Determinants of Long-Term Stock Performance: How Domino's IPO Outperformed Its 2004 Cohort and Surpassed Alphabet

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Abstract

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The dissertation investigates the exceptional long-term performance of Domino's following its 2004 Initial Public Offering (IPO), comparing it to 85 other companies that went public in the United States during the same year. Inspired by various press articles claiming that Domino's outperformed not only its industry peers but also tech giant Google (Alphabet Inc.), this study aims to validate these assertions while identifying the key determinants of long-term IPO performance in general and the specific factors behind Domino's success. The findings confirm that Domino's delivered the highest Long-term returns among its 2004 cohort, challenging traditional assumptions about the dominance of technology companies in generating sustainable financial growth. Regression analysis reveals that Domino's re- markable performance can be attributed to its notably high Sales-to-Assets ratio and significant leverage at the time of the IPO, which reflected operational efficiency and financial discipline. Furthermore, the research acknowledges that Domino's success extends beyond these initial conditions, emphasising how corporate and strategic decisions, including early adoption of digital innovations and a scalable franchising model, enabled the company to thrive across global markets and sustain its exceptional performance.

Keywords: *Domino's, Initial Public Offering (IPO), Long-term stock performance..*

Resumo

Determinantes do Desempenho das ações no Longo Prazo: Como o IPO da Domino's Superou as Empresas de 2004 e Ultrapassou a Alphabet

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A dissertação investiga o desempenho excecional a longo prazo da Domino's após a sua Oferta Pública Inicial (IPO) em 2004, comparando-a com 85 empresas que abriram capital nos Estados Unidos durante o mesmo ano. Inspirada em diversos artigos de imprensa que afirmam que a Domino's superou não apenas os seus concorrentes no setor, mas também a gigante tecnológica Google (Alphabet Inc.), este estudo visa validar essas declarações, identificando simultaneamente os principais determinantes do desempenho a longo prazo das IPOs em geral e os fatores específicos subjacentes ao sucesso da Domino's. Os re- sultados confirmam que a Domino's alcançou os maiores níveis de retorno a longo prazo entre os IPOs realizados em 2004 em estudo, desafiando as noções tradicionais sobre a predominância de empresas tecnológicas na geração de crescimento financeiro sustentável. A análise de regressão revela que o desempenho notável da Domino's pode ser atribuído ao seu rácio vendas/ativos consideravelmente elevado e a uma alavancagem significativa no momento da IPO, refletindo eficiência operacional. Adicionalmente, a investigação re- conhece que o sucesso da Domino's vai além destas condições iniciais, salientando que decisões empresariais e estratégicas, incluindo a adoção precoce de inovações digitais e um modelo de franchising escalável, também contribuíram para que a empresa prosperasse nos mercados globais e mantivesse o seu desempenho excecional.

Palavras-chave: *Domino's, Oferta Pública Inicial (IPO), Desempenho de Longo Prazo das Ações*.

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1. Introdution

Numerous press articles and reports suggest that Domino's has been performing exceptionally well and even outperforming other companies. For instance, Yahoo Finance highlights how Domino's has positioned itself as one of the best-performing companies in the fast-food industry, driven by its ability to innovate and adapt to market changes (Jawad, 2024)[1] . Another article from Yahoo Finance emphasises that Domino's success has been fuelled by its focus on enhancing digital platforms and delivery capabilities, enabling sustained growth in a competitive market (Zacks Equity Research, 2024)[2]. Similarly, the Wall Street Journal in July 2023 referred to Domino's as "the hottest stock" following a strategic partnership with Uber Eats, which significantly expanded its digital delivery reach and boosted investor confidence (Grant, 2023)[3] . Furthermore, Nasdaq reported that Warren Buffett has expressed interest in Domino's stock, underscoring its strong potential for long-term investors (Smith, 2024)[4].

In many of these discussions, Domino's is compared to Google, and they suggest that Domino's has been the one with the best performance. According to CNBC, Domino's has yielded higher returns than Google since both companies went public in 2004, a surprising achievement for a food company competing with a tech giant (Hecht, 2020)[5] . Additionally, TradeSmith highlighted that Domino's has consistently outperformed Google by leveraging innovation and technology to drive efficiency and growth, proving that a food company can rival and surpass prominent tech firms (TradeSmith Editorial Staff, 2021)[6].

This is particularly surprising considering that Domino's is not a technology company but operates in the food industry. Such comparisons are intriguing, especially in an era where technology is a dominant topic frequently associated with exponential growth and innovation. The fact that Domino's, a food company, has outperformed a tech giant like Google, nowadays known as Alphabet Inc., challenges traditional assumptions about the drivers of long-term financial success. This achievement is even more remarkable when contextualized within 2004, the year of Domino's IPO, which was significantly influenced by the tech industry. That period followed the dot-com bubble, a time marked by the rapid emergence of technology companies and

[1]finance.yahoo.com (Retrieved on November 26, 2024)
[2]finance.yahoo.com (Retrieved on November 27, 2024)
[3]www.wsj.com (Retrieved on November 27, 2024)
[4]www.nasdaq.com (Retrieved on November 26, 2024)
[5]www.cnbc.com (Retrieved on September 18, 2024)
[6]tradesmith.com (Retrieved on September 18, 2024)

widespread market fascination with the potential of technological advancements. The dominance of the tech sector during that era shaped market dynamics and investment trends, making Domino's performance even more unexpected and a compelling subject for deeper investigation.

One of the reasons why technology companies often outperform others is their ability to scale rapidly, leverage innovation, and adapt to shifting market demands. Additionally, the tech sector has historically benefited from its association with exponential growth opportunities, driven by advancements in digital infrastructure and evolving consumer needs. Companies like Google, for instance, have dominated markets through innovative technologies and platforms that revolutionized communication, advertising, and access to information. However, what makes Domino's performance particularly remarkable is its ability to integrate these same principles into its operations despite being a food company. Domino's has effectively employed technology to innovate across its delivery systems, digital platforms, and customer engagement strategies. Initiatives such as the pinpoint delivery system, which allows customers to receive their food nearly anywhere, including parks and beaches; a voice ordering system powered by an AI chatbot called "Dom"; and the DPX vehicle, the first specially designed car created to revolutionize pizza delivery, featuring an oven to keep pizzas warm and the capacity to hold up to 80 pizzas, demonstrate how Domino's has transcended traditional expectations of the food industry.

The relevance of this study lies in addressing a widely discussed, yet underexplored phenomenon. While technology dominates contemporary conversations about growth and innovation, numerous press articles highlight that Domino's has been a better investment than Google, a tech giant that also went public in 2004. This comparison is intriguing, but there is a lack of academic research that thoroughly investigates these claims or identifies the underlying factors driving such performance. This study seeks to fill this gap by examining whether these statements are accurate and exploring the factors behind Domino's long-term success.

Rather than limiting the analysis to a direct comparison with Google, this research adopts a broader approach by analysing all companies that conducted their IPOs in 2004. This specific year was chosen because it marks the IPO of Domino's and offers an ideal context to control for market conditions. There are literatures showing that the timing of IPOs is closely related to market characteristics. For instance, Ritter and Welch (2002) argue that market conditions are

among the most critical factors influencing the decision to launch an IPO. They noted that IPO activity decreases substantially during bear markets, whereas "hot markets" see a sharp increase in IPOs due to heightened optimism among investors. By focusing on IPOs from the same year, this study ensures comparability among firms, as they are subject to similar macroeconomic and market conditions. The primary objective of this research is to verify the claims about Domino's exceptional performance by comparing it with the 86 other companies that went public in the United States in 2004. Furthermore, the study aims to identify the determinants of long-term performance for IPOs in general and, subsequently, the specific factors that explain Domino's success and outperformance, highlighting what sets it apart from the other companies in the study.

This study, however, is not without its limitations. While 233 IPOs were completed in the United States in 2004, this research focuses on a sample of 86 companies due to the availability of complete and reliable data. This sample size, although substantial, may introduce some bias, since it does not represent the entirety of firms that went public that year. As a result, the findings should be interpreted with caution, acknowledging that they reflect the performance and characteristics of the analysed sample rather than the entire IPO market in 2004. Nonetheless, this dataset provides a solid foundation to investigate whether it is indeed true that investing $10,000 in each company that went public in 2004 would result in Domino's outperforming the others in the study. Furthermore, it allows for an analysis of the determinants driving Domino's long-term success.

2. Literature Review

An Initial Public Offering (IPO) marks the first time a private company makes its shares available to the public, transitioning into a publicly traded company listed on a stock exchange. Although this shift provides opportunities for a company to raise capital, attract more investors, and enhance market visibility, success in the long run is far from being guaranteed. The transition from a private to a public company also brings challenges and uncertainties that can significantly influence the company's value and long-term performance.

The long-term performance of companies following Initial Public Offerings (IPOs) has raised significant academic interest since there is no consensus on the reasons that explain the observed returns. Pioneering studies, such as those conducted by Jay R. Ritter in 1991 through the article "The Long-Run Performance of Initial Public Offerings," facilitate the understanding of the dynamics that affect newly listed companies. The researcher found that younger firms often demonstrate significant challenges in stabilizing their returns, with a tendency for long-term underperformance, resulting from a combination of determinants, among which we can identify the uncertainty regarding their operational history and capacity to generate sustainable value. More mature companies, on the other hand, tend to demonstrate a more predictable and stable performance, which translates into greater investor confidence (Ritter, 1991).

However, the factors that explain the success or failure of IPOs, in the long run, go beyond simple comparisons of company age at the IPO, although it is proven to be one important determinant. Size, often measured by market capitalisation, is another commonly studied factor. Research by Brav and Paul (1997) suggests that companies with larger capitalisation tend to be more resilient due to their ability to access financial resources more easily and diversify their operations. Nevertheless, the literature highlights that the dynamism and innovation demonstrated by smaller companies often place them in a position to challenge the status quo, especially when they can quickly adapt to market changes (Poulsen and Nielsen, 2017).

Dividend distribution emerges as a relevant indicator of financial stability and commitment to shareholders. Brav et al. (2005) emphasise that regularly distributing dividends indicates a company's ability to generate cash flow, providing greater predictability and attracting investors interested in consistent returns. This perception of solidity can contribute to reducing stock price volatility and aligning the interests of managers and investors. However, this relationship can be

moderated by specific sector characteristics and the levels of reinvestment necessary to sustain growth (Chipeta and Jardine, 2014).

On the other hand, the capital structure of companies and the use of leverage also have a considerable influence on post-IPO performance. Studies by Dhamija and Arora (2017) demonstrate that the strategic use of debt can act as a catalyst for growth, but excessive levels of leverage increase the risk of financial difficulties in adverse economic scenarios. Companies that balance the relationship between debt and assets have a better chance of sustaining growth and minimising risks associated with financial obligations. This financial balance is particularly important for facing market fluctuations and maintaining long-term competitiveness.

The literature also extensively explores the relationship between revenue growth and the capacity for reinvestment in CAPEX (capital expenditure). The trajectory of Domino's, analysed by Groysberg et al. (2021), illustrates how investments in technology and operational expansion can consolidate a leadership position in a competitive market. Companies that demonstrate the ability to adapt, innovate, and reinvest in long-term assets are often seen as better prepared to seize new market opportunities and deal with external pressures. This type of investment signals a commitment to sustainable growth, which is valued by investors seeking consistent returns.

Another widely discussed aspect is the underpricing observed in many IPOs. The practice of pricing shares below market value aims to attract attention and generate demand at the time of issuance, but its long-term effects can be ambiguous. Butler et al. (2014) suggest that although the initial interest of investors may be high, the sustainability of this interest depends on well-planned strategic execution and the continuous perception of value by the market. Companies that manage to transform this initial interest into sustainable and solid growth are ultimately those that achieve better long-term performance (Brav and Gompers, 1997). The sector in which a company operates can add another layer of complexity to its post-IPO performance. Brav and Gompers (1997) suggest that market dynamics and sector characteristics directly influence growth expectations and profit margins. Companies in highly competitive or technologically intensive sectors may face challenges related to volatility, while those in more consolidated sectors generally experience lower variability and a more stable environment for growth (Poulsen and Nielsen, 2017).

The literature also examines the relative importance of initial conditions versus ongoing man-

agement in determining the long-term performance of post-IPO companies. Ritter and Welch (2002) emphasise that initial conditions, such as capital structure and early trading performance, play a critical role in shaping investors' initial perceptions. However, they argue that these factors alone may not be sufficient to sustain long-term growth. In contrast, studies like those of Jain and Kini (1994) highlight the importance of ongoing management capabilities, measured through variables such as reinvestment in CAPEX and diversification strategies, as essential drivers of sustained growth and competitiveness. The comparative analysis of these two dimensions provides a more comprehensive understanding of the factors influencing post-IPO success. Finally, analyzing the long-term performance of companies after an IPO is a complex process that requires consideration of a wide range of interconnected factors. The combination of internal characteristics, market strategies, economic context, and innovation capacity shapes the trajectories of companies, highlighting the importance of a comprehensive approach to understanding the success or failure of IPOs in the capital market.

3. Domino's IPO: Business Foundations, Process, and Market Context

3.1. Pre-IPO and Strategic Objectives

In the year 1960, two brothers, Tom and James Monaghan, borrowed $900 aiming to buy a pizza store in Ypsilanti, Michigan named "DomiNick's" [7] . In the following year, James sold his interest to his brother Tom, who, now the sole owner, renamed the business to "Domino's Pizza". Since the beginning, the company focused on providing a fast and efficient delivery service, which was highly valued by its customers, setting it apart in the competitive sector. Monaghan decided to employ a franchising model, which consists of granting franchisees the right to operate under the Domino's brand, while the company received royalties based on a percentage of their sales. This strategy was used to rapidly expand its operations, and the opening of the first franchise store in 1967 marked the beginning of this approach. By 1983, there were already 1,000 Domino's stores. Since its primary goal was to deliver as quickly as possible, in 1984, Domino's famously introduced the "30-minutes or less" guarantee, which offered free pizza to customers if their order was not delivered within 30 minutes. Although this campaign significantly increased the brand's visibility, the company was ultimately forced to end it due to legal issues. In its place, Domino's introduced the "Total Satisfaction Guarantee" in 1993, assuring customers that if they were dissatisfied with their experience, their pizza would be remade or their money refunded.

Domino's adopted a strategy centered on simplicity, opting for a streamlined menu and avoiding frequent product launches. This approach stood in contrast to competitors like Pizza Hut, which relied on constant menu innovation to drive sales. According to Russell J. Weiner, the longtime COO of Domino's, frequent changes to products and pricing in the fast-food industry could harm operational consistency and compromise overall quality (Meyersohn, 2018) [8].

By 1998, Domino's had expanded to 6,000 stores and introduced an innovative product known as the "Domino's HeatWave Hot Bags", which utilized a patented technology to keep pizza oven-hot throughout the entire home delivery process. Monaghan, Domino's founder, announced its retirement as CEO and sold his 93% stock ownership of the company to Bain Capital Inc, for around $1 billion. David A. Brandon took over as the new CEO and chairman

[7] biz.dominos.com/history _2024-03-13.pdf
[8] money.cnn.com (Retrieved on September 16, 2024)

and led a restructuring of the management team, as well as a modernization of the store design. Domino's launched its first international store in Canada in 1983, and by 2003 it had grown to 2,500 stores abroad.

As the company continued to expand its business, Domino's encountered significant challenges related to its rapid growth and the acquisition by Bain Capital. To maintain this accelerated pace, Domino's acknowledged the need to strengthen its financial base and innovate its operations. Therefore, the decision to go public was driven by a set of strategic goals aimed at maintaining the company's leadership position in a highly competitive industry.

One of the reasons for going public was to eradicate part of the debt that the company had accumulated following its acquisition by Bain Capital. The IPO would allow Domino's to raise capital, thereby decreasing its debt level and reinforcing its financial structure. Additionally, the company sought to accelerate its international expansion. This strategic priority was underscored by David A. Brandon, who noted in an interview with CBS MarketWatch that Domino's already operated in over 50 international markets and identified substantial opportunities for further growth in the coming years (Pizza Marketplace, 2004)[9] . The funds raised through the IPO would enable Domino's to finance the expansion of its network, invest in new technologies, and modernize operations with a particular emphasis on logistical improvements and digitalisation – key aspects critical for adapting to shifting consumer demands and staying competitive during technological advancements. Another objective of the IPO was to provide liquidity to existing investors, particularly as a means of rewarding Bain Capital for its support of the chain. As noted by Brandon, the process was a natural step for a private equity firm to monetize its investment and deliver returns to its stakeholders (Pizza Marketplace, 2004). Simultaneously, becoming a publicly traded company would improve Domino's visibility in the financial market, enhancing its appeal to potential new investors. This increased visibility, coupled with access to capital, aligned with the strategic goal of reinforcing the company's position in the highly competitive food delivery market.

3.2. The IPO Process: Strategy and Initial Market Response

Domino's completed its Initial Public Offering (IPO) on July 13, 2004, debuting on the New York Stock Exchange under the ticker DPZ. At that time, the company was already recognised

[9] www.pizzamarketplace.com (Retrieved on October 3, 2024)

as the largest pizza-delivery chain in the United States. Offering 24.1 million shares, the IPO was initially expected to be priced between $15 and $17 per share[10] . However, due to limited demand, the managing underwriters - J.P. Morgan Chase and Citigroup - set the final price at $14 per share.

Shortly after trading began, the stock price fell, never surpassing $14 during its first day and closing at $13.50. The downward trend continued on the second day, reinforcing the perception that the IPO was met with scepticism by investors, who viewed it as overpriced. This early performance highlighted concerns about Domino's future, particularly in light of intense competition and margin pressures within the fast-food and pizza delivery industry. Additionally, the market's response was partly a reflection of an unfavourable economic environment. According to Munarriz, a Motley Fool's analyst, the timing of the IPO was less than ideal, citing broader challenges faced by the food sector, such as the struggles of Krispy Kreme and the underperformance of Papa John's, which collectively contributed to a challenging environment for Domino's (Pizza Marketplace, 2004). Additionally, analysts raised concerns about Domino's long-term debt resulting from its acquisition by Bain Capital, as previously mentioned. These concerns further deepened investors' sentiment of doubt about its future growth.

Despite the initial market reaction, David Brandon, who was the CEO of Domino's at the time, conveyed optimism about the company's long-term prospects. He downplayed the significance of the IPO's underwhelming debut price, emphasising that the company's future trajectory held greater importance than short-term market fluctuations. In an interview with MarketWatch, Brandon stated that Domino's valuation aligned well with comparable companies such as McDonald's, Wendy's, and Yum Brands, reinforcing his confidence in the company's strategic positioning within the industry. Further supporting this optimism, a Standard & Poor's report dated July 13 upgraded Domino's debt outlook from "stable" to "positive." While recognising issues such as high debt levels, limited product diversification, and intense market competition, the report also underscored that these challenges were counterbalanced by the company's strong brand reputation, cost-efficient operational model, and improved profitability (Pizza Marketplace, 2004).

Overall, despite the challenging market reception and investor concerns about the sustainable growth potential of Domino's, the IPO marked a pivotal moment for the company, as it provided

[10]www.fool.com (Retrieved on November 27, 2024)

the financial means to restructure and to finance the modernization of its operations and global expansion.

3.3. Capital Market context in 2024

The global capital markets in 2004, particularly in the United States, experienced a period of volatility and uncertainty influenced by past events such as the dot-com bubble [11] and geopolitical tensions. However, it was also a notable year for the stock market, as it witnessed numerous significant IPOs, reflecting the market's gradual transition into a phase of recovery and expansion.

The dot-com bubble, characterised by speculative investments in technology and internet-based companies, led to unsustainable valuation levels throughout the 1990s. Its collapse between 2000 and 2002 triggered a severe recession in the United States, eroding investor confidence. By 2004, however, signs of recovery were becoming evident. Prominent IPOs, such as those of Google (now part of Alphabet Inc.) and Salesforce.com, reflected this shift. Google, an internet-related services and products provider, priced its IPO at $85 per share, with an 18% increase on its first trading day. Similarly, Salesforce.com, a cloud-based computing company, went public at $11 per share and closed at $17.20, achieving a 56% gain. These results underscored a renewed optimism among investors and highlighted the market's gradual stabilization.

The September 11, 2001 attacks on prominent locations in New York City and Washington, D.C., intensified the challenges faced by the capital markets in the years leading up to 2004. Already weakened by the burst of the dot-com bubble, the market was further destabilised by this event, as it generated significant uncertainty and intensified investor risk aversion. Consequently, this event reintroduced a sense of realism to the IPO market, compelling investors to focus on and demand companies that demonstrated tangible prospects and profitability, rather than those relying solely on speculative trends.

Geopolitical events also played a pivotal role in 2004, particularly the Iraq War, which began on March 20, 2003. This conflict created uncertainties in the Middle East and disrupted energy markets. Oil prices surged to $50 per barrel as global demand intensified and concerns over supply disruptions grew. As noted by a Forbes article published in December 2004, these higher prices, while causing frustration for drivers, redirected investor focus towards domestic

[11] www.thestockdork.com(Retrieved on November 27, 2024)

producers, shipping and pipeline companies, and even marginal oil fields that were typically overlooked by major corporations such as Exxon Mobil, Chevron, and ConocoPhillips (Forbes, 2004)[12] . With this drastic surge in prices, numerous IPOs emerged from companies operating in the energy or energy-related industries. Examples include TODCO (THE), an operator offering specialised drilling solutions on a contractual basis, and Jed Oil (JDO), a company that explores and produces natural gas and oil.

Beyond the tech and energy sectors, the IPO market in 2004 demonstrated remarkable diversity. A total of 233 Initial Public Offerings were recorded, a substantial increase from the 80 IPOs in 2003, representing growth of 191.25%. Among these were companies from a variety of industries, including Build-a-Bear Workshop, known for allowing customers to personalize stuffed toys with different outfits and accessories, launched its IPO at $20 per share, achieving a 25.5% increase by the end of its first trading day. DreamWorks Animation, a studio specialising in animated films, debuted at $28 per share, with its stock closing at $38.75 on the same day. Volterra Semiconductor, a company engaged in the development of innovative power management technologies for computing and consumer electronics, priced its IPO at $8 per share, with a modest gain of 3.13% at market close. Conversely, CBRE, a global corporation offering services in commercial real estate and investments, entered the public market at $19 per share but saw a 3.42% decline in its stock value by the end of its first trading day. While many IPOs in 2004 recorded immediate price increases, not all followed this trend, underscoring the varied reactions of invertors based on different factors such as the industry, specific company characteristics, lead manager, among others.

Overall, 2004 stands out as a turning point for the capital markets, marking a transition from a period of uncertainty caused by the dot-com bubble and geopolitical disruptions to one of gradual recovery and the return of investor confidence. The significant increase in the number of Initial Public Offerings (IPOs) across different industries reflected not only the resilience of the markets but also a shift in investor priorities, focusing on companies with tangible prospects and sustainable growth.

[12]www.forbes.com(Retrieved on November 27, 2024)

4. Data description

4.1. Data Collection Process

4.1.1 Time period Selected

This study employs a cross-sectional analysis to investigate the determinants of the long-term performance of IPOs conducted in the United States in 2004. The aim is to explain variations in long-term returns by considering both initial conditions at the time of the IPO and subsequent ongoing management changes.

The year 2004 was chosen as the focus of this study for two main reasons. First, it marks the IPO of Domino's, which serves as the central subject of this analysis. Second, it provides an appropriate context for controlling market conditions and macroeconomic changes that impacted all companies in the sample.

As noted by Ritter and Welch (2002), market conditions play a significant role in IPO activity and subsequent performance. In bear markets, IPO activity tends to decline sharply due to reduced investor confidence. Conversely, "hot markets", characterised by optimism and economic growth, witness a surge in IPO activity as firms take advantage of favourable conditions. The year 2004 represents a period of recovery and renewed optimism, following the downturn caused by the dot-com bubble and geopolitical uncertainties. By concentrating on IPOs conducted during this year, the study ensures comparability among the firms analysed, as they were exposed to similar macroeconomic and market conditions.

4.1.2 Data Collection Process

To identify the IPO sample, an extensive search process was conducted using the IPOscoop database[13] , which provides comprehensive information on all IPOs conducted in the United States between 2000 and 2020. For this study, only the IPOs conducted in 2004 were selected.

After retrieving an initial list of IPOs from IPOscoop, each company was manually verified using information available in WRDS. This procedure was repeated for 233 IPOs initially identified to ensure that each company was present in the Center for Research in Security Prices (CRSP) database and had sufficient information available for performance evaluation. Addition-

[13]www.iposcoop.com (Retrieved on September 23, 2024)

ally, each IPO was cross-checked to confirm that the IPO date recorded in IPOscoop matched the start date of data availability in CRSP and that the first trading day price corresponded with the records in both databases. Following this verification process, the sample for PQ1 consisted of 102 companies. All prices and dividends were subsequently adjusted for any stock split that occurred.

Daily stock prices and cash-out dividends were collected from CRSP, while the explanatory variables (determinants) were retrieved from Compustat. During the extraction process from Compustat, some companies were found to lack available data for certain variables. To address this limitation, additional information was sought from annual reports, which enabled data recovery in some cases. However, companies for which no information could be retrieved were excluded from the analysis.

Furthermore, companies with less than one year of activity were excluded. This included firms acquired before the end of the 2005 fiscal year (as the study is based on fiscal years) or those that went bankrupt within one year. These exclusions were necessary as such companies did not permit the calculation of long-term performance. Ultimately, the final sample, referred to as PQ2, consisted of 86 companies. The process leading to the final number of companies included in the analysis is illustrated in Figure 1.

Figure 1: Data Interation Process

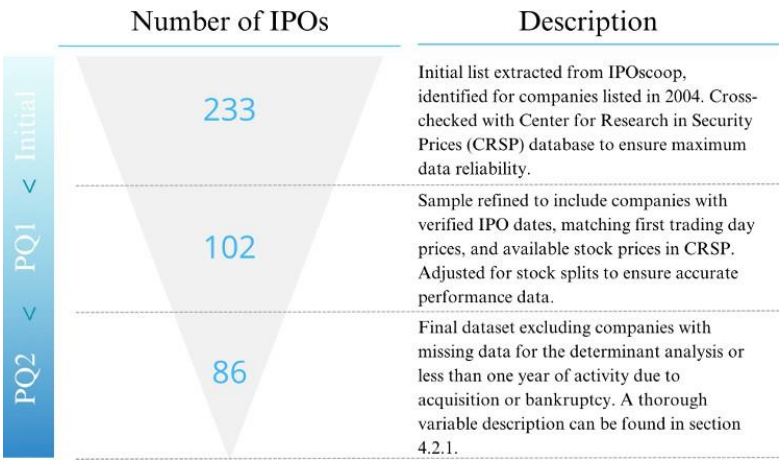
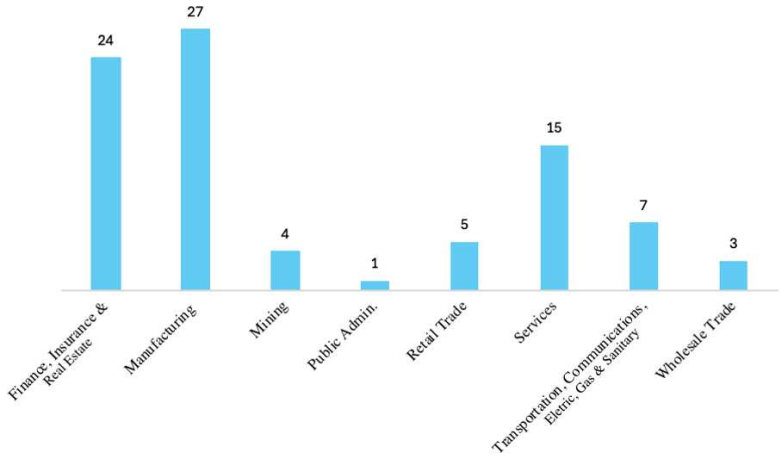


Figure 2 demonstrates the distribution of IPOs by industry, providing additional insights into the composition of the sample and the diversity of sectors represented. Industry classification

was based on SIC codes[14] , specifically utilizing the first two digits of the code. To address the limited representation of certain industries within the sample, some industries were grouped to present a clearer overview of the data distribution. For instance, the categories "Transportation, Communications, Electric, Gas, and Sanitary Services" were combined into a single grouping, as were "Finance, Insurance, and Real Estate". This grouping approach was essential to avoid overly detailed classifications, which could have resulted in categories with very few companies, thereby reducing the interpretability of the industry composition.

Nevertheless, the final industry distribution remains unbalanced, reflecting the natural concentration of IPOs in specific sectors during 2004, with certain industries being underrepresented. For example, Manufacturing (27 companies) and Finance, Insurance, and Real Estate (24 companies) dominate the sample, whereas other sectors, such as Retail Trade - where Domino's is classified - are represented by only five companies.

Figure 2: Sample distribution and number of IPOs by Industry



The following table presents the descriptive statistics for all independent variables included in the specific analysis. Table 1 provides a summary of the key measures for each variable. This summary illustrates the distribution and variability of the dataset, offering insights into its general characteristics across the sample of 86 IPOs conducted in 2004.

[14]www.naics.com (Retrieved on November 7, 2024)

Table 1: Summary Statistics of Variables

Variable	Min.	1st Quartile	Median	Mean	Std. Dev.	3rd Quartile	Max.
1st Day PxChng (%)	-0.135	0.008	0.103	0.136	0.175	0.237	1.036
CAPEX/Assets Initial	0.000	0.011	0.023	0.093	0.378	0.054	3.433
CAPEX/Assets Growth (%)	-1.000	-0.554	0.000	0.476	1.944	0.666	11.772
Size Initial	83.97	331.1	520.2	1581.2	5,772	819.02	51,459
Size Growth (%)	-0.942	-0.464	0.047	11.000	54.587	5.079	482.287
Sales/Assets Initial	0.001	0.183	0.512	0.693	0.686	0.909	3.261
Sales/Assets Growth (%)	-0.993	-0.241	0.026	10.140	74.402	0.567	680.842
D/A Initial	0.029	0.175	0.429	0.466	0.340	0.669	2.229
D/A Growth (%)	-0.644	-0.063	0.224	1.150	3.294	0.816	25.544
Firm Age	0.000	5.000	8.000	19.593	27.439	22.00	124.00

From Table 1, several observations can be made regarding the sample's variables. For instance, the variable Size_Growth exhibits substantial variability, with a wide range between its minimum (-0.94) and maximum (482) and a high standard deviation, indicating significant differences in post-IPO size expansion across firms. Similarly, the variable Size_Initial demonstrates a high maximum value (approximately 51,500) and a considerable standard deviation of 5,772, reflecting substantial disparities in the scale of firms at the time of their IPOs. Additionally, the Firm Age variable ranges from newly established companies (minimum = 0, representing firms founded in the same year as their IPO) and century-old companies (maximum = 124). This diversity highlights the extent of maturity levels in the dataset. Furthermore, CAPEX/Assets_Growth and D/A_Growth exhibit considerable disparity, with negative minimum values suggesting that some firms reduced investments or deleveraged post-IPO. These variations underscore the importance of further analysis to understand their influence on long-term IPO performance.

4.2. Long-term performance determinants and Hypotheses Development

This section outlines the methodology used to identify the explanatory variables incorporated into the linear regression model for investigating the determinants of long-term performance. Each independent variable included in the analysis is detailed, with an explanation of its relevance to the study supported by empirical evidence. Where applicable, the section also describes specific processes or transformations applied to the variables, such as the creation of dummy variables or the use of particular formulas, not covered in section 4.1.2 Data Collec-

tion Process. The corresponding hypotheses for each variable are also presented. Finally, the section provides an overview of the model-building approach, emphasising the key statistical assumptions underlying the Ordinary Least Squares (OLS) methodology. A summary table is also included to present an overview of all explanatory variables used in the analysis.

4.2.1 Identification and measurement of variables for regression

The dependent variable in this study is the long-term return, calculated as the ratio of the final return of the last fiscal year available to the return on December 31, 2004, minus one. These returns incorporate dividend payments and were adjusted to any stock split that occurred. This measure was chosen to capture the performance of companies from their IPO in 2004 until the last fiscal year during which they remained publicly listed. However, when using this variable in the regression model, several statistical issues emerged, including violations of normality assumptions, heteroscedasticity, and the presence of outliers. Notably, Domino's itself was identified as an outlier, which posed a challenge since outliers represent extreme values that deviate significantly from the norm, potentially biasing the explanatory power of the model. Given that the focus of this study is Domino's, excluding it from the model was not a viable option. To address these issues, the logarithm of the dependent variable was applied, enhancing robustness and ensuring compliance with statistical assumptions. In addition to the dependent variable, the analysis includes a range of explanatory variables identified from relevant literature and aligned with the study's hypotheses. Below is a table summarizing these variables:

Table 2: Explanatory Variables Overview

Variable	Variable Name	Definition
Firm Size	Ln(size_Initial)	Natural Log of Market Cap at IPO year
	size_Growth (%)	Market Capitalisation growth rate from t=2004 to t=T
Firm Age	Ln(1+ Firm Age)	Natural Log of Firm Age at IPO Date
Sales/Assets Ratio	Sales/Assets_Initial	Sales/Assets Ratio at IPO year
	Sales/Assets_Growth (%)	Sales-to-Assets growth rate from t=2004 to t=T
Leverage Ratio	D/A_Initial	Debt/Assets Ratio at IPO year
	D/A_Growth (%)	Debt/Assets growth rate from t=2004 to t=T
CAPEX/Assets Ratio	CAPEX/Assets_Initial	CAPEX/Assets Ratio at IPO year
	CAPEX/Assets_Growth (%)	CAPEX-to-Assets growth rate from t=2004 to t=T
First Day Market Reaction	1st Day PxChng (%)	Percentage Change between 1st trading day price and IPO price
Dividends	Dummy_Dividends_Initial	1 if dividends were distributed at IPO year
	Dummy_Dividends_Change	1 if no change in Dividend Policy
Lead Manager	Dummy_LeadManager	1 if underwritten by at least one of Domino's Lead Managers

The explanatory variables will be detailed in the following subsections, following the structure outlined in the introduction to this section. The relevance of each variable to the study, its empirical foundation, and any specific data processing steps will be explained, along with the corresponding hypothesis presented.

4.2.1.1 Firm Size

Research suggest that the size of the issuing company can significantly impact the long-term performance of an IPO. Larger firms are often perceived as indicators of higher quality, with their size implying reduced uncertainty and better long-term outcomes (Ritter, 1991). Similarly, Poulsen and Nielsen (2017), in their study of Scandinavian IPOs, identified firm size as a key factor in explaining long-term IPO performance. Commonly used metrics for firm size includes market capitalisation (Ritter, 1991) and total assets (Poulsen and Nielsen, 2017). In this study, market capitalisation is employed as it directly measures the firm's current size, reflecting investor expectations regarding its growth potential and perceived risk. To assess whether firm size has a positive relationship with long-term performance, two specific variables are included in the analysis:

Size_Initial: This variable reflects the initial size of the company at the time of the IPO, measured as the natural logarithm of the market capitalisation on December 31, 2004. Applying the logarithm reduces the influence of outliers and ensures a more balanced representation of smaller and larger firms.

Size_Growth: This variable captures the ongoing growth of the firm's size, evaluating whether the expansion of the company after its IPO contributes positively to long-term performance. The hypothesis tested is calculated as:

$$\text{Size\_Growth} = \frac{\text{Last Fiscal Market Cap}}{\text{Market Cap at 31/12/2004}} - 1$$

The denominator reflects the market capitalisation on December 31, 2004, consistent across all companies. The numerator corresponds to the last observed market capitalisation, which varies depending on each firm. For companies still listed, it corresponds to December 31, 2023; for delisted firms, it refers to the most recent fiscal year prior to delisting.

Hypothesis 1a:
There is a positive relationship between the initial size of the firm and long-term IPO performance.

Hypothesis 1b:
There is a positive relationship between the growth of firm size and long-term IPO performance.

4.2.1.2 Firm age

The age of a firm is determined by subtracting the founding year from the IPO year. This factor is associated with the uncertainty hypothesis and is generally expected to have a positive relationship with IPO performance, as older companies typically present lower levels of uncertainty. Research by Ritter (1991) provides evidence of a strong and positive relationship between firm age and long-term IPO performance, noting that younger firms often face greater challenges in sustaining long-term returns compared to more established ones. Conversely, a study by Goergen et al. (2007) suggests that firm age at the time of IPO may not significantly impact long-term performance, indicating that the relationship could vary depending on other contextual factors. To address potential outliers in the data - such as century - old firms or companies founded in the same year as their IPO - the natural logarithm of the firm age at the time of IPO was applied. Additionally, a value of + 1 was added to the firm age prior to the logarithm transformation to account for companies where the firm age is zero, which cannot be directly transformed logarithmically.

Hypothesis 2:
There is a positive relationship between firm maturity and the long-term performance.

4.2.1.3 Sales/Assets

Although no prior studies have explicity examined sales-to-assets as a determinant of long-term performance, this metric serves as a key indicator of operational efficiency. It reflects a company's ability to effectively utilize its assets to generate revenue, thereby signalling sustainability and profitability. High efficiency in this context can enhance investor confidence, potentially increasing demand for the company's shares and contributing to strong performance over time. In this study, sales are used as a proxy for revenues.

Hypothesis 3a:

There is a positive relationship between initial sales/assets with long-term IPO performance.

Hypothesis 3b:

There is a positive relationship between the growth of sales/assets with long-term IPO performance.

4.2.1.4 Leverage Ratio

In this study, financial leverage is measured using debt-to-assets ratio. Leverage plays a significant role in corporate finance by aligning management and shareholder interests (eliminating agency costs), as debt can incentivise efficient resource allocation through the discipline imposed by the risk of default (Jensen, 1986). Additionally, it provides tax benefits through interest payment deductions (Berk et al., 2013). However, higher leverage also introduces financial distress risks, such as increased probabilities of default and bankruptcy costs, which can negatively impact firm performance. Jensen (1986) observes that firms often maintain leverage levels below the optimal threshold to preserve managerial flexibility. Under the assumption that most firms underutilize leverage, a higher debt-to-assets ratio is expected to positively influence long-term IPO performance.

Hypothesis 4a:

There is a positive relationship between initial firm leverage and long-term performance.

Hypothesis 4b:

There is a positive relationship between growth firm leverage and long-term performance.

4.2.1.5 CAPEX/Assets

Capital expenditure (CAPEX) represents a firm's investment in long-term assets, emphasising its commitment to growth and operational improvement. Although not extensively studied as a determinant of long-term IPO performance, higher levels of CAPEX can indicate proactive management strategies aimed at enhancing efficiency, expanding operations, and maintaining competitiveness, which are often associated with higher future returns and long-term growth.

In this study, CAPEX is scaled by total assets to account for firm size, as larger firms typically invest more in absolute terms. Dividing by total assets standardizes the measure, facilitating comparisons across firms of different sizes. During the data collection process, two companies

in the sample were found to have missing CAPEX data. To avoid excluding these firms and reducing the sample size, the sample mean for CAPEX/Assets was imputed for these companies, ensuring their inclusion in the analysis without introducing significant bias.

Hypothesis 5a:
There is a positive relationship between initial CAPEX/Assets and long-term IPO performance.

Hypothesis 5b:
There is a positive relationship between the growth in CAPEX/Assets and long-term IPO performance.

4.2.1.6 First Day Market Reaction

The first-day price change reflects the extent of underpricing, a common phenomenon in IPOs where the offering price is intentionally set below the anticipated market value. This strategy is often employed to attract investors, ensure the success of the offering, and stimulate trading activity on the first day. Underpricing typically results in significant price increases on the first day of trading, as demand from investors pushes the stock price upward. The first-day price change is calculated as the percentage difference between the first-day closing price and the IPO price, using the following formula:

$$\text{1st Day Price Change} = \frac{\text{1st Trading Day Closing Price}}{\text{IPO Price}} - 1$$

Ritter (1991), in his study of long-term IPO performance, found that while underpricing creates short-term gains for initial investors, it is often associated with weaker long-term performance. This outcome is attributed to the potential overvaluation that arises from the initial market enthusiasm, which can lead to price corrections in the subsequent months or years.

Hypothesis 6:
There is a negative relationship between the first-day price change and long-term IPO performance.

4.2.1.7 Dividends

Dividends are often viewed as indicators of a company's financial stability and management's confidence in its future performance (Lintner, 1956; Bhattacharya, 1979). Firms that consis-

tently pay dividends tend to reduce uncertainty and enhance investor confidence, which can positively influence long-term performance. However, not all companies benefit equally, as dividend policies often depend on factors like industry characteristics, growth prospects, and the firm's lifecycle stage (Fama and French, 2001). In this study, an initial approach aimed to calculate dividend growth using the formula: Last Dividend/ First Dividend – 1. However, this method proved unsuitable for companies that either did not distribute dividends initially or began distributing them at a later stage, resulting in undefined outcomes. To address this limitation, two dummy variables were introduced to evaluate the impact of dividends on long-term IPO performance:

a. Dummy_Dividends_Initial: Indicates whether a company distributed dividends at the time of the IPO (1 = dividends distributed initially; 0 = no dividends distributed).

b. Dummy_Dividends_Change: Reflects whether a company maintained its initial policy over time (1 = no change in policy; 0 = policy change, such as starting or ceasing to distribute dividends).

Hypothesis 7a:
There is a positive relationship between the initial distribution of dividends and long-term IPO performance.

Hypothesis 7b:
There is a positive relationship between maintaining a consistent dividend policy and long-term IPO performance.

4.2.1.8 Lead Manager

The reputation of underwriters, particularly lead managers, is a critical factor influencing IPO outcomes. Prestigious underwriters enhance investor confidence through their due diligence and market expertise, often resulting in superior long-term performance for the firms they support (Carter and Manaster, 1990; Loughran and Ritter, 2004). Lead managers can also provide complementary strengths to the underwriting process, improving pricing accuracy and post-IPO market stability. To evaluate the impact of underwriters on long-term IPO performance, the variable Dummy_Lead_Manager is introduced. It indicates whether an IPO was underwritten by at least one of Domino's joint lead managers - Citigroup or J.P. Morgan. A value of 1 is assigned if either was involved, and 0 otherwise.

Hypothesis 8:

There is a positive relationship between the involvement of Citigroup or J.P. Morgan as joint lead underwriters and long-term IPO performance.

4.2.2 Model Building Approach

This study employs the Ordinary Least Squares (OLS) method for regression analysis to estimate the parameters of a linear regression model. OLS minimizes the sum of squared differences between the observed long-term returns and the predicted values, based on a linear relationship with explanatory variables (Stock and Watson, 2020). The general structure of the model is represented as:

$$Y = X\beta + \epsilon$$

Where Y represents the dependent variable (variation in long-term returns), X is the matrix of explanatory variables, including a column of ones for the intercept, β are the coefficients to be estimated, and ϵ represents the error term. To construct an effective regression model and ensure reliable results, two key considerations are noted:

- Omitted Variable Bias: Failing to include a relevant variable that is correlated both with the dependent variable and at least one of the regressors can result in biased estimates, negatively affecting the model's accuracy (Stock and Watson, 2020).
- Inclusion of Irrelevant Variables: Adding variables with no significant effect (with a beta coefficient of zero) increases standard errors, reduces the reliability of t-statistics, and raises the risk of committing Type II errors (Verbeek, 2017).

To mitigate these issues, explanatory variables are selected based on relevance from prior research, economic theory, and logical reasoning, as explained in section 4.2.1 The model estimation begins with an OLS regression that includes all identified explanatory variables, resulting in a full model. Subsequently, a stepwise selection method called Akaike's Information Criterion (AIC) is employed.The AIC adds and drops variables step by step, shaping the model to fit best. It keeps a balance between how well the model fits and how simple it is by excluding unnecessary parameters. The aim is to find a model that optimally explains long-term returns while remaining simple.

Additionally, the F-statistic and adjusted R-squared check how good the model is. The F-

statistic tests if all the coefficients are equal to zero, analysing if the model is statistically significant. The adjusted R-squared shows how much of the dependent variable's change is explained by the independent ones, accounting for the number of variables employed in the model. Unlike regular R-squared, it lowers the explanatory power for adding variables, helping avoid overfitting and giving a clearer view of the model's strength (Stock and Watson, 2020).

5. Results and Analysis

In this chapter, the results derived from the methodology outlined in Chapter 4 are analysed. The discussion is organized into three main sections, each addressing critical aspects of the research.

The first section examines the long-term returns of all companies included in the sample, aiming to answer the first research question: whether Domino's outperformed the IPOs conducted in 2004. This analysis provides a comparative perspective on the performance trajectories within the sample.

The second section focuses on the regression models employed to identify the independent variables that explain long-term performance across the sample of firms that went public in 2004. By determining the general factors influencing IPO success over time, this section establishes the foundation for a more detailed exploration of Domino's performance.

The third and final section builds upon the findings of the previous sections. After confirming whether Domino's achieved the best performance and identifying the factors influencing long-term IPO success in general, this section shifts focus to an in-depth analysis of Domino's. Here, the aim is to address the second research question: what are the key determinants driving Domino's extraordinary long-term success? This detailed examination seeks to explain what contributed to Domino's remarkable performance.

5.1. Performance Overview – Dominance of Domino's Performance

The analysis of long-term performance for companies that went public in the United States in 2004 unequivocally establishes Domino's as the standout performer. To assess this, the dependent variable, ln(Long-term Return), was calculated to represent the returns from an initial investment of $10,000 in each IPO conducted in 2004 at its offering price, held until the last fiscal year in which the company remained publicly listed. The formula used is as follows:

$$\ln(\text{Long-term Return}) = \ln\left(\frac{\text{Last Fiscal Return}}{\text{Initial Fiscal Return}}\right)$$

Where:

- Last Fiscal Return= #Shares → (Last Observed Price + Dividend per Share)

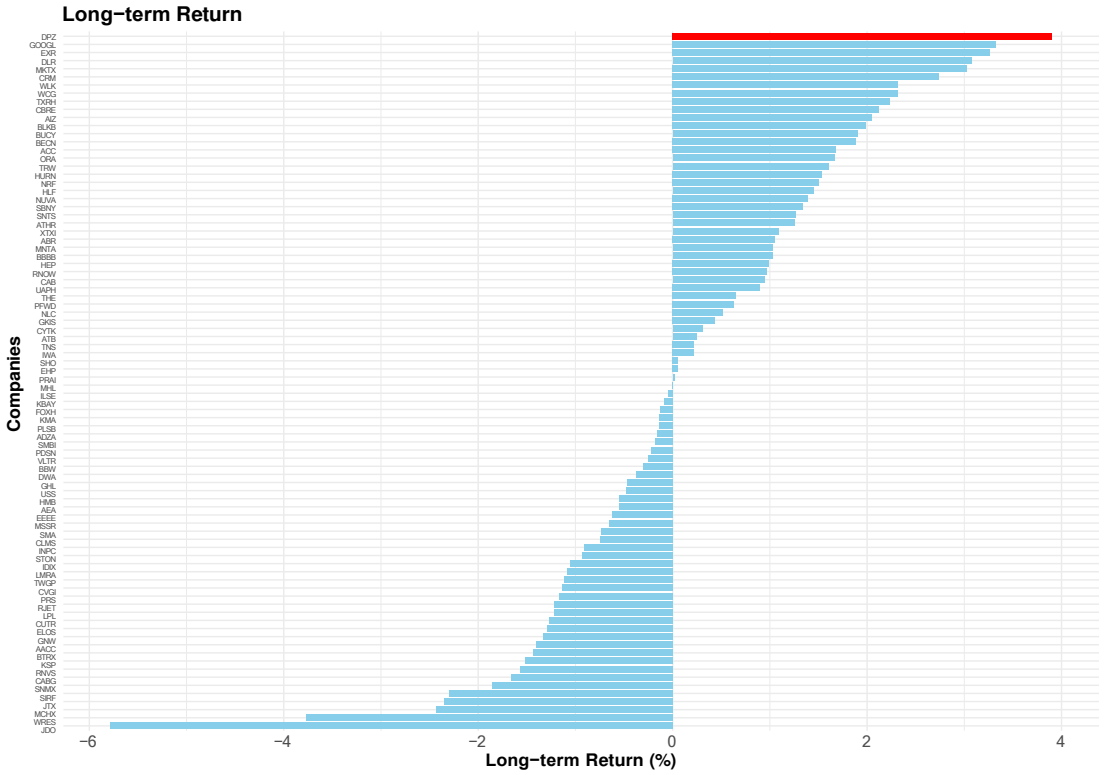
- Initial Fiscal Return = #Shares → (Price at 31/12/2004 + Dividend per Share)

- #Shares = $\frac{\$10{,}000}{\text{Price at IPO}}$

This approach ensures that the number of shares remains fixed, determined by the initial $10,000 investment at the IPO price, while the changes in performance are driven by price appreciation and dividends distributed over time. All prices used in the calculation are adjusted for any stock splits to ensure consistency and comparability across the sample.

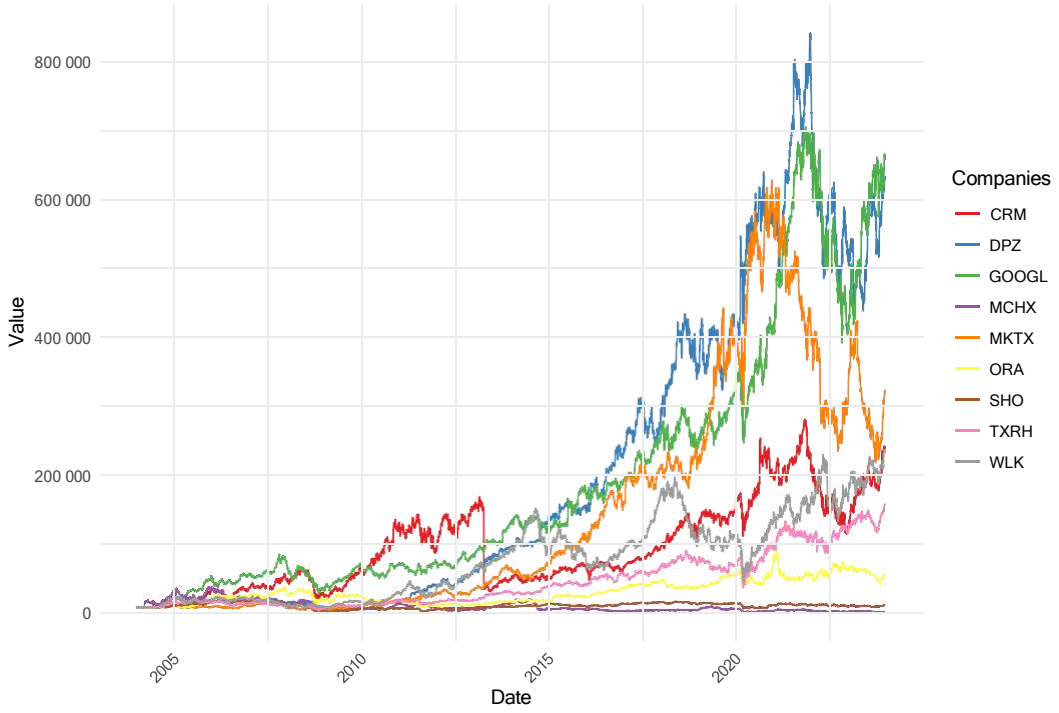
The results of this calculation are summarized in Figure 3, which ranks all 86 companies based on their long-term performance. Domino's recorded the highest long-term return among all IPOs analysed (highlighted in red), significantly outperforming not only companies from its own industry but also major technology firms, such as Google (Alphabet Inc.), which were considered dominant players in 2004 due to their scalability and innovation potential. This finding confirms the claims made in various press articles, some of which were referenced in Chapter 1 - Introduction, identifying Domino's as the standout performer of its cohort. This confirmation, illustrated in Figure 3, serves as the foundation for subsequent analysis, guiding the exploration of factors driving Domino's exceptional performance relative to the IPOs conducted in 2004.

Figure 3: Natural Log of Long-term Return by Company



To further illustrate Domino's remarkable performance, Figure 4 presents the cumulative daily returns of selected companies that went public in 2004. Although the graph includes only a subset of firms for visual clarity, it reflects the broader trend across the entire sample: Domino's consistently maintained a strong upward trajectory, establishing itself as a leader in cumulative performance. While many other IPOs exhibited initial gains followed by stagnation or decline, this visual comparison underscores Domino's dominance, not only in absolute long-term returns but also in its consistent performance over time. For a more comprehensive comparison, an extended version of this figure, including all companies in the sample, is available in the appendices (see Appendix 7.1). Evidence from the broader dataset confirms that Domino's demonstrated superior performance compared to the included IPOs conducted in 2004.

Figure 4: Cumulative Daily Returns of Selected Companies (2004–2023)



When analysing the trends displayed in Figure 4, several important patterns emerge. Across the entire sample, companies generally exhibit synchronized movement over time, with broad declines during economic downturns such as the 2008 global financial crisis. This indicates that macroeconomic factors influenced the performance of the IPO cohort as a whole. Following the crisis, companies experienced gradual growth with fluctuations, reflecting an overall upward trend driven by economic recovery and market expansion.

A particularly notable observation is the year 2014, where Domino's performance diverged significantly from the other IPOs. While most companies experienced stable growth, Domino's saw an accelerated increase in its cumulative returns. This pivotal shift can be attributed to the innovative strategies and corporate decisions implemented by Domino's, including its emphasis on digital transformation and delivery optimization.

Figure 4 also highlights the impact of the COVID-19 pandemic on all companies in the sample, with a sharp dip in returns observed in early 2020. However, Domino's recovered quickly and continued to grow after the initial shock. This resilience demonstrates the company's ability to adapt to changes and leverage its robust delivery system to meet shifting consumer demands during lockdowns.

This performance reflects Domino's innovative strategies and operational efficiency, enabling it to deliver consistent value to investors. Unlike many companies that struggled to maintain momentum post-IPO, Domino's stock price showed steady growth, supported by strong earnings and strategic initiatives that solidified its market position. For instance, while some firms faced challenges adapting to changing conditions, Domino's demonstrated resilience and adaptability - critical to its success.

The evidence presented here validates the initial claims by the press and establishes a strong foundation for further exploration of the factors driving Domino's exceptional long-term performance. This is not merely an outlier but a testament to strategic excellence and sustained operational effectiveness, warranting deeper analysis in the following sections.

5.2. Determinants for long-term performance

In this section, the regression models developed in Section 4.2.2 will be analysed. As previously mentioned, the purpose is to evaluate the hypotheses formulated and explained in Section 4.2.1, with the aim of identifying which explanatory variables influence IPO long-term performance in general.

Before interpreting the multiple regression models, it is essential to verify the statistical assumptions to ensure the validity of the results. Starting with the assumption of multicollinearity, it is important to ensure that the variables employed in the model are not highly correlated. Since all variables have a corresponding VIF of less than 5, it can be concluded that the assumption

is met, and each variable contributes independently to the model (evidence in appendix 7.2). Another crucial assumption to validate is homoscedasticity, which ensures that the variance of the residuals remains constant across all observations. Using the Breusch-Pagan (BP) test, a p-value of 0.3603 was obtained, implying that the null hypothesis cannot be rejected, confirming that the homoscedasticity assumption is satisfied. A residual-term plot was included to demonstrate that there is no clear pattern in the residuals, further supporting the verification of the homoscedasticity assumption (see appendix 7.3). Additionally, from the same plot, it is also possible to verify the linearity assumption, which ensures that the model successfully captures the relationships between the variables without introducing bias.

Finally, assessing the normal distribution of residuals is crucial, as it ensures the correct specification of test statistics. To verify this assumption, the Shapiro-Wilk test was conducted, resulting in a *p-value* of 0.2132. Since the null hypothesis of normality cannot be rejected, the normality assumption is validated. Moreover, the QQ-plot (Figure 5) demonstrates that most residuals closely align with the theoretical quantiles, further confirming the normality of the residuals. Furthermore, the histogram of residuals (Figure 6) supports this conclusion, as the residuals appear approximately normally distributed, reinforcing the validity of the normality assumption for the model.

Figure 5: Normal Quantile Plot

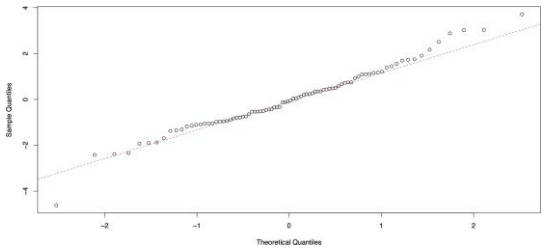
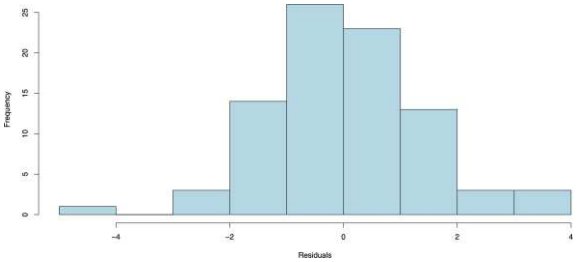


Figure 6: Histogram of Residuals



5.2.1 Regression Results – The Full Regression Model

In this subsection, the full regression model, which includes all explanatory variables, is analysed to test the hypotheses formulated in Section 4.2.1 The dependent variable in this analysis is the long-term performance of IPOs, measured as the natural logarithm of the final fiscal return divided by the return on December 31, 2004. The sample under consideration is the full sample comprising 86 companies, as described in Section 4.1.2. Notably, this section does not focus

on the statistically significant variables, as the subsequent section will present results from the AIC model, which is considered more robust. As shown in Table 3, the full model includes 13 explanatory variables. Before analysing each variable individually, it is essential to evaluate the overall significance of the model. The F-test, which assesses the null hypothesis that all coefficients of the explanatory variables (except the intercept) are equal to zero, yielded an F-statistic of 3.602 with a corresponding *p-value* of 0.0006. These results indicate that the model is statistically significant, confirming its explanatory power and suitability for further analysis of the independent variables.

Table 3: Regression Coefficients with all variables

Variable	**Estimate**	**Std. Error**	*t-value*	*p-value*
(Intercept)	-2.803	1.070	-2.619	0.0108 *
Dummy_LeadManager	0.224	0.376	0.596	0.5529
Dummy_Dividens_Initial	0.134	0.328	0.409	0.6839
Dummy_Dividends_Change	0.417	0.335	1.244	0.2175
1st Day PxChng (%)	-0.593	0.950	-0.624	0.5346
CAPEX/Assets_Initial	0.144	0.435	0.331	0.7419
CAPEX/Assets_Growth (%)	-0.114	0.092	-1.235	0.2208
Ln(size_Initial)	0.306	0.160	1.910	0.0601 .
size_Growth (%)	0.00008	0.00006	1.343	0.1834
Sales/Assets_Initial	0.462	0.273	1.694	0.0947 .
Sales/Assets_Growth (%)	0.006	0.004	1.690	0.0953 .
D/A Initial	1.039	0.568	1.830	0.0714 .
D/A_Growth (%)	-0.106	0.092	-1.156	0.2517
Ln(1+Firm Age)	0.00156	0.153	0.010	0.9919

Signif. codes: $p < 0.001$***, $p < 0.01$**, $p < 0.05$*, $p < 0.10$"."

Number of observations: 86

Residual standard error: 1.416 on 72 degrees of freedom

Multiple R-squared: 0.3244, Adjusted R-squared: 0.2343

F-statistic: 3.602 on 13 and 72 DF, *p-value*: 0.0006067

Starting with Dummy Lead Manager, this variable exhibits a positive coefficient but is statistically insignificant ($p = 0.5529$). This suggests that the involvement of Domino's underwriters, Citigroup and J.P. Morgan, did not have a substantial impact on long-term performance. While

the positive sign aligns with expectations that reputable underwriters enhance investor confidence and signal quality, its lack of statistical significance diverges from prior findings, such as those by Carter and Manaster (1990) and Loughran and Ritter (2004), which emphasise the importance of underwriter reputation in IPO outcomes.

For CAPEX/Assets, the initial level displays a positive relationship, while its growth over time shows a negative relationship with long-term performance. These results contradict the expectation that investments in long-term assets support sustainable growth. As both variables are statistically insignificant ($p = 0.7419$ for CAPEX/Assets_initial and $p = 0.2208$ for CAPEX/Assets_growth), hypotheses 5a and 5b are rejected. This indicates that neither the initial capital expenditure relative to assets nor its growth post-IPO are significant factors in explaining long-term performance within this sample. Analysing firm size, Size_Initial is statistically significant at the 10 level ($p = 0.0601$), suggesting that the initial size of the company is a relevant factor for long-term IPO performance. Larger firms at the time of their IPO may benefit from reduced uncertainty and greater investor confidence, consistent with arguments by Poulsen and Nielsen (2017). By contrast, Size_Growth, despite showing a positive relationship, is statistically insignificant ($p = 0.1834$), indicating that the ongoing growth in firm size does not serve as a determinant of long-term performance in this sample, which constrats with Ritter (1991) results. Regarding dividends, both dummy variables are not statistically significant, although they demonstrate a positive relationship. While not key determinants, these results suggest that initial dividend distributions may help reduce uncertainty (Dummy_Dividends_Initial), and stable dividend policies may appeal to investors (Dummy_Dividends_Change).

Turning to hypothesis 6, First Day Price Change shows a negative relationship with long-term performance, consistent with the expectation that excessive underpricing can hinder sustainable growth. However, this variable is not statistically significant ($p = 0.5346$), providing no evidence to support its explanatory power within the 2004 IPO sample.

Lastly, Firm Age demonstrates a positive relationship with long-term performance, consistent with the expectation that more mature firms face less uncertainty and possess greater operational stability at the time of their IPO. However, this relationship is statistically insignificant ($p = 0.9919$), leading to the rejection of hypothesis 2. This result is particularly unexpected, as Ritter (1991) identifies firm age as one of the most critical variables in explaining long-term IPO performance.

5.2.2 Regression results - Stepwise Model

As demonstrated in Table 4, the AIC model selected five independent variables, resulting in a coefficient of determination (R-Square) of approximately 0.29, indicating that about 29% of the variation in the dependent variable, the logarithm of Long-Term Performance [Ln(LTR)], is explained by the selected independent variables. The analysis is based on the same sample as the Full Model, comprising 86 companies, as outlined in Section 4.1.2.

The adjusted R-Square is approximately 0.25, reflecting a slight improvement compared to the full model, which had an adjusted R-Square of 0.23. Due to the functional nature of R-Square, no detailed evaluation is provided regarding whether the 29% variance explained is high or low. The model is statistically significant at the 1% level, with a F-statistic of 6.527 and a $p < 0.001$. Among the included variables, three are statistically significant at the 5% level, and one at the 10% level. Notably, D/A_Initial is very close to achieving significance at the 1% level.

Table 4: Stepwise - Final Regression Coefficients

Variable	**Estimate**	**Std. Error**	*t-value*	*p-value*
(Intercept)	-1.719591	0.717392	-2.397	0.0189 *
Ln(size_Initial)	0.162862	0.104409	1.560	0.1227
Sales/Assets_Initial	0.513190	0.243535	2.107	0.0382 *
Sales/Assets_Growth (%)	0.008317	0.003516	2.366	0.0204 *
D/A Initial	1.348928	0.521732	2.585	0.0115 *
D/A_Growth (%)	-0.163125	0.082966	-1.966	0.0527 .

Signif. codes: $p < 0.001$‴, $p < 0.01$″, $p < 0.05$′, $p < 0.10$"."

Number of observations: 86

Residual standard error: 1.416 on 80 degrees of freedom

Multiple R-squared: 0.2897, Adjusted R-squared: 0.2454

F-statistic: 6.527 on 5 and 80 DF, *p-value*: 3.868e-05

Starting with D/A, both D/A_Initial and D/A_Growth are statistically significant but exhibit contrasting relationships with long-term performance, leading to mixed support for hypothesis 4. The variable D/A_Initial is statistically significant at the 5% level ($p = 0.0115$) and positively associated with long-term performance, supporting hypothesis 4a. This result strongly aligns with the theoretical framework of agency-cost theory discussed in Section 4.2.1.4, which

suggests that higher levels of leverage can reduce agency conflicts by aligning management's incentives with those of shareholders, thereby improving long-term performance. The robustness of this finding is underscored by its proximity to the 1% threshold, emphasising the importance of initial conditions. At the time of the IPO, the debt-to-assets ratio likely signals financial discipline and a commitment to efficient resource allocation, reducing uncertainty for investors and laying a solid foundation for future growth.

In contrast, D/A_Growth exhibits a negative relationship with long-term performance and is statistically significant at the 10% level ($p = 0.0527$). Although close to the 5% threshold, the negative coefficient contrasts with the theoretical expectation that growth in leverage should enhance performance through tax benefits or financing growth opportunities. Instead, this finding suggests that ongoing increases in leverage may introduce higher financial risks, such as increased probability of default or strained cash flows, which can negatively impact long-term outcomes. Additionally, the weaker level of significance at the 10%, although very close to the 5% threshold, indicates that D/A_Growth has a comparatively lower explanatory power in driving long-term performance. As a result, hypothesis 4b is rejected, as the relationship is not only weaker but also contrary to the expected positive association. This underscores the greater importance of initial leverage in setting the trajectory for long-term success.

Turning to Sales/Assets, both _Initial and _Growth exhibit statistically significant relationships with long-term performance, providing robust support for hypotheses 3a and 3b and aligning with theoretical expectations. Sales/Assets_Initial is statistically significant at the 5% level ($p = 0.0382$) and demonstrates a positive association with long-term performance. Specifically, the coefficient indicates that a unit increase in Sales/Assets at the time of the IPO is associated with an average increase of 51% in long-term performance, ceteris paribus. This result underscores the importance of operational efficiency and the ability to generate revenue from assets as critical determinants of long-term success. Firms with higher Sales/Assets at the IPO likely signal stronger resource utilization, attracting investor confidence and laying a solid foundation for sustained growth.

Similarly, Sales/Assets_Growth is statistically significant at the 5% level ($p = 0.0204$) and also positively associated with long-term performance. This finding highlights the significance of ongoing operational improvements and revenue expansion in driving sustained performance. It emphasises that, while strong initial conditions are important, continuous growth in operational

efficiency plays an equally pivotal role in achieving superior outcomes.

Lastly, considering Ln(Size_Initial), this variable, although not being statistically significant in the AIC model ($p = 0.1227$), was retained due to the AIC selection criterion. Had the stricter criterion of *p-values* below 5% been applied, this variable would have been excluded. Such exclusion, however, could have led to issues such as non-normality of residuals or heteroscedasticity, which would undermine the model's robustness. Furthermore, the coefficient suggests that a 1% increase in the firm's initial size is associated with an average increase of 0.16% in long-term performance, ceteris paribus. Interestingly, this variable was statistically significant at the 10% level in the full model ($p = 0.0601$), indicating that its explanatory power was stronger when all variables were included. This result reflects the enduring importance of initial size, consistent with the notion that larger firms at the time of the IPO benefit from reduced uncertainty and greater investor confidence, even if this effect is less pronounced under the AIC framework.

5.3. Determinants for Domino's outperformance

Following the confirmation that Domino's achieved the highest long-term returns among all IPOs from 2004 and the general determinants for IPO long-term performance , as detailed in the results chapter, this section explores the factors contributing to the company's exceptional performance. Table 5 focuses on the maximum observed values in the sample for each variable, alongside the corresponding values for Domino's. This approach highlights Domino's values for each variable in relation to the sample, situating Domino's within the broader dataset.

The analysis reveals that Domino's recorded the highest values in the sample for two critical variables: Sales/Assets_Initial and D/A_Initial. These variables, identified in the regression analysis as significant determinants of long-term IPO performance, underscore their importance in explaining Domino's extraordinary results.

Table 5: Maximum Observed Values in the Sample and Corresponding Values for Domino's

Metric	**Max.**	**DPZ**
1st Day PxChng (%)	1.036	-0.0357
CAPEX/Assets Initial	3.433	0.0889
CAPEX/Assets Growth (%)	11.772	-0.2921
Size Initial	51458.928	1222.629
Size Growth (%)	482.287	10.7085
Sales/Assets Initial	3.261	**3.261**
Sales/Assets Growth (%)	680.842	-0.1729
D/A Initial	2.229	**2.229**
D/A Growth (%)	25.544	0.5388
Firm Age	124.000	44

Starting with Sales/Assets_Initial, the company's ability to generate revenue efficiently relative to its assets was a critical determinant of its long-term success. With a value of 3.261 - the highest in the sample - it demonstrated a superior capacity to utilize its asset base to drive revenue at the time of its IPO. This efficiency reflects the operational model, which emphasised simplicity and scalability. Unlike competitors that frequently pursued diversification strategies, Domino's focused on optimizing its core offering: fast and reliable pizza delivery. This strategic focus was reinforced by maintaining a streamlined menu, reducing operational complexity, and ensuring consistent quality across its global network of locations. The delivery-centric approach further contributed to this efficiency by minimizing reliance on physical dine-in infrastructure, enabling the company to focus on leveraging its assets for high-volume delivery operations. By 2004, Domino's global presence, with over 7,000 locations, was instrumental in driving revenue generation. The extensive scale of its operations not only enhanced market reach but also ensured operational consistency across franchisees, enabling steady and predictable revenue streams. These factors collectively explain how the company maximized the utilization of its assets, achieving a notably high Sales/Assets_Initial ratio that signalled operational strength and growth potential to investors.

Similarly, the variable D/A_Initial captures the leverage level at the time of the IPO. Domino's value of 2.229, again the highest in the sample, highlights its aggressive use of leverage. While

high leverage levels can increase financial risk, they can also serve as a powerful signal of discipline and commitment to efficient resource allocation, as emphasised by the agency-cost theory. The positive and significant relationship observed in the regression models supports this notion, indicating that higher leverage at the IPO aligns management incentives with shareholder interests, reduces agency conflicts, and enhances long-term performance.

The company effectively leveraged its debt by strategically allocating funds raised during the IPO. As discussed in previous sections, these resources were used to reduce existing debt, expand its international presence, and invest in digital transformation and operational improvements. This multifaceted approach not only mitigated the potential risks associated with high leverage but also positioned Domino's to capitalize on growth opportunities, particularly in the rapidly evolving delivery market.

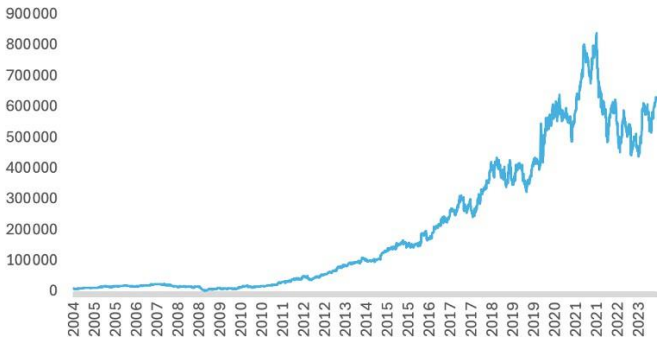
The analysis also included variables related to dividends, which showed a positive relationship with long-term performance but were not statistically significant in the regression model. While dividends might have been relevant for Domino's performance, their impact was not captured due to the regression's focus on general patterns across the sample. While the model successfully identified key general patterns and significant determinants of Domino's exceptional performance, it may have overlooked firm-specific dynamics, such as the signalling effect of dividends in demonstrating financial stability or management confidence, which could require further investigation.

Thus, the regression analysis and descriptive statistics confirm that initial conditions - specifically high Sales/Assets ratio and significant leverage at the IPO - were fundamental in driving Domino's extraordinary long-term performance. These findings suggest that, for these variables, initial conditions were more critical than ongoing management in shaping the company's success.

However, it is important to note that these variables alone do not fully explain the outperformance. While initial Sales-to-Assets and leverage provide a strong foundation for understanding its long-term success, other factors not captured by the model likely contributed to the exceptional performance. By examining Domino's cumulative daily returns figure, it is possible to identify how corporate and strategic decisions implemented over time - reflecting ongoing management efforts - may have further supported Domino's sustained growth and market leadership.

These explanations complement the analysis of initial conditions but remain interpretative, as they were not directly measured in the regression model.

Figure 7: Domino's cumulative daily returns (2004 – 2023)



One critical factor of this success was Domino's early adoption of technology. As one of the first companies in the food industry to prioritise digital transformation, Domino's revolutionised customer interaction with the brand. By 2015, over 50% of the company's sales originated from digital platforms, underscoring its forward-thinking approach. Initiatives such as the introduction of an AI-powered chatbot and the Domino's Tracker (2008)[15] , allowing real-time order tracking, positioned it as a tech-savvy leader, attracting younger, tech-oriented demographics. This innovations aligns with the sustained growth observed during 2014-2015, a period marked by accelerated digital ordering adoption and operational efficiency.

Domino's also demonstrated a relentless commitment to improving product quality. The "Pizza Turnaround" campaign in 2009, which addressed customer dissatisfaction by revamping its recipe and embracing transparency in marketing, was a turning point. This bold strategy not only regained consumer trust but also contributed to a noticeable spike in performance from 2009 to 2010.

In addition to product and digital innovations, Domino's consistently focused on delivery excellence. The introduction of the DPX vehicle, a car specifically designed for pizza delivery, exemplified its commitment to enhancing the customer experience. This emphasis on delivery capabilities proved advantageous during the COVID-19 pandemic. While many businesses faced challenges, Domino's delivery-centric model allowed it to thrive, meeting the surging demand for home-delivered meals. The result was another peak in performance in 2020 and 2021,

[15]biz.dominos.com (Retrieved on September 13, 2024)

as reflected in the graph.

Strategic partnerships further solidified Domino's competitive position. In 2023, the company expanded its delivery network through a partnership with Uber Eats, broadening its customer base and capitalising the growing popularity of third-party delivery platforms. This decision, coupled with the launch of Pinpoint Delivery, reinforced Domino's ability to adapt to market trends and maintain its market leadership. Finally, Domino's sustained success was supported by its optimized franchising model. By ensuring operational consistency and financial sustainability across its global network, Domino's achieved scalability without compromising quality, contributing to steady growth in both established and emerging markets.

Concluding, the long-term success of Domino's since its IPO can be primarily attributed to its initial conditions, particularly its high leverage and exceptional sales-to-assets ratio, as evidenced by the regression analysis. However, the corporate and strategic decisions adopted over the years - especially its technological innovation and franchising model optimization - likely played critical roles in sustaining remarkable performance. While these elements align with key growth periods, their exact impact remains speculative, as they were not directly included in the regression analysis and there is no statistical evidence for them within the scope of this study.

6. Conclusion

Using a sample of 86 IPOs conducted in the United States in 2004, this dissertation set out to investigate the factors contributing to the exceptional long-term performance of Domino's following its 2004 IPO, in comparison to other companies that went public in the same year. By employing a combination of statistical analysis and an examination of corporate decisions and strategies, this study has identified key determinants of IPO performance, both for the broader 2004 cohort and for Domino's unique trajectory. The findings unequivocally establish Domino's as the standout performer among the 86 companies included in the sample, confirming the claims made by various press articles, including Yahoo Finance and The Wall Street Journal, among others. These sources highlighted Domino's extraordinary success in delivering consistent and superior long-term returns, surpassing not only its industry peers but also prominent firms from other sectors, including Google (Alphabet Inc.). This remarkable performance challenges conventional expectations about the dominance of technology companies in generating sustainable financial returns and underscores the potential for non-tech firms to leverage strategic and operational excellence to achieve similar, if not greater, success.

The regression analysis revealed key determinants of long-term IPO performance, including initial leverage, initial Sales-to-assets, and growth in Sales-to-assets. For Domino's, specific initial conditions played a critical role in driving its extraordinary long-term success. The company's exceptional performance was largely attributed to its unparalleled efficiency in utilizing assets, as reflected in its notably high Sales-to-Assets ratio at the time of the IPO, and its significant leverage, measured through the Debt-to-Assets ratio. Both variables emerged as statistically significant predictors of long-term IPO success, highlighting the importance of operational efficiency and financial discipline in establishing a strong foundation for growth. Domino's ability to maximize revenue generation while effectively managing resources positioned it favourably among investors and allowed it to capitalise on opportunities for expansion and innovation.

However, these initial conditions alone do not fully account for Domino's extraordinary success. The company's strategic decisions and ongoing management efforts played a pivotal role in sustaining its performance over time. Domino's early adoption of technology, exemplified by initiatives such as the Domino's Tracker, AI-powered chatbot, and delivery optimisation through proprietary vehicles, demonstrated its commitment to innovation and customer-centric

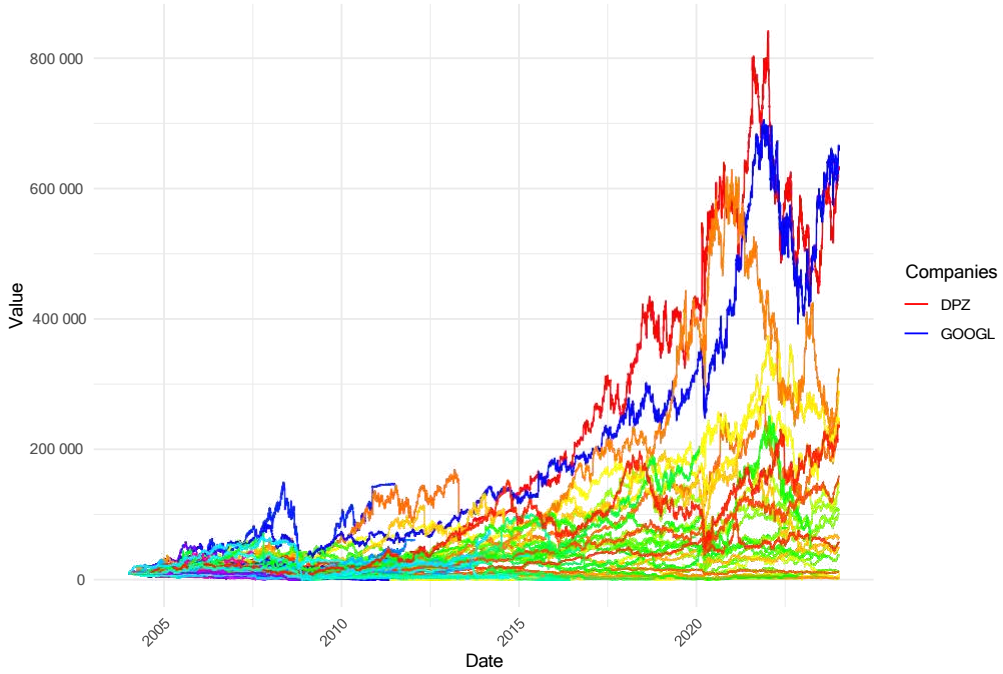
solutions. These initiatives enhanced operational efficiency and resonated evolving consumer preferences, particularly during periods of heightened demand, such as the COVID-19 pandemic. Furthermore, Domino's proactive response to customer feedback, as seen in the "Pizza Turnaround" campaign, and its strategic partnerships, including the 2023 collaboration with Uber Eats, showcased its adaptability to market dynamics. The company's franchising model further enabled scalability and rapid international expansion, ensuring consistent quality and growth across diverse markets.

In conclusion, the combination of strategic corporate decisions with initial leverage and Sales-to-assets ratio was instrumental in supporting how Domino's IPO outperformed its 2004 cohort and set a benchmark beyond Alphabet.

7. Appendix

7.1. Cumulative Daily Returns of all Companies (2004–2023)

Figure 8: Cumulative Daily Returns of all Companies (2004–2023)



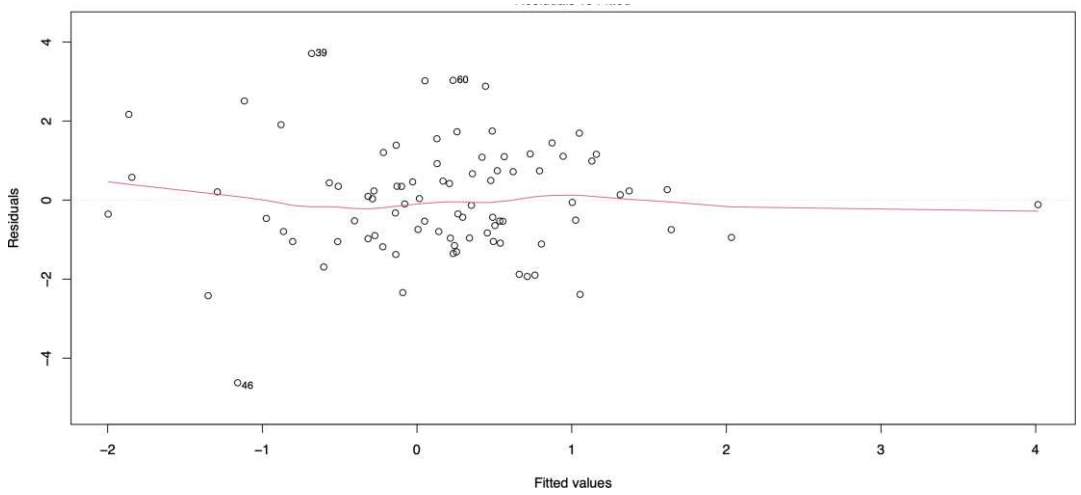
7.2. VIF values

Table 6: VIF values

Variables	**VIF**
Ln(size_Initial)	1.017288
Sales/Assets_Initial	1.183761
Sales/Assets_Growth (%)	2.901137
D/A Initial	1.331550
D/A_Growth (%)	3.167543

7.3. Residual Plot

Figure 9: Residuals vs Fitted Values



7.4. Correlation Matrix of Variables

Table 7: Correlations of Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
LTP	1	0.201	0.000	0.042	-0.144	0.210	0.029	0.090	0.235*	0.331**	-0.024	-0.056	0.012	0.464***	-0.076	0.146
DLM	0.201	1	-0.086	0.175	0.148	0.137	-0.011	0.114	0.112	0.110	-0.080	-0.045	-0.080	0.129	-0.060	0.119
1DP	0.000	-0.086	1	-0.056	0.007	0.011	-0.089	-0.031	-0.101	0.042	0.094	-0.131	-0.091	-0.256*	0.120	-0.104
CAI	0.042	0.175	-0.056	1	-0.128	-0.036	0.031	0.092	0.071	-0.073	-0.032	-0.036	-0.029	0.044	-0.051	-0.016
CAG	-0.144	0.148	0.007	-0.128	1	0.027	0.016	-0.133	0.117	-0.003	0.097	-0.008	-0.054	-0.134	0.295**	0.017
LSI	0.210	0.137	0.011	-0.036	0.027	1	-0.705***	0.082	0.126	-0.038	0.064	0.107	-0.043	0.075	0.015	0.043
SG	0.029	-0.011	-0.089	0.031	0.016	-0.705***	1	-0.114	-0.097	0.282**	-0.021	0.011	-0.007	0.093	-0.066	0.177
DDI	0.090	0.114	-0.031	0.092	-0.133	0.082	-0.114	1	-0.097	0.003	-0.099	-0.013	0.101	0.175	-0.119	0.015
DDC	0.235*	0.112	-0.101	0.071	0.117	0.126	-0.097	-0.097	1	0.013	0.058	0.030	0.074	0.139	-0.016	0.094
SAI	0.331**	0.110	0.042	-0.073	-0.003	-0.038	0.282**	0.003	0.013	1	-0.139	0.078	-0.106	0.380***	-0.198	0.292**
SAG	-0.024	-0.080	0.094	-0.032	0.097	0.064	-0.021	-0.099	0.058	-0.139	1.	-0.048	0.006	-0.156	0.800***	0.137
DEI	-0.056	-0.045	-0.131	-0.036	-0.008	0.107	0.011	-0.013	0.030	0.078	-0.048	1	-0.075	0.519***	-0.150	0.178
DEG	0.012	-0.080	-0.091	-0.029	-0.054	-0.043	-0.007	0.101	0.074	-0.106	0.006	-0.075	1	0.106	-0.049	-0.004
DAI	0.464***	0.129	-0.256*	0.044	-0.134	0.075	0.093	0.175	0.139	0.380***	-0.156	0.519***	0.106	1	-0.333**	0.248*
DAG	-0.076	-0.060	0.120	-0.051	0.295**	0.015	-0.066	-0.119	-0.016	-0.198	0.800***	-0.150	-0.049	-0.333**	1	0.082
LFA	0.146	0.119	-0.104	-0.016	0.017	0.043	0.177	0.015	0.094	0.292**	0.137	0.178	-0.004	0.248*	0.082	1

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