-ranking executives, thus becoming a topic that has aroused increasing interest. Another difference in this study is the use of the DID method, which makes it possible to analyze the impact of an event in two different groups of companies (treatment and control).

The study had some limitations, due to the lack of current literature on the topic and the difficulty in obtaining data on acquisitions. Suggestions for future work include the possibility of exploring more variables related to acquisitions, with a more comprehensive sample.

## References

- Acharya, V., Almeida, H., & Campello, M. (2007). Is cash negative debt? A hedging perspective on corporate financial policies. *Journal of Financial Intermediation*, 16(4), 515-554.  
[https://econpapers.repec.org/article/eeefinin/v\\_3a16\\_3ay\\_3a2007\\_3ai\\_3a4\\_3ap\\_3a515-554.htm](https://econpapers.repec.org/article/eeefinin/v_3a16_3ay_3a2007_3ai_3a4_3ap_3a515-554.htm)
- Aguiar, A. B. D., & Pimentel, R. C. (2017). Remuneração de executivos e desempenho no mercado brasileiro: relações contemporâneas e defasadas. *Revista de Administração Contemporânea*, 21, 545-568.
- Ahmad, G. N., & Wardani, V. K. (2014). The effect of fundamental factor to dividend policy: Evidence in Indonesia Stock Exchange. *International Journal of Business and Commerce*, 4(2), 14-25.
- Almeida, H., Campello, M. Weisbach, M. (2004) The Cash Flow Sensitivity of Cash. *The Journal of Finance*, 59, 1777-1804.
- Amihud, Y., & Mendelson, H. (1988). Liquidity and asset price: financial management implications. *Financial Management*, 17(1), 5-15. <https://www.jstor.org/stable/3665910>
- Amihud, Y., & Mendelson, H. (1991) Liquidity, assets prices and financial policy. *Financial Analysts Journal*, 47(6), 56-66.  
<http://efinance.org.cn/cn/fm/Liquidity,%20Asset%20Prices%20and%20Financial%20Policy.pdf>
- Amihud, Y., & Mendelson, H. (2006). Stock and bond liquidity and its effect on prices and financial policies. *Financial Market Portfolio Management*, 20, 19-32.  
[https://econpapers.repec.org/article/kapfmktpm/v\\_3a20\\_3ay\\_3a2006\\_3ai\\_3a1\\_3ap\\_3a19-32.htm](https://econpapers.repec.org/article/kapfmktpm/v_3a20_3ay_3a2006_3ai_3a1_3ap_3a19-32.htm)
- Baron, D.P. (1983). Tender offers and management resistance. *The Journal of Finance*, 38(2), 331-343. <https://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1983.tb02237.x>.
- Bastos, D. D., & Nakamura, W. T. (2009). Determinantes da estrutura de capital das companhias abertas no Brasil, México e Chile no período 2001-2006. *Revista Contabilidade & Finanças*, 20, 75-94.
- Bates, T. W., Kahle, K. M., & Stulz, R. (2009, October). Why do U.S. firms hold so much more cash than they used to? *Journal of Finance*, 64(5), 1985-2021.  
<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1540-6261.2009.01492.x>

- Bebchuk, L., Cohen, A., & Wang, C. (2010). Golden parachutes and the wealth of shareholders. *Journal of Corporate Finance*, 25, 140-154. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1718488](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1718488).
- Bebchuk, L., Cohen, A., & Wang, C. (2014). Golden Parachutes and the Wealth of Shareholders. *Journal of Corporate Finance*, 25(683), 140-154. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1718488](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1718488).
- Berk, K N. (1977). Tolerance and Condition in Regression Computations. *Journal of the American Statistical Association*, 72(360), 863 – 866.
- Berle, A., JR., & Means, G. (1932). *The modern corporation and private property*. Chicago: Commerce Clearing House.
- Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust differences-in-differences estimates? *The Quarterly journal of economics*, 119(1), 249-275.
- Breusch, T. S.; Pagan, A. R. (1979). Simple Test for heteroskedasticity and random coefficient variation. *Econometrica*, 47(5).
- Brusa, J., Lee, W.L., & Shook, C. (2009). Golden parachutes, managerial incentives and shareholders' Wealth. *Managerial Finance*, 35(4), 346-356. <https://ideas.repec.org/p/ags/isfiwp/275792.html>.
- Comment, R., & Schwert, G.W. (1995). Poison or placebo? Evidence on the deterrence and wealth effects of modern antitakeover measures. *Journal of Financial Economics*, 39(1), 3-43. <https://ideas.repec.org/a/eee/jfinec/v39y1995i1p3-43.html>.
- Couzoff, P., Banerjee, S., & Pawlina, G. (2022). Effectiveness of monitoring, managerial entrenchment, and corporate cash holdings. *Journal of Corporate Finance (Amsterdam, Netherlands)*, 77, 102258.
- Dah, B. A., Michael, A., & Dixon, R. (2017). Antitakeover provisions and CEO monetary benefits: Revisiting the E-index. *Research in International Business and Finance*, 42, 992-1004. <https://www.sciencedirect.com/science/article/abs/pii/S0275531916302574>.
- Davidson, R. and J. G. MacKinnon. 1993. *Estimation and Inference in Econometrics*. New York: Oxford University Press.
- DeAngelo, H. & Roll, R. (2015, February) How Stable Are Corporate Capital Structures? *The Journal of Finance*, 70(1), 373–418.
- Doornik, J.A.; Hansen, H. (2008). An Omnibus test for univariate and multivariate normality. *Oxford Bulletin of Economics and Statistics* 70, 927-939.
- Eaton, G. W., Guo, F., Liu, T., & Officer, M. S. (2022). Peer selection and valuation in mergers and acquisitions. *Journal of Financial Economics*, 146(1), 230-255.
- Evans, J. D., & Hefner, F. (2009). Business Ethics and the Decision to Adopt Golden Parachute Contracts: Empirical Evidence of Concern for All Stakeholders. *Journal of Business Ethics*, 86(1), 65-79. <https://ideas.repec.org/a/kap/jbuset/v86y2009i1p65-79.html>.
- Fama, E. F., & Jensen, M. C. (1983). Separation of Ownership and Control. *The Journal of Law & Economics*, 26(2), 301-325. [www.jstor.org/stable/725104](http://www.jstor.org/stable/725104).
- Fich, E. M., Tran, A. L., & Walkling, R. A. (2013). On the Importance of Golden Parachutes. *Journal of financial and quantitative analysis*, 48(6), 1717-1753. <https://www.jstor.org/stable/43303859>.

- Fidrmuca, J. P., & Xiab, C. (2019). M&A deal initiation and managerial motivation. *Journal of Corporate Finance*, 59(c), 320-343.  
<https://ideas.repec.org/a/eee/corfin/v59y2019icp320-343.html>.
- Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: Which factors are reliably important? *Financial Management*, 38(1), 1-37.  
<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1755-053X.2009.01026.x>
- Frydman, C., & Saks, R.E. (2010). Executive compensation: a new view from a long-term perspective, 1936–2005. *Review of Financial Studies*, 23(5), 2099-2138.  
[https://web.mit.edu/frydman/www/trends\\_rfs2010.pdf](https://web.mit.edu/frydman/www/trends_rfs2010.pdf).
- Gaur, S. S., Bathula, H., & Singh, D. (2015). Ownership concentration, board characteristics and firm performance: A contingency framework. *Management Decision*, 53(5), 911-931.
- Gillan, S., Hartzell, J., & Parrino, R. (2009). Explicit vs. implicit contracts: evidence from CEO employment agreements. *Journal of Finance*, 64, 1629-1655.  
<https://www.jstor.org/stable/27735146>.
- Granzotto, A., & Sonza, I. B. (2019). Compensar ou monitorar os executivos? *RACE, Revista de Administração, Contabilidade e Economia*, 18(3), 393-418.  
<http://editora.unoesc.edu.br/index.php/race>.
- Hair, J., Babin, B., Money, A., & Samouel, P. (2005). *Fundamentos de métodos de pesquisa em administração*. Bookman Companhia Ed.
- Hall, P.L., & Anderson, D.C. (1997). The effect of golden parachutes on shareholder wealth and takeover probabilities. *Journal of Business Finance & Accounting*, 24(3), 445-63.  
<https://ideas.repec.org/a/bla/jbfnac/v24y1997i3p445-463.html>.
- Han, S., & Qiu, J. (2007). Corporate precautionary cash holdings. *Journal of Corporate Finance*, 13(1), 43-57.  
<https://profs.degroote.mcmaster.ca/ads/jiaping/paper/cashholdings.pdf>
- Harris, E.G. (1990). Antitakeover measures, golden parachutes, and target firm shareholder welfare. *Rand Journal of Economics*, 21(4), 614-625.  
<https://www.jstor.org/stable/2555472>.
- Hartzell, J.C., Ofek, E., & Yermack, D. (2002). What's in it for me? CEOs whose firms are acquired. *The Review of Financial Studies*, 17, 37–61.  
<https://pages.stern.nyu.edu/~eofek/Parachutes.pdf>.
- Hussain, T., & Loureiro, G. (2022). Portability of firm corporate governance in mergers and acquisitions. *Research in International Business and Finance*, 63, 101777.
- Hussain, T., Kryzanowski, L., Loureiro, G., & Sufyan, M. (2024). Enhancing corporate governance quality through mergers and acquisitions. *Journal of International Financial Management & Accounting*.
- Hussain, T., Tunyi, A. A., & Agyemang, J. (2023). Corporate governance transfers: the case of mergers and acquisitions. *International Journal of Disclosure and Governance*, 1-25.
- Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *American Economic Review*, 76(2), 323-329. <https://www.jstor.org/stable/1818789>
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and owner ship structure. *Journal of Financial Economics*, 3, 305-360.  
<https://www.sciencedirect.com/science/article/pii/0304405X7690026X>

- Jensen, M.C. & Murphy, K.J. (1990). Performance pay and top-management incentives. *Journal of Political Economy*, Vol. 98 No. 2, pp. 225-264.  
<https://www.jstor.org/stable/2937665>.
- Karpeshina, Y.; Stolz, G.; Weikard, R.; Zeng, Y. (2002). Advances in differential equations and mathematical physics. *American Mathematical Society*.
- Klapper, L. F., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of corporate Finance*, 10(5), 703-728.
- Krauter, E. (2013). Executive Remuneration and Financial Performance: a Study of Brazilian Companies. *Revista de Educação e Pesquisa em Contabilidade*, 7(3).
- Lambert, R.A., & Larcker, D.F. (1985). Golden parachutes, executive decision-making, and shareholder wealth. *Journal of Accounting and Economics*, 7(1), 179-203.  
<https://ideas.repec.org/a/eee/jaecon/v7y1985i1-3p179-203.html>.
- Lemmon, M., Roberts, M. & Zender, J. F. (2008) Back to the Beginning: Persistence and the Cross-Section of Corporate Capital Structure. *The Journal of Finance*, 63, 1-37.
- Lewellen, J., & Lewellen, K. (2022). Institutional Investors and Corporate Governance: The Incentive to Be Engaged. *The Journal of Finance (New York)*, 77(1), 213-264.
- Liu, W. A. (2006). Liquidity-augmented capital asset pricing model. *Journal of Financial Economics*, 82, 631-671.  
<https://www.sciencedirect.com/science/article/abs/pii/S0304405X0600064X>
- Loyola, G., & Portilla, Y. (2014). Reward for failure and executive compensation in institutional investors. *Finance Research Letters*, 11(4), 349-361.  
<https://www.sciencedirect.com/science/article/abs/pii/S1544612314000440>.
- Luo, J., & Wang, W. (2023). Do managers' professional connections benefit their firms in mergers and acquisitions: Chinese evidence. *Review of Quantitative Finance and Accounting*, 60(2), 679-713.
- Lys, T., Rusticus, T., & Sletten, E. (2007). *Are large CEOs severance packages justified? The underlying factors of CEO severance*. Kellogg Insight. Kellogg School of Management, Northwestern University.
- Machlin, J.C. Choe, H., & Miles, J.A. (1993). Effects of golden parachutes on takeover activity. *The Journal of Law and Economics*, 36(2), 861-876.  
<https://ideas.repec.org/a/ucp/jlawec/v36y1993i2p861-76.html>.
- Mahoney, L.S., & Thorn, L. (2006). An examination of the structure of executive compensation and corporate social responsibility: a Canadian investigation. *Journal of Business Ethics*, 69(2), 149-162. <https://link.springer.com/article/10.1007/s10551-006-9073-x>.
- Mansi, S. A, Wald, J. K., & Zhang, A. (2016). Severance agreements and the cost of debt. *Journal of Corporate Finance*, 41(c), 426-444.  
<https://ideas.repec.org/a/eee/corfin/v41y2016icp426-444.html>.
- Maskara, P., & Miller, L. S. (2017). Do golden parachutes matter? Evidence from firms that ultimately filed for bankruptcy. *The Quarterly Review of Economics and Finance*.  
<https://ur.booksc.me/book/65457496/a27cba>.
- Meng, Y., & Sutton, N. (2022). The evolution of bidder gains and acquisition discounts in M&A. *Journal of Banking & Finance*, 143, 106574.

- Murphy, K.J., & Zbojnik, J. (2004). CEO pay and appointments: a market-based explanation for recent trends. *The American Economic Review*, 94(2), 192-196. <https://www.aeaweb.org/articles?id=10.1257/0002828041302262>.
- Myers, S. C. (1984). The Capital Structure Puzzle. *The Journal of Finance*, 39(3), 574-592. <https://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1984.tb03646.x>
- Okafor, C. E. & Ujah, N. U. (2020). Executive compensation and corporate social responsibility: does a golden parachute matter?. *International Journal of Managerial Finance*, 16(5), 575-598. <https://econpapers.repec.org/article/emeijmfpp/ijmf-12-2018-0379.htm>.
- Ongsakul, V., Jiraporn, P., & Treepongkaruna, S. (2021). Does managerial ownership influence corporate social responsibility (CSR)? The role of economic policy uncertainty. *Accounting & Finance*, 61(1), 763-779.
- Ozkan, A., & Ozkan, N. (2004). Corporate cash holdings: an empirical investigation of UK companies. *Journal of Banking & Finance*, 28(9), 2103-2134. <https://www.sciencedirect.com/science/article/abs/pii/S0378426603002292>
- Portal, M. T., Zani, J., & da Silva, C. E. S. (2012, Jan-Apr). Financial frictions and substitution between internal and external funds in publicly traded Brazilian companies. *Revista Contabilidade & Finanças*, 23(58), 19-32. [http://old.scielo.br/scielo.php?pid=S1519\\_70772012000100002&script=sci\\_abstract](http://old.scielo.br/scielo.php?pid=S1519_70772012000100002&script=sci_abstract)
- Rainville, M., Unlu, E., & Wu, J. J. (2022). How do stronger creditor rights impact corporate acquisition activity and quality? *Journal of Banking & Finance*, 144, 106625.
- Rajan R.G., & Zingales. (1995). What Do We Know About Capital Structure? Some Evidence from International Data, *Journal of Finance*, 50, 1421-1460. <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1540-6261.1995.tb05184.x>.
- Rau, P.R., & Xu, J. (2013). How do ex ante severance pay contracts fit into optimal executive incentive schemes? *Journal of Accounting Research*, 51(3), 631-671. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2181167](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2181167).
- Roberts, M. R., & Whited, T. M. (2013). Endogeneity in empirical corporate finance. In G.M. Constantinides, M. Harris, R. M. Stulz (Eds.), *Handbook of the economics of finance* (Vol. 2, pp. 493-572). Amsterdam: North Holland.
- Rosen, S. (1981). The economics of superstars. *The American Economic Review*, 71(5), 845-858. <https://www.jstor.org/stable/1803469>.
- Rusticus, T. (2006). *Executive severance agreements*. Working paper. University of Pennsylvania.
- Schwab, S., & Thomas, R. (2006). What do CEOs bargain for?: An empirical study of key legal components of CEO employment contracts. *Washington and Lee Law Review*, 63, 231-270. [https://www.academia.edu/18501916/What\\_Do\\_CEOs\\_Bargain\\_For\\_An\\_Empirical\\_Study\\_of\\_Key\\_Legal\\_Components\\_of\\_CEO\\_Employment\\_Contracts](https://www.academia.edu/18501916/What_Do_CEOs_Bargain_For_An_Empirical_Study_of_Key_Legal_Components_of_CEO_Employment_Contracts).
- Shapiro, S. S.; M. B. Wilk. (1965). An analysis of variance test for normality (complete samples). *Biometrika*, 52.
- Shleifer, A., & Vishny, R. W. (1989). Management entrenchment: The case of manager-specific investments. *Journal of Financial Economics*, 25(1), 123-139. [https://doi.org/10.1016/0304-405X\(89\)90099-8](https://doi.org/10.1016/0304-405X(89)90099-8)

- Singh, H., & Harianto, F. (1989). Management-board relationships, takeover risk, and the adoption of golden parachutes. *Academy of Management Journal*, 32(1), 7-24. <https://www.jstor.org/stable/256417>.
- Sonza, I. B., & Kloeckner, G. O. (2014). Governança em estruturas proprietárias concentradas: Novas evidências para o Brasil. *Revista de Administração de São Paulo-RAUSP*, 49(2), 322-338. <https://www.revistas.usp.br/rausp/article/view/86389>.
- Stein, J.C. (1988). Takeover threats and managerial myopia. *Journal of Political Economy*, 96(1), 61-80. <https://econpapers.repec.org/paper/hrvfaseco/3708937.htm>.
- Tervio, M. (2008). The difference that CEOs make: an assignment model approach. *The American Economic Review*, 98(3), 642-668. <https://www.aeaweb.org/articles?id=10.1257/aer.98.3.642>.
- Tirole, J. (2006). *The theory of corporate finance*. Princeton: Princeton University Press.
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *Journal of Finance*, 43, 1-19. <https://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1988.tb02585.x>.
- Tristão, P. A., & Sonza, I. B. (2021). Increase in Leverage Driven by International Financial Reporting Standards Adoption. *Revista de Administração Contemporânea*, 25(4), e200157-e200157.
- Vig, V. (2013, June) Access to Collateral and Corporate Debt Structure: Evidence from a Natural Experiment. *The Journal of Finance*, 68(3), 881-928.
- Villa, J. M. (2016). Diff: simplifying the estimation of difference-in-differences treatment effects. *The Stata Journal*, 16(1), 52-71. <https://journals.sagepub.com/doi/pdf/10.1177/1536867X1601600108>.
- Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.
- Yermack, D. (2006) Golden handshakes: Separation pay for retired and dismissed CEOs. *Journal of Accounting and Economics*, 41(3), 237-256. <https://ideas.repec.org/a/eee/jaecon/v41y2006i3p237-256.html>.
- Zhang, L., Peng, L., Fu, X., Zhang, Z., & Wang, Y. (2023). Alternative corporate governance: Does tax enforcement improve the performance of mergers and acquisitions in China? *Corporate Governance: An International Review*, 31(4), 647-666.
- Zhao, J. (2013). Entrenchment or incentive? CEO employment contracts and acquisition decisions. *Journal of Corporate Finance*, 22, 124-152. <https://www.sciencedirect.com/science/article/abs/pii/S0929119913000412>.
- Zhu, S., Lu, R., Xu, T., Wu, W., & Chen, Y. (2024). Can common institutional owners inhibit bad mergers and acquisitions? Evidence from China. *International Review of Economics & Finance*, 89, 246-266.