

From Hype to Bust: Investigating the Underlying Factors of the Dot-Com Bubble and Developing Regression Models for Future Market Predictions

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Abstract

The dot-com bubble, spanning from the late 1990s to the early 2000s, marked a time of unprecedented growth and speculation within the technology sector. This era culminated in a market crash with far-reaching repercussions for both Wall Street and investors alike. Our paper delves into the fundamental causes and effects of this phenomenon, posing the following research question: What were the primary factors driving the dot-com bubble, and how did these elements influence the economy in the aftermath of the subsequent crash? To address this inquiry, we employ comprehensive regression analyses and academic investigations to pinpoint the root causes of the dot-com bubble, while also assessing its impact on the economy. We further construct a logistic regression model to forecast potential market bubbles in the future. By analyzing data from multiple sources, we paint a detailed picture of the circumstances that precipitated the dot-com crash, offering valuable insights into how similar market bubbles can be anticipated and averted in the future. Our research serves as a critical contribution to the existing body of knowledge surrounding the dot-com bubble, shedding light on the various factors that played a role in its development and eventual collapse. Through our findings, we hope to facilitate a deeper understanding of the dynamics at play during this turbulent period in economic history, ultimately aiding in the development of strategies to safeguard against future market instabilities.

Keywords

Discounted Shares Programs (DSP), Insider Trading, Market Sentiment, Underwriters, Initial Public Offerings (IPO), Hot Market-IPO

1. Introduction

The dot-com bubble, spanning from the late 1990s to the early 2000s, stands as a pivotal event in economic history, marked by extraordinary growth and speculation within the technology sector. Scholars and researchers have extensively explored this period, generating a vast body of literature that addresses various aspects of the dot-com bubble, including its triggers and immediate effects. However, a substantial research gap exists concerning the true origins of the dot-com bubble, particularly in understanding the role of various factors such as lack of legal representation, Discounted Shares Programs (DSP), insider trading, and the potential impact of overly optimistic traders. This paper aims to address this gap by critically examining existing research and conducting a comprehensive analysis of the root causes that led to the bubble's formation in its early years, thereby shedding light on the relative importance of these contributing factors.

While the literature offers valuable insights into the dot-com bubble's triggers, such as Alan Greenspan's "Irrational Exuberance" speech or the Netscape IPO, recent studies have suggested that the bubble's origins can be traced back to 1996. However, our research does not aim to challenge this conventional wisdom but rather seeks to build upon it by exploring the multifaceted factors that contributed to the bubble's early formation during this time.

Through a meticulous review of scholarly works, we intend to shed light on the crucial role played by a lack of legal representation, insider trading, and DSP programs in inflating the dot-com bubble. These factors, though often overlooked, might have significantly contributed to the speculative fervor and market exuberance that characterized the early stages of the bubble.

Moreover, this paper will investigate the potential role of overly optimistic traders and their influence on the bubble's formation. While not the primary focus, we acknowledge their role as an additional factor in the speculative behavior that contributed to the bubble's inflation.

Additionally, we will delve into previously untapped evidence, including discarded court filings, to uncover the implications of shady practices in technology IPOs between 1996 and 2000. This deeper exploration will provide a comprehensive understanding of the extent of misconduct and the potential lack of regulatory oversight during that period, further contributing to our analysis of the root causes of the dot-com bubble.

By addressing these gaps in the literature and conducting an in-depth analysis, our research paper aims to provide a critical contribution to the understanding of the early origins of the dot-com bubble. Through comprehensive regression analyses and academic investigations, we will offer valuable insights into the relative significance of each contributing factor. By elucidating the root causes of the bubble's formation, our study seeks to advance the existing body of knowledge surrounding the dot-com bubble, and its implications for financial markets, investor behavior, and regulatory measures to prevent future market instabilities.

Organization

The paper is organized as follows: In Section 2, a qualitative analysis approach is employed to comprehensively examine the underwriting issues and market sentiment surrounding the dot-com bubble. Subsequently, Section 2.1 delves into the deregulation of the Glass-Steagall Act and its potential impact on underpricing, highlighting a strong correlation coefficient of 0.4 between IPOs with a Discounted Shares Program (DSP) and average underpricing during the 1996-2000 period. Furthermore, Section 2.1.1 proposes the implementation of regulations to address conflicts of interest in investment banking and enhance transparency in research reports, aiming to prevent future underpricing and overpricing of IPOs, while safeguarding investor interests. Additionally, Section 2.1.2 sheds light on the prevalence of fraudulent practices during the dot-com bubble, particularly within top-tier investment firms on Wall Street, driven by the fixed euphoria of investors focusing on web traffic metrics rather than fundamental factors.

In Section 2.2, the paper explores the profound impact of regulatory policies enacted in response to the dot-com bubble, leading to heightened audits for top-rated firms, prioritization of investor security, and increased vigilance in the financial industry. These often-overlooked instances played significant roles in driving the soaring dot-com bubble. Section 2.2.1 delves into the implications of the Glass-Steagall Act of 1993, postulating that it played a crucial role in facilitating the formation of the dot-com bubble, given that most notable companies taken public during the late 90s were under commercial banks due to the Act's provisions. Furthermore, Section 2.2.2 investigates the role of Venture Capital in the dot-com bubble.

Moving to Section 3, the paper presents Hypothesis 1 and 2, along with an introduction to the selected samples. In Section 3.1, insider trading during the dot-com bubble is measured, revealing the prevalence of schemes where initial shares were allocated to purchasers who resold the stock in the aftermarket to artificially push up prices, while also providing kickbacks to allocating underwriters. Moreover, in Section 3.1.1, bubbles are interpreted using a logistic regression model with 239 observations, exclusively incorporating human-made bubbles like the dot-com bubble and the global financial crisis to strengthen the model's reliability.

Finally, Section 3.1.2 presents the findings, highlighting the significant role of insider trading in driving up stock prices during the dot-com bubble and its implications for the stock market. Throughout the paper, transitional sentences are employed to ensure a seamless flow between sections, facilitating a comprehensive understanding of the dot-com bubble's early origins and its broader implications for financial markets, investor behavior, and regulatory measures.

Sample and data

The sample consists of firms mainly from 1996-2000 that were top issuers during this period. To collect this data, we use the Securities Data Company

(SDC) database. Excluding unit offers, closed-end funds, limited partnerships, and Penny stocks (Stocks trading under five dollars per share) we are left with 2182 Sample IPOS. Most IPO Prospectuses are found on the securities exchanges commission (SEC) Electronic Data Gathering, Analysis, and Retrieval (EDGAR) archive service. Ruling out null findings on the EDGAR archive service, the sample concludes with a sample size of 973 Sample IPOS.

Underwriters of these IPOS can be found on the Securities Data Company (SDC) database, to investigate underwriting issues the sample period includes the top 10 underwriters during the investigation period 1996-2000. SDC and EDGAR contain very little information on economic conditions, such as interest rates, Gross domestic product (GDP), money supply, and first-day returns. We use the Federal Reserve Economic Data (FRED) and World Bank Data to measure these variables.

2. Qualitative Analysis

We used a qualitative analysis approach to analyze underwriting issues and Market Sentiment. To investigate, we use our sample IPO and exclude all IPOs that do not include DSP. “With respect to the IPO’s first day, the median and mean returns are, respectively, 125.4 percent and 148.4 percent for low levels versus only 27.1 percent and 44.5 percent for high levels. Correspondingly, for the quiet period ends, the median and mean are 11.7 percent and 20.6 percent versus 6.0 percent and 6.6 percent, respectively. Thus, most of the puzzling high returns are associated with institutions avoiding at least one side of the transaction” (Ljungqvist & Wilhelm Jr., 2003). DPS programs, that is DSPs, also referred to as friends and families programs, set aside a certain number of shares to be precisely allocated throughout the company. We find implementations of DPS programs to be significant during the High levels. These shares were often allocated to employees and board members at the stock’s IPO price. This allowed employees to capture extraordinary gains as first-day IPOS on average returned 18.3% in 1996 and 71% in 1999. We find a moderate correlation between DPS programs and return after the first-day IPO return. This correlation is significant because one can make the assertion that employees sold off most of their stocks to unsophisticated investors, resulting in a high return for an employee and, therefore, a negative return for the unsophisticated investor.

Furthermore, Underwriters played a major role in driving the dot-com bubble, deliberately underpricing stocks to capture large gains on IPOs. Higher-rated underwriters had more leniency from regulators due to their ratings, allowing them to engage in insider trading with little consequence. The hot issue market, where underwriters underpriced stocks to drive surges in first-day trading, benefited corporate insiders and pre-IPO ownerships in the early days of the dot-com boom. “The plaintiffs alleged a widespread scheme to allocate the initial shares in those ‘hot issues’ that required the purchasers to resell the stock in the aftermarket to artificially push up their prices. The plan also obliged those sellers

to kick back part of their profit to the allocating underwriters. To cover up the scheme, the defendants allegedly made misleading statements in their offering documents.” (DeLong & Magin, 2006). However, this focus on short-term profits and stock prices came at the expense of long-term business sustainability, as shown by the decline in average corporate shareholders from 28.9% in 1996 to 8.2% in 2000 in our sample of 1200 firms.

2.1. Deregulation of the Glass-Steagall Act

Our study found a strong correlation coefficient of 0.4 between the average IPOs that included a DSP and the average underpricing during the 1996-2000 sample period. The deregulation of the Glass-Steagall Act was a major contributing factor to underwriting problems, as it led to conflicts of interest within banks. Commercial banks became involved in investment bank activities, and this led to situations where they advised clients to invest in products that benefitted the banks’ financial interests. This conflict of interest often led to mass underpricing or overpricing, depending on the company’s status.

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2.1.1. Court Proceedings

Ljungqvist and Wilhelm Jr. (2003) proposed that bank ownership could reduce underpricing, whether the bank was involved in marketing and pricing the issue, as it paid more to do so. However, the Glass-Steagall Act allowed for conflicts of interest to occur, which, led to biased financial advice for clients. In 2003, New York Attorney General Eliot Spitzer’s hearing targeted 10 of Wall Street’s top banks for securities violations, including falsifying reports. Although several court hearings were brought after the dot-com bubble, few succeeded. Courts often found firms not to be at fault, citing investors’ failure to read quarterly reports. DeLong and Magin (2006) discovered that plaintiffs had not met the standards of specificity in their pleading to establish that the research reports were false statements of fact, as they were statements of opinion. Further investigations into these instances could yield a better understanding of their nature. We propose that regulations be put in place to address conflicts of interest in investment banking and improve transparency in research reports. By doing so, we can prevent future underpricing and overpricing of IPOs, promote fair and unbiased financial advice for clients, and protect investors from financial harm.

2.1.2. Fraudulent Practices

The sample period used in this investigation, which took place from 1996 to 2000, is often described as fixed euphoria—a period when investors were blinded by high returns and were not paying attention to fundamental factors. It is important to note that fundamental analysis during this sample period was heavily doubted, with investors measuring companies based on “web traffic”—the number of visitors to their websites. Discrepancies in web traffic ultimately led to the fraudulent behavior of many new companies, which frequently went unnoticed. However, the most notable fraud occurred within top-tier investment firms on Wall Street. “By the end of 2002, over two dozen large public companies admitted to inflating their revenues by improper accounting practices,” states (DeLong & Magin, 2006). Another instance of fraudulent behavior, also documented by (DeLong & Magin, 2006), involved “Grubman’s many inflated stock valuations”, which was a result of a rating he gave to a company in exchange for his son’s admittance to an elite private school. These fraudulent analyst reports resulted in unsophisticated investors gambling instead of investing. Unsophisticated investors who relied on these top-tier firms for their research and for analyzing a company were completely unaware of the dummy numbers that were a part of fraudulent accounting practices in the late 90s. This issue resulted in many instances of these new-age investors losing money at the hands of corporate insiders (DeLong & Magin, 2006). One instance of this could be found in court filings targeting Merrill Lynch. (DeLong & Magin, 2006) state that “in one action, non-clients of Merrill Lynch alleged that the firm’s fraudulent reports about stocks they held caused them substantial losses when the prices of those securities collapsed with the ‘bursting of the Internet bubble’. In the same court proceeding, ‘in another, investors in mutual funds sponsored by Merrill Lynch sought damages for losses, which they claimed resulted from the firm’s misleading and compromised research reports.’” This proceeding brought to light the regulations in favor of insiders instead of the people. The court proceeding found (DeLong & Magin, 2006) that “since the research reports were statements of opinion, the plaintiffs had not met the standards of specificity in their pleading to establish that the defendants did not reasonably believe them to be true on stocks in the fund”. In addition, the court claimed (DeLong & Magin, 2006) that “none of the investors claimed to have actually read the allegedly false reports. Instead, they sought to establish their reliance on the misleading information by the fraud-on-the-market theory, which holds that most publicly available information is reflected in a stock’s market price”. These false analyst reports and the persuasive news driven by high ratings and viewership are to blame for the euphoria during the high soaring 90s. The findings of this research are consistent with the hypothesis made by Shiller, who argues that the stock price increase was driven by irrational euphoria among individual investors, fed by an emphatic media that maximized TV ratings and catered to investor demand for pseudo-news (Campello & Graham, 2013). Although this fact is only a

piece of the puzzle to the root cause of the dot-com bubble, it shows the reasoning for the “irrational exuberance” and lack of fundamentals during the sample period.

2.2. Regulatory Policy

The dot-com bubble had drastic effects on regulatory policy due to the abundance of fraudulent practices during the period. This meant more Audits for top-rated firms, investor security priorities, and more eyes on the Street. According to (DeLong & Magin, 2006), “a pervasive aura of lax practices existed throughout the securities industry during the late 1990s boom, especially among brokerage firms that underwrote the high-flying stocks of that era. Notorious examples have come to light of analysts who were fired for their skepticism about the value of companies like Enron because such honest assessments might have caused their firms to lose millions of Two hundred nine dollars in investment banking fees”. Leading up to almost any market bubble, the securities industry introduces controversial regulations to benefit firms and brokers alike. The target of the securities exchange commission was not regulating the industry but implementing regulations to serve bankers and firms better. We have seen many instances of new regulations being introduced or protective regulations being deregulated. These instances were common during our sample period and thus led to financial instability. In the late 80s and early 90s, deregulations began such as the Glass Stegal Act, which was passed in 1993; this act prohibited commercial banks from engaging in underwriting activities. However, in the 90s, this act was repealed, which allowed commercial banks to engage in underwriting practices once again. This act single-handedly led to the infamous fraudulent underwriting practices we saw just three years later. Leading up to the crash of the dot-com bubble, we saw instances of new regulations being introduced such as the Taxpayer relief act of 1997 and, most notably, the Securities Litigation Uniform Standards act of 1998. The Taxpayer relief act of 1997 mainly served to lower the capital gains tax rate. However, the new tax code allowed firms to deduct interest payments on debt, which in turn encouraged them to take on more debt which drastically increased their risk. The Securities Litigation uniform standards Act introduced only a year later conveniently made it more difficult for investors to file class-action lawsuits against firms for securities fraud. These three instances are commonly ignored in economic research, but we discover these instances were massive drivers of the high soaring dot-com bubble.

2.2.1. Effects of Regulatory Policy

To deepen our understanding of the consequences of the Glass-Steagall Act, we employ an Exploratory Data Analysis (EDA) approach, harnessing our previous findings as a guide to navigate the impact of this legislation on financial instability. During the designated sampling period, a comprehensive analysis was undertaken, centering on Initial Public Offerings (IPOs). Our investigation yielded

a significant revelation: a substantial proportion of prominent enterprises that underwent the process of going public throughout the late 1990s were steered through this transition by renowned commercial banking entities, namely Goldman Sachs, Morgan Stanley, J.P. Morgan, and Lehman Brothers. Drawing upon a holistic analytical framework, our inquiry extends to the inference that the Glass-Steagall Act of 1933 holds a pivotal role in laying the groundwork for the emergence of the dot-com bubble. Moreover, this very legislation has been identified as a leading contender for the root causes underpinning the tumultuous 2008 Financial Crisis. The implications of the Glass-Steagall Act's deregulation are complex and require further investigation. We have seen how its repeal allowed commercial banks to engage in underwriting practices, leading to fraudulent behavior and contributing to the dot-com bubble. Our analysis of IPOs during the late 90s showed that commercial banks played a significant role in taking notable companies public. The act's deregulation has also been linked to the underlying causes of the 2008 financial crisis. Hence, it is important to continue exploring the consequences of this act's deregulation to better understand how financial instability can arise from regulatory changes. Future research could focus on the long-term effects of the Glass-Steagall Act's repeal on the financial sector, including how it impacted bank behavior, risk-taking, and overall financial stability, to investigate alternative regulatory approaches that could prevent similar crises in the future.

2.2.2. Venture Capitals Role in the Dot-Com Bubble

Through our investigations, we find VC firms to play a significant attributing role in the formation of the dot-com bubble. Investigations conducted by (Kraay & Ventura, 2007) found "a firm funded by VCs is more likely to be overvalued in the bubble period 1998-1999; and the stronger VC support is, the more likely it is. However, we find much weaker or no relationships between VC support and overvaluation in the normal period 1994-1997 and the post-bubble period 2001-2004. VC investment is known to have high risk, high returns, and a short life-cycle". This investigation supports our hypothesis. We further investigate the factor that caused this correlation. We find that VCs overly invested in start-ups during our sample period, the reason being mass advertising. "Many venture firms, for example, pushed start-ups to pour money into advertising to establish brand names. Some early-stage start-ups were offered tens of millions of dollars, of which more than 90% was earmarked for mass-media advertising" (Mills, 2001). The valuation methods during our sample period continued complications since many Venture Capitals based investments were based on website traffic. This valuation method created an apparent cycle. Dot Com, start-ups would pour money into massive marketing campaigns to boost website traffic, then VCs would evaluate these companies based on the artificially produced web-traffic caused by marketing campaigns, leading to an over-investment from VC firms. The investments from VC firms were not well spent since most

founders of these start-ups were inexperienced. Book values for these companies would rise, increasing market sentiment for these companies when taken public. Our hypothesis is supported by the findings (Kraay & Ventura, 2007), “The main conclusion is that VCs play an important role on overvaluation. Specifically, the likelihood of a bubble stock increases with VC support in the normal and bubble periods, especially the latter. The estimated coefficients in model 1 indicate that the likelihood of a bubble stock for a firm with VC support is 26.2% and 44.7% higher than a firm without VC support in the normal and bubble periods, respectively. In addition, the more support from VCs, the more likely a firm has a bubble stock”.

Overall, it should be noted there were many factors that led to the dot-com crash. Underwriting practices and Government regulations are the front runners of the root causes behind the crash. Further investigation can conduct a cost-to-benefit analysis and see what factors led to the government regulations that resulted in the lax practices within the sample period. Another route can delve into the correlation between Venture Capital funding and Insider trading activity, through our qualitative investigation one can conduct further research investigating each factor’s impact on the inflation of the high soaring bubble of the 90s.

3. Regression Analysis

3.1. Measuring Insider Trading

Insider trading within IPO activity was common during the dot-com bubble. As presented in (DeLong & Magin, 2006). The insider scheme worked as follows: “The plaintiffs alleged a widespread scheme to allocate the initial shares in those ‘hot issues’ that required the purchasers to resell the stock in the aftermarket to push up their prices artificially. The plan also obliged those sellers to kick back part of their profit to the allocating underwriters. To cover up the scheme, the defendants allegedly made misleading statements in their offering documents.” Through this court proceeding that took place after the Dotcom crash, it found that over 300 publicly traded companies were taken public by these firms. “Ten of Wall Street’s largest investment banking firms agreed to pay \$1.4 billion in penalties to settle charges of fraudulent practices in which they had engaged during the go-go market of the late 1990s.” (DeLong & Magin, 2006)

Hypothesis 1:

To investigate the effect of insider trading on first-day returns during the dot-com bubble, in this study, we developed a simple linear regression model to estimate the impact of insider trading on first-day returns using a sample of 300 IPOs during the dot-com bubble period. Our primary independent variable of interest was the level of insider trading activity surrounding each IPO. We also included other control variables, such as company size, industry, and economic conditions, to account for potential influences on first-day returns. The model was specified as follows:

$$\begin{aligned} \text{First-day returns} = & \alpha + \beta_1 (\text{Insider Trading}) + \beta_2 (\text{Company Size}) \\ & + \beta_3 (\text{Industry}) + \beta_4 (\text{Economic Conditions}) + \varepsilon \end{aligned} \quad (1)$$

To test the null hypothesis that insider trading does not affect first-day returns, we calculated a t-statistic for the estimated slope coefficient (β_1) and compared it to a critical value from a t-distribution with 298 degrees of freedom. If the t-statistic exceeded the critical value at the 5% level of significance, we would reject the null hypothesis and conclude that insider trading had a statistically significant impact on first-day returns. Otherwise, we would fail to reject the null hypothesis.

3.1.1. Interpreting Bubbles

Predicting bubbles is arguably the most complicated thing to do in economics when the bubble has not happened yet. Building models to predict bubbles when they have already happened is a straightforward approach assuming you know the underlying variables. We built a simple logistic regression to predict bubbles with 239 observations incorporating three bubbles. To rule out doubt for our model, we only incorporated bubbles that were human-made, e.g., (the dot-com bubble and the global financial crisis).

Hypothesis 2:

Through observations, we formulated the hypothesis, An increase in the money supply, GDP growth, and stock market volatility, as measured by the standard deviation of monthly returns, and the VIX standard deviation of monthly returns will lead to a higher probability of a market bubble occurring, while an increase in the PE ratio and 10-year treasury rate will lead to a lower probability of a market bubble occurring. We use a logistic regression model to predict market bubbles, that is, where p is the probability of the output variable being 1 (i.e., bubble period), and z is a linear combination of the input variable.

$$p = \frac{1}{1 + \exp(-z)} \quad (2)$$

$$Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad (3)$$

where X_1, X_2, \dots, X_n are the input variables (money supply, GDP growth, standard deviations of monthly returns, PE ratio, 10-year treasury rate, and VIX standard deviation monthly return) and $\beta_0, \beta_1, \beta_2, \dots, \beta_n$ are the coefficients to be estimated during model training.

3.1.2. Findings

1) *Sample 1*

Our initial regression analysis of a sample of 973 IPOs from the dot-com bubble period showed a positive relationship between insider trading and first-day returns with an estimated slope coefficient of 0.123. However, we did not perform a significance test at that stage. After conducting a t-test on the estimated slope coefficient with a reduced sample size of 300, we found that the t-statistic

of 3.42 exceeded the critical t-value of 1.96 at the 5% level of significance. Thus, we rejected the null hypothesis and concluded that insider trading had a significant effect on first-day returns during the dot-com bubble.

Our findings highlight the importance of insider trading in driving up stock prices during the dot-com bubble and have significant implications for understanding the role of insider trading in the stock market. Further research could explore the mechanisms through which insider trading influenced first-day returns and examine its long-term effects on stock prices and investor confidence.

2) *Sample 2*

Our logistic regression analysis has yielded significant insight into predicting market bubbles, which have important implications for policymakers and investors alike. We found evidence to support our hypothesis: that an increase in the money supply, GDP growth, and stock market volatility, as measured by the standard deviation of monthly returns and the VIX standard deviation of monthly returns, increases the probability of a market bubble occurring. Conversely, an increase in the PE ratio and 10-year treasury rate decreases the probability of a market bubble occurring. Our findings are supported by a high accuracy rate of 83%, as well as statistically significant coefficients and a relatively high pseudo-R-squared value of 0.51, indicating that the model explains about 51% of the variation in the data. Moreover, our sample size of 239 observations and focus on human-made bubbles, such as the dot-com bubble and the global financial crisis, provides further confidence in the reliability of our results. These findings suggest that investors and policymakers can use this model to monitor critical variables and identify periods of heightened risk for market bubbles. By taking proactive measures to mitigate potential risks, they can better protect their portfolios and contribute to greater financial stability and a more resilient economy. Our model provides a robust and useful tool for predicting market bubbles and can inform policy and investment decisions in a way that supports long-term economic growth and stability. Moreover, the reliability of our findings is supported by the exclusion of bubbles caused by natural economic cycles, which ensures that our results are not skewed by other factors such as natural disasters or other external events. Additionally, the statistical significance of the coefficients and goodness of fit measures further supports the validity of our model.

4. Conclusion

In response to the ever-evolving landscape of financial markets and the imperative need for adaptive regulatory frameworks, we propose an innovative policy enhancement—the Innovative Business Practices Assessment (IBPA). This groundbreaking policy initiative aims to amplify existing transparency frameworks by encompassing a comprehensive evaluation of pioneering business models and practices adopted by firms seeking public listing.

The envisaged IBPA policy entails the establishment of a dedicated regulatory body or committee charged with the meticulous evaluation of innovative busi-

ness strategies and practices embraced by companies during their pursuit of public listing. This evaluation transcends traditional financial disclosures, embracing a comprehensive analysis of novel approaches to product development, supply chain optimization, consumer engagement, sustainability initiatives, and technological integration.

Under the aegis of the IBPA policy, firms aspiring to attain public listing would be mandated to provide a comprehensive exposition of their innovative practices, elucidating their alignment with the company's growth trajectory and long-term viability. Rigorous evaluation by the regulatory body would assess the feasibility, potential risks, and overall impact of these groundbreaking practices on the company's operations, financial robustness, and competitive positioning.

At its core, the IBPA policy aims to illuminate emerging business paradigms and incentivize the adoption of forward-looking strategies that serve the interests of both investors and broader society. By encouraging firms to articulate and showcase their innovative approaches, this policy offers investors a comprehensive lens through which to assess a company's growth prospects and its commitment to navigating the complexities and opportunities inherent in a swiftly evolving business landscape.

Moreover, the IBPA policy seamlessly aligns with the overarching goals of transparency and disclosure, fostering a culture of continual improvement and responsible innovation. By subjecting innovative business practices to systematic scrutiny, firms are impelled to refine their approaches, address potential vulnerabilities, and harmonize their strategies with the pursuit of enduring long-term value.

The integration of the Innovative Business Practices Assessment policy represents a proactive stride toward cultivating a more dynamic and forward-looking investment ecosystem. By extending the purview of transparency and disclosure to encompass innovative practices, regulatory authorities can empower investors with the requisite tools to make well-informed decisions within an ever-evolving market milieu. This pioneering policy proposition holds the potential to reinforce the resilience, sustainability, and expansion of firms, while simultaneously enhancing investor trust and bolstering confidence in the transparent foundations of the financial system.

In conclusion, our study on the dot-com bubble provides a robust foundation for future investigations into the causes and consequences of economic bubbles. Our research emphasizes the pivotal role of regulatory measures in averting bubble formation, and our logistic regression model offers a valuable instrument for both prediction and prevention of future market bubbles.

Looking ahead, numerous avenues for further exploration stem from our work. One promising trajectory involves a deeper exploration of the underlying motivations that drove key contributors to the dot-com bubble, such as the surge in market IPOs, the emergence of DSPs, and the influence of VC firms. A nuanced understanding of these incentives can inform the development of more

effective regulations and policies to preclude similar events.

Additionally, our analysis of insider trading and Wall Street activities sheds light on the intricate mechanisms underpinning economic bubbles. Future research could extend this line of inquiry to scrutinize the role of other forms of financial misconduct, such as market manipulation, in bubble genesis and propagation.

The implications of our study form a sturdy cornerstone for future investigations into the intricate fabric of economic bubbles. By expanding the scope of our research, we open doors to a deeper comprehension of the global economic landscape, thereby facilitating the formulation of policies that promote enduring stability and sustainable growth.

Statements and Declarations

This paper aims to provide a thorough understanding of the dot-com bubble that occurred between 1996 and 2001, investigating the factors that contributed to its rise and eventual collapse. By examining the role of the media, investment banks, IPOs, and investor psychology, we seek to identify key lessons that can be applied to predicting and mitigating the risks of future market bubbles in the rapidly evolving digital economy.

The author of this paper declares that the research and analysis presented here are original and have been conducted with the utmost integrity. The sources of information have been duly cited, and any similarities to existing works are purely coincidental. The author acknowledges the responsibility of providing accurate and reliable information and strives to contribute to the existing body of knowledge on market bubbles and their potential implications for the global economy.

Data Availability Statement

The author confirms that all data generated or analyzed during this study are included in this published article. Furthermore, primary and secondary sources and data supporting the findings of this study were all publicly available at the time of submission.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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