External Economic Indices and IPO Timing: A Study on Market Readiness and Strategic Entry Points

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[Abstract] This study investigates the intricate connections between external economic variables and their impact on the timing of initial public offerings (IPOs) in the US from 1985 to 2022. The primary focus is to identify key predictors that influence the number of IPOs, offering insights into market readiness and strategic entry points for companies contemplating going public. Drawing from an extensive literature review, this article examines how external economic and financial indicators affect IPO activity. It delves into various theoretical frameworks and observed phenomena, such as information asymmetry, uncertainty, underpricing of IPO securities, credibility of signals from firms undergoing IPOs, venture capital support for IPOs, investor sentiments, and market performance.

Additionally, the article discusses the regulatory landscape governing IPOs, the role of underwriters, investor types, and the broader market implications of IPO activities. The methodology employs multiple linear regression analyses to establish the relationship between the number of IPOs and indicators such as inflation, GDP growth, venture capital-funded IPOs, the rate of new businesses opening, and the annual performance of the stock market. Through numerous iterative trials and rigorous diagnostic testing, we developed a robust model with an R-squared value of 0.888. This model aligns with the theoretical framework and offers a reliable interpretation of the results. The study also includes a comprehensive qualitative and quantitative (statistical) conclusion.

[Keywords] Initial public offerings (IPOs), market readiness, economic indicators, IPO timing, venture capital, strategic entry points

Introduction

Statement of the Problem

When a company considers going public, it must take into account various external financial and economic factors, such as market conditions, interest rates, economic growth, political stability, global trends, inflation, and industry-specific conditions. These factors, along with internal preparedness, create a diverse backdrop for the launch. To prepare for an initial public offering (IPO), management needs to conduct a thorough evaluation covering several aspects: tax implications, financial procedures, executive compensation, human resources policies, legal obligations, governance practices, communication strategies, risk management, and technology enhancements (PwC Deals, 2017).

The external situation is marked by significant unpredictability, making it challenging to accurately determine the optimal timing based on economic and financial factors (Latham & Braun, 2010). This research investigates potential predictors or determinants influencing the number of initial public offerings (IPOs) in the United States by analyzing data from 1985 to 2022. However, we can ascertain the significance of timing an IPO by consulting relevant literature, articles, and papers from reputable sources. Achieving a successful IPO requires both internal readiness and external economic congruence. Identifying the most advantageous moment to start an IPO benefits all parties involved, including investors, regulators, and the company.

Throughout American history, there have been numerous instances of failed and successful IPOs (Zhao, 2005). Given the importance of this event for a company, ensuring its success is crucial not only for the company's advantage but also to protect the interests of investors and uphold financial market stability, as mandated by regulatory obligations (Megginson et al., 2019).

Objective and Significance of the Study

Our research has two primary objectives. First, we aim to thoroughly examine the impact of external economic factors on the number of initial public offerings (IPOs), focusing on their influence on investor behavior and market valuation, an area that has received less attention in the literature on IPOs. Secondly, we seek to develop a strategic framework that effectively aligns the timing of an IPO with these favorable external circumstances.

This study provides valuable insights for various stakeholders involved in IPOs. It enhances the theoretical understanding of IPO dynamics by analyzing the relationship between external economic indices and the timing of IPOs, thus contributing to academic literature. Moreover, it offers practical guidance for firms and entrepreneurs, helping them make informed decisions by understanding how economic conditions affect the timing of IPOs.

Policymakers can utilize these observations to formulate favorable policies for IPOs, while regulatory bodies may consider adjusting regulations accordingly. Investors stand to benefit from comprehending the impact of economic conditions on IPOs, which assists them in formulating investment strategies. Additionally, the study contributes to discussions on market efficiency and stability by examining the economic factors that influence strategic entry points for IPOs. Furthermore, it aids companies in strategic planning and risk management by synchronizing the timing of IPOs with advantageous economic circumstances to maximize capital-raising endeavors and reduce market risks.

Methodology

Approach of Study

The methodology comprised conducting a thorough literature review to identify previous studies on market readiness and strategic entry points in IPOs. This aided in comprehending existing theories and frameworks concerning IPO timing and external economic indices. Additionally, data from IPOs conducted between 1985 and 2022 was collected and analyzed using multiple linear regression. The goal was to determine the potential regressors explaining the IPO count. This approach aimed to identify strategic entry points in the IPO market based on the findings from the regression analysis.

Review of Literature

The U.S. Securities and Exchange Commission (SEC) enforces regulations on publicity and communications for corporations during initial public offerings (IPOs). This ensures the accuracy of information presented to potential investors while balancing it with the company's need for continuous business communications. The SEC aims to control communications to ensure investors obtain information by federal disclosure rules while allowing companies to continue their operations and communications (Allison & McShea, 2008).

Market cycles, market conditions, and the available window of opportunity all impact the timing and execution of an IPO, making these factors crucial. Underwriters modify registration procedures in response to market conditions, and the "window of opportunity" refers to advantageous periods for IPOs. Conventional timeframes include refraining from IPOs around significant holidays and vacation times. The company and underwriters ascertain the offer particulars, target distinct investor bases, and carry out the roadshow to build investor interest. Given the possibility of the market interpreting a shareholder's decision to sell stock during the first public offering negatively, careful consideration is necessary (Draho, 2004). During the roadshow, underwriters conduct a book of potential orders to gauge investor interest and determine the offering price. This process involves recording the number of shares each investor is willing to purchase and the price they are willing to pay. The pricing committee, often comprising senior management and board directors, determines the IPO price (Allison & McShea, 2008).

Private equity and venture capital investors must consider several factors when exiting their investment, such as strategy, the time it takes to convert assets into cash, expected profits, control over the company, and compliance with disclosure and fiduciary obligations. Deciding between IPOs and private sales necessitates meticulously evaluating profitability, control, and market conditions. IPOs can stimulate interest in private sales, increasing a company's attractiveness to strategic buyers. After the IPO, there are several ways to increase liquidity, such as selling shares, distributing shares to investment funds, or participating in private transactions (Sohl, 2003).

The surge in IPO volume is mainly attributed to investor optimism, underscoring the importance of periods characterized by strong investor confidence. Furthermore, it emphasizes the correlation between fluctuations in IPO volume and economic conditions, indicating the necessity of considering more comprehensive data. Post-IPO stock returns offer valuable information on market value and investors' sentiment. The study also emphasizes the importance of factors beyond immediate financial requirements, such as market preparedness and investor perception, in determining the timing of an IPO (Lowry, 2003).

IPO underpricing occurs when a company's initial offering price is intentionally set below the market price at the start of trading, affecting issuing companies, underwriting institutions, and investors differently. Information asymmetries, market conditions, and investor behavior are significant determinants of IPO underpricing. Information asymmetries refer to the difference in knowledge about a company's true value between insiders and the broader market, which can influence the strategy and timing of IPOs. Market conditions, such as the late 1990s internet bubble, can also influence underpricing, as seen during market booms. Lastly, investor behavior, including psychology, optimism, and attitudes toward new market entry, directly impacts underpricing. Behavioral theories suggest that investor enthusiasm and optimism may lead to increased demand for IPOs (Ljungqvist, 2007).

Research indicates significant variability in IPO attributes such as underpricing and long-term performance over different time periods. This variability suggests that the efficacy and results of IPO tactics can vary depending on the timing of their launch. Studies also show significant variations in the quantity of IPO transactions and the extent of underpricing throughout different periods. During the Internet boom period, there were unique trends in IPO conduct. External market variables, such as investor mood and economic conditions, impact IPO strategy and results.

IPOs generally exhibit inferior performance over an extended period compared to established market benchmarks and well-established enterprises. This suggests that initial success factors may not be sustainable in the long run. Therefore, examining IPOs focusing on the long term is crucial, considering factors that impact success beyond the initial offering stage (Ritter & Welch, 2002). Understanding investor types and behavior is crucial for comprehending IPO phenomena, particularly underpricing and long-run performance. Market sentiment plays a significant role in IPO activity and underpricing, with investor behavior significantly impacting IPO outcomes, especially during periods of optimism or pessimism (Loughran & Ritter, 2002).

The volatility of initial returns in IPOs, particularly during hot markets, reflects the high levels of uncertainty that investors encounter. This volatility can influence investor behavior, especially among those lacking the expertise or resources to accurately assess the value of complex and uncertain IPOs. Firms with higher information asymmetry, such as young, small, and technology firms, tend to have higher initial return volatility. Market conditions also sway investor decisions, with sentiment and risk tolerance significantly shaping the IPO process and pricing during periods of heightened market uncertainty. The challenge in accurately valuing companies affects how investors perceive and react to IPOs, resulting in significant disparities in response to pricing and performance (LOWRY et al., 2010).

Real investment opportunities and adverse selection both impact the IPO market. Economic cycles affect adverse selection because periods of economic growth highlight the variation in hidden quality among companies, making it difficult for investors to determine the true worth of these enterprises. During periods of high demand for IPOs, investors may encounter heightened risks due to the fluctuating quality of companies entering the market. This may influence investor behavior, with some seeking to exploit potential underpricing while others exercise caution due to increased risk. The study also suggests that discernible attributes of a company may remain constant over time, posing a challenge for investors who

rely on visible indicators to assess the potential profitability or risk of an IPO. The consequences for various categories of investors depend on prevailing economic conditions and the composition of companies entering the stock market (YUNG et al., 2008).

The role of underwriters in the US IPO market is significant, with studies revealing non-competitive behavior and a prevalent fixed rate of 7%. Underwriters also engage in post-IPO market-making activities, often undertaking profitable activities and raising concerns about potential conflicts of interest and market fairness. Biased allocation to institutional investors is another concern, with evidence suggesting a preference for institutional investors over retail investors. Possible collusion between investment bankers and institutional investors raises ethical and regulatory concerns (Biais et al., 2002).

A considerable negative link exists between macroeconomic uncertainty and the timing of IPOs. This emphasizes the significance of strategic timing for initial public offerings (IPOs), as extended periods of uncertainty can have a detrimental impact on how they are received and their subsequent performance. The study emphasizes how vital investor sentiment is in IPO operations and how macroeconomic circumstances frequently impact it. The paper also emphasizes the simultaneous influence of macroeconomic uncertainty on IPO filing and withdrawal dynamics, suggesting increased market preparedness during periods of uncertainty. Highlighting the importance of conducting thorough economic research when determining the date of an IPO (Nguyen Thanh, 2020). A considerable negative link exists between macroeconomic uncertainty and the timing of IPOs. This emphasizes the significance of strategic timing for initial public offerings (IPOs), as extended periods of uncertainty can have a detrimental impact on how they are received and their subsequent performance. The study emphasizes how vital investor sentiment is in IPO operations and how macroeconomic circumstances frequently impact it. The paper also emphasizes the simultaneous influence of macroeconomic uncertainty on IPO filing and withdrawal dynamics, suggesting increased market preparedness during periods of uncertainty. Highlighting the importance of conducting thorough economic research when determining the date of an IPO (Dai et al., 2021).

Model Specification

$$\text{IPO Count} = \beta_0 + \beta_1 \times \text{Inflation} + \beta_2 \times \text{Rate of New Establishment} + \beta_3 \times \text{GDP Growth} + \beta_4 \times \text{VC Funded IPO} + \beta_5 \times \text{Annual Stock Returns} + \epsilon$$

Data Source and Collection

The data collection involved gathering information from various sources, such as financial databases, government reports, and economic indicators. The data was then cleaned and organized using Python libraries to ensure accuracy and consistency. Additionally, using APIs like FRED and the Census Bureau helped access relevant economic data for the regression analysis.

The regressors we have used are the number of IPOs (Ritter, 2023), Annual NASDAQ index performance (Yahoo Finance, 2023), Number of venture capital-funded IPOs (Ritter, 2023), Number of new establishment rates (Bureau, 2023), Inflation (Consumer Price Index for All Urban Consumers: All Items in U.S. City Average, 2023), and GDP (Real Gross Domestic Product, 2023).

Table 1
Processed Data

Year	IPO (Ritter, 2023)	Inflation (FRED, 2023) %	*Rate of New Establishment (Bureau, 2023) %	GDP Growth (FRED, 2023) %	VC Funded IPO (Ritter, 2023)	Annual Stock Return (Yahoo Finance., 2023) %
1985	186	3.52823	15.1	4.2	39	-12.7703331
1986	393	1.94423	13.971	2.9	79	16.56937
1987	285	3.57820	12.81	4.5	66	26.44094
1988	105	4.09973	12.811	3.8	32	9.703658
1989	116	4.79137	12.462	2.8	40	-6.98948
1990	110	5.41866	13.382	0.7	42	16.92285
1991	286	4.21635	14.531	1.2	115	-6.53892
1992	412	3.041118	13.817	4.4	138	20.16357
1993	510	2.96989	14.083	2.6	172	21.8779
1994	402	2.59560	14.312	4.1	129	19.3401
1995	462	2.80519	13.949	2.2	190	5.103291
1996	677	2.93667	13.358	4.4	266	23.08762
1997	474	2.33778	12.695	4.5	134	25.91447
1998	283	1.54679	12.366	4.9	80	26.14111
1999	476	2.19314	11.576	4.8	280	22.14586
2000	380	3.36709	11.507	3	245	51.99372
2001	80	2.81662	11.864	0.2	32	38.69028
2002	66	1.59566	12.065	2	23	-46.2164
2003	63	2.29780	11.805	4.3	25	-24.3374
2004	173	2.66739	12.212	3.3	79	6.977541
2005	159	3.36618	11.437	3	45	20.60256
2006	157	3.22174	11.12	2.7	56	5.677792
2007	159	2.87063	10.849	2.1	79	7.816529
2008	21	3.81491	10.99	-2.5	9	13.91956
2009	41	-0.32008	11.912	0.2	12	-16.1639
2010	91	1.63633	11.44	2.8	40	-14.6321
2011	81	3.13973	11.509	1.6	46	27.33893
2012	93	2.07315	11.62	1.6	49	13.93881

2013	158	1.46611	12.492	3	81	10.76095
2014	206	1.61535	11.764	2.7	132	19.41399
2015	118	0.12124	10.31	2.1	78	23.5454
2016	75	1.26707	9.283	2.2	49	13.03855
2017	106	2.13162	9.504	3	64	0.854089
2018	134	2.43920	9.898	2.1	91	25.01118
2019	113	1.81282	10.022	3.2	77	19.09546
2020	165	1.25131	9.815	1.4	113	6.923976
2021	311	4.68223	9.911	5.4	175	28.48036
2022	38	7.98683	10.026	0.7	14	40.87784

Inflation

Figure 1
(FRED, 2023, CPI for All Urban Consumers: All Items in U.S. City Average)
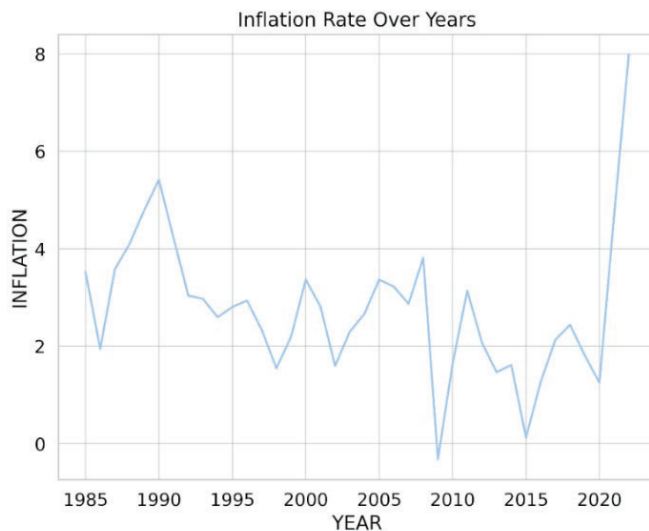
According to literature analysis, it can be inferred that macroeconomic indices, such as inflation, can significantly impact the number of initial public offerings (IPOs) and influence the outcome of IPOs. The state of the economy, which includes factors such as inflation rates, can impact market attitudes, investor behaviors, and the overall financial well-being of enterprises looking to become publicly traded. Inflation, a crucial economic determinant, may influence the assessment of enterprises, the buying ability of prospective investors, and the cost of capital. Incorporating inflation as a crucial factor in evaluating IPO activity is justified, as it may offer significant insights into the correlation between macroeconomic developments and the occurrence and performance of IPOs (Lowry, 2003).

Rate of New Establishment

Figure 2
(Census Bureau, 2023)

Rate of E Over Years
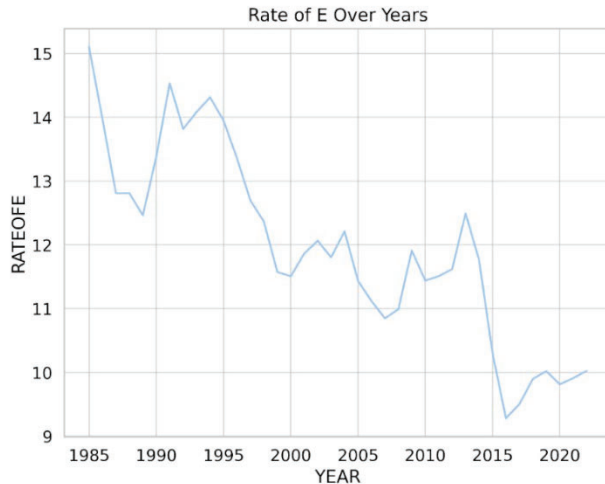
The correlation between the pace of new business creation and the number of initial public offerings (IPOs) in the U.S. stock market is very substantial, particularly considering a delay of seven years. This may be attributed to several variables, including the time it takes for maturity and incubation, prevailing economic and market circumstances, the number of companies in the IPO pipeline, and advancements and changes within specific sectors. A thriving economy promotes entrepreneurship, resulting in a higher number of new firms that have the potential to become candidates for initial public offerings (IPOs). In contrast, economic downturns can diminish the number of initial public offerings (IPOs) over a period. Insights on forthcoming IPO trends can be gleaned from the attributes and sectors of nascent enterprises. Therefore, the pace at which new businesses are established is vital in forecasting future IPO activity, as it offers strategic insights into the quantity and attributes of IPOs (Sohl, 2003).

Real GDP Growth

Figure 3
*(Real Gross Domestic Product, 2023)*

GDP Growth Over Years
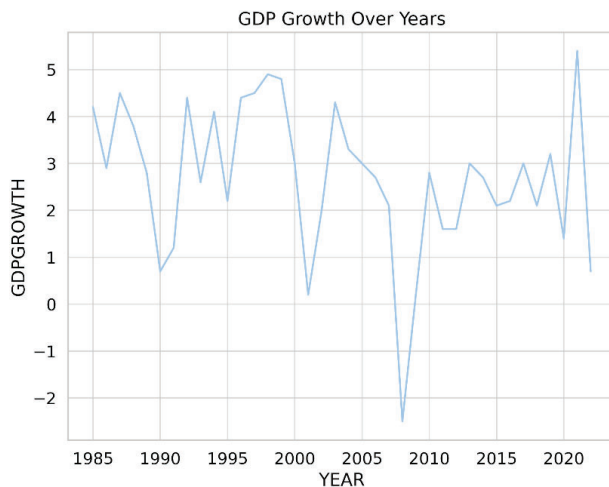
Gross Domestic Product (GDP) growth is a vital economic metric that substantially impacts investor behavior. The indicator serves as a measure of the overall health of an economy, signaling a strong economy characterized by higher business earnings, consumer spending, and investment. The expansion of GDP has a favorable effect on corporate profitability, resulting in more sales and revenues, which might enhance the appeal of investing in the stock market. Market mood is impacted by GDP growth, which serves as an indicator of stability and the possibility of future expansion. This attracts both local and foreign investors. Sector-specific growth fluctuations also contribute to the overall growth of GDP since areas like consumer goods, real estate, and technology attract more investment because of rising consumer demand and technological advancements. A consistent increase in GDP can also suggest a conducive atmosphere for the long-term appreciation of capital value, thus making it a crucial element in strategic investment planning (Dai et al., 2021).

*VC Funded IPOs*

Figure 4
(Ritter, 2023)
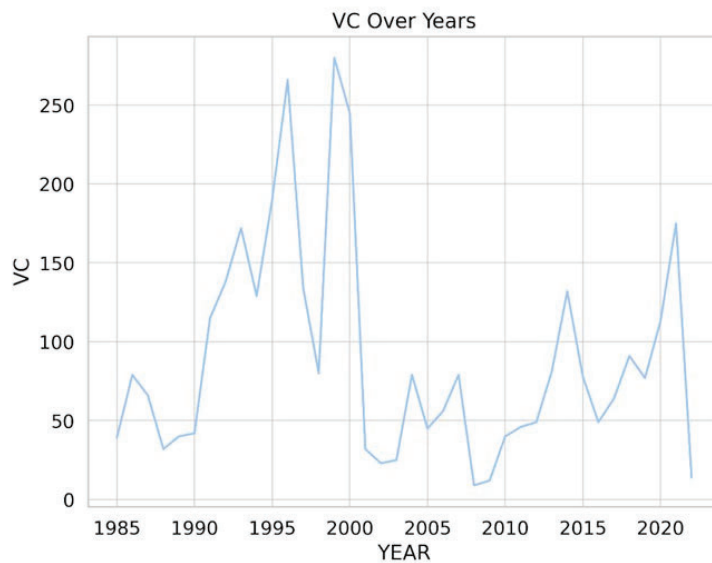
Venture capital (VC) financing is essential for initial public offerings (IPOs) as it increases investor trust, strengthens corporate stability and maturity, and improves a company's track record of success. Venture capitalists contribute funds to firms with a documented history of promising growth potential and innovative concepts, enhancing their appeal to potential investors. Opting for a venture capitalist (VC) to take a corporation public demonstrates its capacity to endure market obstacles and examination, facilitating initial public offering (IPO) activities. VC-funded initial public offerings (IPOs) frequently attain higher valuations due to less risk and amplified growth prospects, which attract a broader spectrum of investors, including institutional investors. Venture capital investments often target high-growth sectors such as technology, offering essential insights into emerging trends and growth areas within the initial public offering (IPO) market. A more thorough comprehension of IPO market variations may be attained by including VC-funded IPOs in the research of IPO patterns (Ljungqvist, 2007).

Annual Stock Market Performance

Figure 5
(Yahoo Finance., 2023)
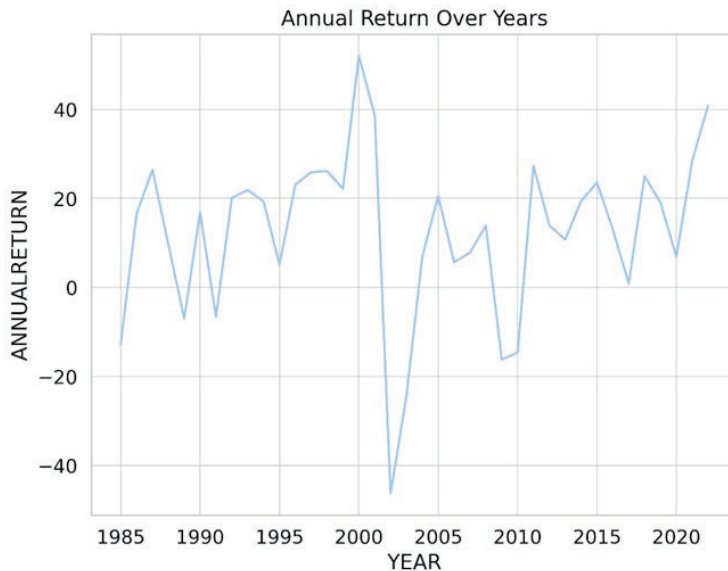
The Volatility Index (VIX) and yearly stock returns, especially when considering a one-year lag, substantially impact investor confidence, market conditions, and perceptions of uncertainty. These elements are critical in determining the number of initial public offerings (IPOs) and their likelihood of success. These factors are deemed appropriate as independent variables in examining IPO patterns and results since they indicate market mood, the duration of preparation and planning, and the general condition of the stock market. The association between yearly stock market success and VIX is negative, meaning that a lower VIX indicates reduced market volatility and more stability, which is favorable for IPOs. When yearly stock returns are robust, a decrease in the VIX might indicate favorable market conditions for IPOs. This suggests that investors are optimistic, perceive fewer risks, and believe the economic climate is steady.

By using VIX and yearly stock returns as regressors, a more thorough understanding of the market can be obtained since it leads to both the success of the market and the perception of risk by investors. Companies intentionally time their debut into the market by using these indications to prepare for an IPO, intending to select a moment characterized by high investor confidence and stable market circumstances. The association between these characteristics yields significant insights into the market climate and risk perception, crucial factors influencing IPO results (Yung et al., 2008).

Number of IPOs

Figure 6
(Ritter, 2023)
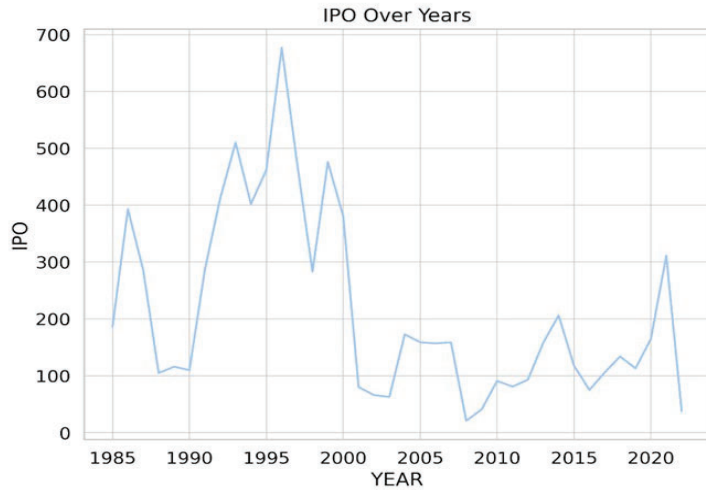
The study "External Economic Indices and IPO Timing: A Study on Market Readiness and Strategic Entry Points" examines the relationship between the number of initial public offerings (IPOs) and market readiness. The number of IPOs is a dependent variable that reflects market activity and investor confidence, indicating a strong market with good economic conditions. Companies often plan their IPOs to align with favorable market conditions, which can be a crucial indicator of whether the market is suitable for IPOs. The study also explores how external economic indicators, such as GDP growth, inflation, venture capital financing, and stock market performance, impact company choices to commence IPOs. The number of IPOs is crucial for evaluating market preparedness and identifying opportune moments for new IPOs. Understanding the optimal timing for IPOs is crucial for firms contemplating an IPO, as it guides the optimal timing to enter the market and optimize their results. The study uses the number of IPOs as a dependent variable to assess the impact of these factors on IPO decisions and market dynamics.

Analysis and Findings

Table 2
Regression Result

Variable	Coefficient	Std. Error	t-Value	P>|t|	95% CI Lower	95% CI Upper
Intercept	214.8684 (β_0)	8.919	24.091	0.000	196.701	233.036
Inflation	-6.0999 (β_1)	9.803	-0.622	0.538	-26.067	13.868
Rate of New Establishment	61.7078 (β_2)	9.817	6.286	0.000	41.711	81.705
GDP Growth	21.5813 (β_3)	10.247	2.106	0.043	0.709	42.454
VC Funded IPO	108.4658 (β_4)	11.554	9.387	0.000	84.930	132.001
Annual Stock Return	19.7511 (β_5)	10.985	1.798	0.082	-2.624	42.126

Before providing economic interpretations, here do some routine diagnostic testing and discuss the model's resilience and statistical significance.

Correlation Matrix

Figure 7
Correlation Matrix including dependent variable.
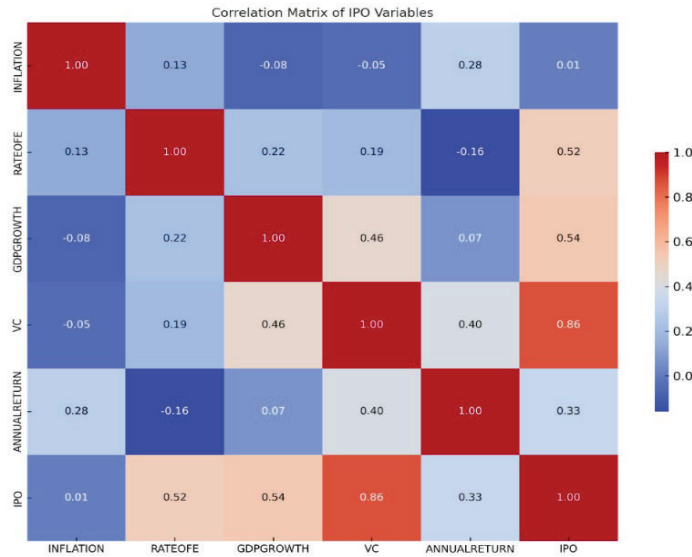
When there are more explanatory variables, the correlation matrix helps us assess if there is any multicollinearity issue. It allows us to determine the correlation between each explanatory variable and the dependent variable individually. It may be deduced that there is no serious problem with multicollinearity among the explanatory factors. Furthermore, we found that each explanatory variable has a unique significance when incorporated into the model based on the literature study. Additionally, we discover a strong correlation between the dependent and explanatory variables, except for inflation, which is a model limitation.

Figure 8
Correlation Matrix Excluding Dependent Variable
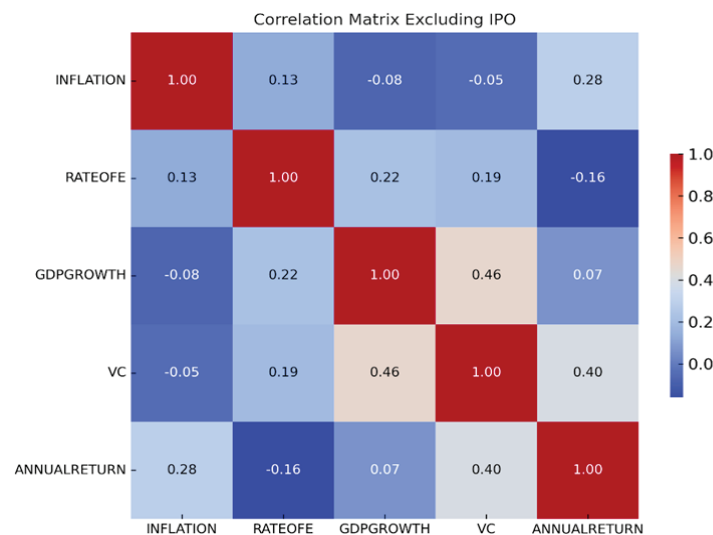
Normal Q-Q Plot and Scale Location Plot

The analysis using the Normal Quantile-Quantile (Q-Q) Plot in our study yielded a positive indication that our data conforms closely to a normal distribution. The linear alignment of the data points in the plot, consistent across the entire data range with no significant deviations, supports the validity of the statistical assumptions underlying our analyses. This finding enhances the reliability and generalizability of our study's conclusions, providing a solid foundation for the statistical inferences and models applied in our research.

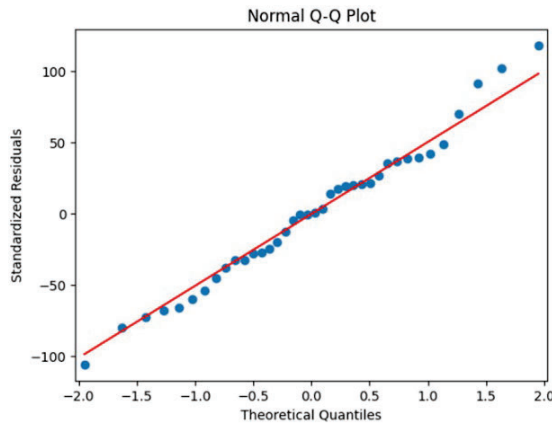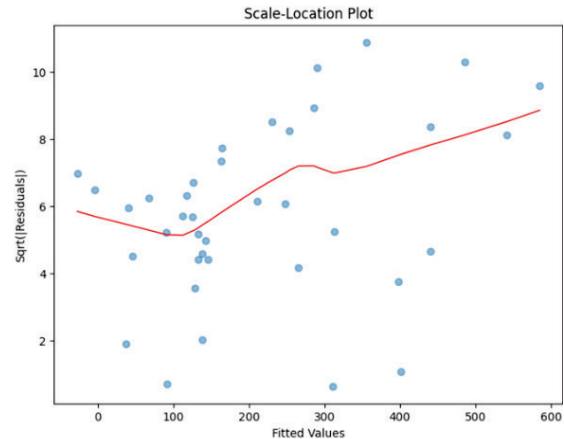**Figure 9**
Normal Q-Q Plot

Figure 10
Scale Location Plot

The plot displayed a random spread of points with a relatively constant spread across the range of predicted values, indicating that the residuals had uniform variance. This uniformity in the spread suggests that our model meets the assumption of equal variance (homoscedasticity), which is crucial for the validity of the regression coefficients and the overall model. The absence of distinct patterns or systematic spread in the plot reinforces the robustness of our model, ensuring that our statistical conclusions are reliable.

Residual vs Leverage Plot

Figure 11
Residual vs Leverage Plot
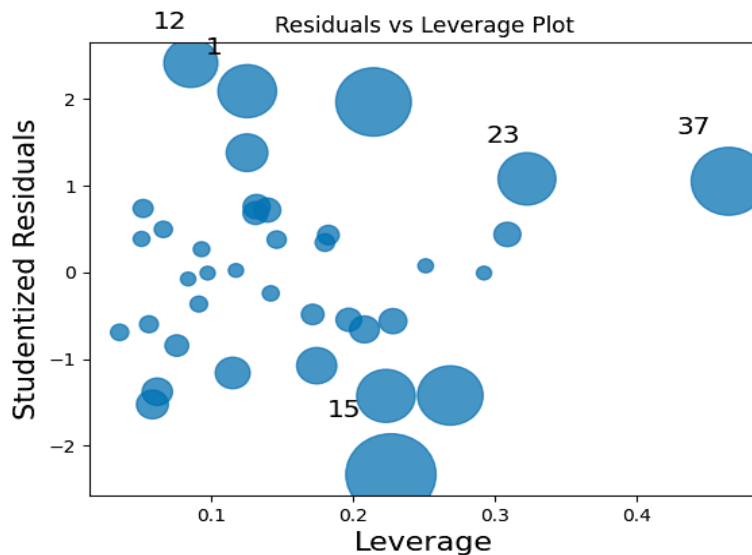
The Residuals vs. Leverage plot was scrutinized in our regression analysis to identify influential data points. Point 37, with high leverage and a large positive residual, was flagged as potentially impactful, warranting further examination. Conversely, point 12 exhibited moderate leverage despite a significant residual, indicating a lesser influence on the model. The other labeled points did not show unusual leverage or residuals, suggesting minimal influence. Overall, the plot revealed no systematic patterns indicative of model violations, such as heteroscedasticity or non-linearity. The findings underscore the model's robustness, although point 37's influence suggests a need for potential data refinement to enhance model precision.

VIF Test

Table 3
VIF Tests Result Before StandardScaler Reduction

Variable	Coefficient
Inflation	5.557634
Rate of New Establishment	9.547214
GDP Growth	5.173241
VC Funded IPO	4.473785
Annual Stock Return	2.072464

Table 4
VIF Tests Result After StandardScaler Reduction

Variable	Coefficient
Inflation	1.208020
Rate of New Establishment	1.211605
GDP Growth	1.319982
VC Funded IPO	1.678310
Annual Stock Return	1.516937

The Variance Inflation Factor (VIF) tests conducted before and after applying the StandardScaler reveal a significant reduction in multicollinearity among the variables in our regression model. Initially, variables such as 'Rate of New Establishment' exhibited a VIF score notably higher than the acceptable threshold of 5, indicating potential multicollinearity issues. However, post-StandardScaler application, all variables demonstrated VIF scores well below the critical value of 10, with 'Inflation' and 'Rate of New Establishment' showing substantial improvement to near-ideal conditions (VIF close to 1). This reduction enhances the reliability of our model, indicating that each predictor variable is now contributing unique information to the regression equation. The corrective action taken effectively mitigates multicollinearity, ensuring a more robust and interpretable model.

Regression Result and Findings
In refining our regression model to achieve a robust fit, we incorporated an iterative approach that included the application of StandardScaler. This standardization procedure was instrumental in addressing multicollinearity, enhancing the distinct contribution of each predictor. The iterative application of feature scaling ensured that the model's explanatory variables operated on the same scale, thereby improving the interpretability and reliability of our model's coefficients. This methodical process proved effective in optimizing our model's performance.

Examining external economic indicators and their influence on the timing of initial public offerings (IPOs) is complex, considering several aspects like inflation, the rate of new business formation, GDP growth, venture capital-funded IPOs, and yearly stock market performance. Each of these criteria has a distinct role in the decision-making process for firms contemplating an initial public offering (IPO).
Now, let us explore how each of these elements affects the timeframe of an Initial Public Offering (IPO):

Inflation: The coefficient for inflation is -6.0999, indicating a negative relationship. However, this relationship is not statistically significant, as indicated by a p-value of 0.538. It implies that although rising inflation might potentially discourage IPO activity by affecting investors' value and buying power, in our investigation, the influence is not significant enough to support a conclusive judgment.

New Establishment Rate: A substantial positive coefficient (61.7078) and a low p-value (0.000) suggest a robust association between the establishment of new enterprises and IPO activity. This is logical, as a greater rate of new business establishment can result in more enterprises reaching a state of full development and contemplating an initial public offering.

GDP Growth: The coefficient of 21.5813 and a p-value of 0.043 indicate that GDP growth is a statistically significant predictor of IPO timing. With the increase in GDP, there is a perception of a more robust economic climate, which prompts enterprises to go public to take advantage of favorable market circumstances.

VC Funded IPOs: This factor has a substantial positive correlation (coefficient: 108.4658) and is statistically significant (p-value: 0.000). This emphasizes the crucial significance of venture capital in enabling first public offerings (IPOs). Start-up firms that get venture capital funding are frequently more well-prepared and appealing to investors in the public market, resulting in a higher number of initial public offerings (IPOs).

Annual Stock Market Performance: The coefficient for this component is positive (19.7511), indicating a positive link. However, the considerably higher p-value (0.082) suggests that the relationship is only marginally significant. This suggests that improved stock market performance might incentivize first public offerings (IPOs), as firms aim to capitalize on favorable investor sentiment and increased valuations.

Ultimately, the study demonstrates that the speed at which new businesses are established and get venture capital investment, as well as the growth of the GDP and the annual success of the stock market, are the most influential factors in determining the timing of initial public offerings (IPOs). In this investigation, although theoretically significant, inflation does not exhibit a substantial statistical effect. Companies contemplating initial public offerings (IPOs) should carefully evaluate macroeconomic factors and industry-specific trends while prioritizing market preparedness and strategic entry opportunities.

The regression analysis yields an R-squared value of 0.888, indicating that the model explains a significant portion of the variance in IPO outcomes. The Adjusted R-squared, at 0.871, suggests that the model remains effective even after accounting for the number of predictors. The F-statistic, while robust at 50.75, reinforces the overall model significance. The model's fit by reasonable AIC and BIC values, suggesting a balance between goodness of fit and complexity. Residual diagnostics, including the Omnibus and Jarque-Bera tests, do not indicate any notable deviations from normality, corroborated by skewness and kurtosis measures within acceptable ranges. The Durbin-Watson statistic points to minimal autocorrelation among residuals. These indicators confirm that the model is well-specified and offers a reliable interpretation of the factors affecting IPO performance.

Summary of Regression Model Statistics

Table 5

Statistics

Variable	B	P
Model Statistics		
R-squared	0.888	
Adjusted R-squared	0.871	
F-statistic	50.75	$< .001*$
Prob (F-statistic)		2.79e-14
Log-Likelihood	-205.18	
AIC	422.4	
BIC	432.2	
Residual Statistics		
Df Residuals	32	
Df Model	5	
Omnibus	1.221	.543
Skew	0.392	
Kurtosis	2.749	
Durbin-Watson	1.179	
Jarque-Bera (JB)	1.074	.585

Discussion

Inflation is a substantial determinant that might influence a company's anticipated earnings and valuation. Inflation diminishes the ability of money to buy goods and services as time goes on, hence decreasing the worth of future cash flows. Elevated inflation rates can increase input expenses, impacting profitability and market valuation. Additionally, it can diminish customer demand for goods and services, affecting revenue and profitability. Elevated inflationary pressures can increase interest rates, thus augmenting the cost of borrowing for expansion or investment. This, in turn, might impede growth prospects and diminish the appeal of enterprises to potential investors. In addition, inflation can lead to economic instability, resulting in variations in stock prices and market volatility. This, in turn, might dissuade firms from going public during periods of high inflation. Prior research indicates that inflation is an economic gauge that impacts investor confidence and market behavior (Lowry, 2003).

The *Rate of new business establishment* is a crucial indicator of entrepreneurial activity and market growth. A high rate indicates a flourishing economy with fresh prospects, leading to an increased number of enterprises achieving the growth required for an initial public offering (IPO). Sectoral growth, such as in technology, often results in a rise in IPOs within these sectors, reflecting market trends and the investment preferences of stakeholders in developing sectors. Furthermore, the success of IPOs in specific sectors can attract more investors and encourage further entrepreneurial activity in those areas. This cycle of growth and investment creates a positive feedback loop, driving overall economic development and innovation (Sohl, 2003).

GDP growth is a crucial indicator of economic health and stability, promoting corporate expansion and enabling more firms to reach the required size for IPOs. It also fosters investor confidence, creating a more favorable environment for IPOs. Economic literature extensively documents this relationship and is often crucial for corporations when strategizing for IPOs. Corporations carefully analyze the GDP growth

rate to assess the overall economic conditions and determine the optimal timing for their IPOs. A robust GDP growth rate indicates a thriving economy, which can attract more investors and increase the chances of a successful IPO (Dai et al., 2021).

Securing *venture capital* **money** is essential for firms to adequately prepare for initial public offerings (IPOs) and bolster their attractiveness to potential investors. Companies with reputed venture investors are typically more adept at managing obstacles and meeting expectations in the public market. Their meticulous and comprehensive due diligence equips them for the IPO process and enhances their attractiveness to investors. Studies indicate that venture capital investment is frequently perceived as a kind of validation, which garners increased interest from investors in the public market. Furthermore, venture investors often provide valuable guidance and expertise to companies, helping them navigate the complexities of the IPO process and increase their chances of success. This added support and credibility can further boost investor confidence and attract capital to fuel the company's growth (Ljungqvist, 2007).

The *stock market's performance*, as measured by the VIX, indicates the market's state and investor sentiment. A strong market performance may suggest a favorable environment for initial public offerings (IPOs). As financial analyses indicate, companies often seek a favorable 'window of opportunity,' characterized by strong market performance, to optimize their value and ensure a successful IPO. During a strong market performance, investors are more willing to take risks and invest in new companies, making it easier for IPOs to attract capital. A favorable market environment can also lead to higher valuations for IPOs, allowing companies to raise more funds and potentially expand their operations (Yung et al., 2008).

Limitations of the Study

Although this research offers valuable insights into the correlation between macroeconomic variables and the timing of initial public offerings (IPOs) in the United States, it is crucial to acknowledge specific limitations that define the context of our findings:

- Reliance on Historical Data: Our analysis is based on data from 1985 to 2022. While this historical approach is thorough, it may not encompass emerging trends that could impact future IPO dynamics.
- Geographical Scope: The study specifically focuses on the United States market. Consequently, the findings may not be directly relevant to other areas characterized by distinct economic and regulatory environments.
- Economic Variables Scope: Our analysis encompasses various economic indicators. Nevertheless, this study does not contain other pertinent variables, such as industry-specific transformations or technological progressions.
- Constraints in Modelling: The regression model has inherent limitations despite extensive refinement. These encompass possible difficulties in dealing with intricate, non-linear connections between variables.
- Data Source Reliability: The accuracy of the study's conclusions directly depends on the data sources' reliability. Although attempts were made to guarantee the quality of the data, the findings may be affected by any inherent limitations present in these sources.
- Temporal Considerations: Our study encompasses multiple market cycles from 1985 to 2022. Although this study offers a thorough summary, it may not fully account for the distinct effects of particular market conditions during this timeframe.
- The research examines explicitly initial public offerings (IPOs) timing. Therefore, the findings may not apply to other aspects of initial public offerings, such as long-term performance or variations across sectors.
- Quantitative analysis refers to systematically examining and interpreting numerical data to gain insights, make informed decisions, and identify patterns or trends. The study primarily focuses on quantitative aspects and does not extensively examine qualitative factors, such as management quality or market sentiment, despite their potential influence.

- Regulatory Evolution: The study period saw significant changes in regulations related to IPOs, which must be considered. Our analysis may not comprehensively encompass the intricacies of these dynamic regulatory effects.
- The study considers significant economic indicators, but the intricate interplay between investor behavior and market dynamics is a multifaceted subject that may necessitate additional investigation.

By recognizing these constraints, we aim to offer a precise comprehension of the circumstances and extent of our discoveries. These points also emphasize the potential for future research to further develop and broaden the understanding of IPO dynamics in different contexts.

Conclusion

This study offers valuable insights into the intricate relationship between many macroeconomic variables and the timing of initial public offerings (IPOs) in the United States. The study demonstrates a strong correlation between the frequency of initial public offerings (IPOs), the rate of new business establishments, and the prevalence of IPOs supported by venture capital (Sohl, 2003). This conclusion has been reached based on extensive data analysis from 1985 to 2022. These findings emphasize the significance of entrepreneurial activity and external funding in influencing the dynamics of initial public offerings (IPOs).

The study also emphasizes that although inflation and GDP growth are theoretically significant, their influence on the timing of IPOs is not as noticeable as that of venture capital investment and rates of new firm setup (Lowry, 2003). Companies considering initial public offerings (IPOs) should prioritize monitoring market and sector-specific developments and the general entrepreneurial environment (Ljungqvist, 2007).

Furthermore, the research illustrates the intricate impact of yearly stock market performance on IPO activity (Yung et al., 2008). Although there is a certain degree of association, the influence is not as immediate or substantial as other elements. This discovery holds significant significance for corporations and investors when determining the optimal timing for an initial public offering (IPO), underscoring the necessity of employing a comprehensive methodology to evaluate the market's preparedness (Dai et al., 2021).

Ultimately, the report offers significant direction for corporations, investors, and politicians. The text underscores the need to consider various economic and market variables while strategizing for an initial public offering (IPO). The knowledge acquired from this research can assist in carefully synchronizing the timing of initial public offers (IPOs) with advantageous market circumstances, ultimately resulting in more prosperous public offerings and strong market involvement. This research contributes substantially to comprehending IPO market dynamics and provides a basis for future studies on this topic.

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