



The Influence of National Economic and Financial Systems on the Performance of Initial Coin Offerings



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Abstract: The rapid emergence of blockchain technology has facilitated the rise of Initial Coin Offerings (ICOs), offering an innovative approach to raising capital for startups and entrepreneurial ventures. Unlike conventional financing, where projects rely on internal resources or traditional external investments, ICOs enable firms to secure funding directly from the public through token sales. As this new form of crowdfunding gains momentum, the structure of national economic and financial systems has been identified as a critical factor influencing the success and performance of ICOs. Recent research has increasingly focused on comparing ICO markets with traditional corporate financing to better understand the dynamics at play. In this study, an econometric model was constructed to investigate how variations in a country's financial and economic structures shape the fundraising outcomes of ICOs. A sample of 100 startups from diverse countries, including the United Kingdom, the United States, Austria, and South Africa, was analysed. The ordinary least squares (OLS) method was employed to estimate the model, defined as: $\text{Log}(\text{funds}) = \alpha + \beta_1(\text{fin}) + \beta_2(\text{b}) + \beta_3(\text{n}) + \beta_4(\text{in}) + \epsilon$. The variables represent key economic and financial indicators hypothesised to affect ICO performance, with rigorous statistical tests conducted using R Studio and Excel. Findings are expected to contribute to the growing body of literature by clarifying the extent to which national financial systems either facilitate or hinder the success of ICO fundraising campaigns. This research also provides valuable insights into the evolving role of financial innovation and regulation in the cryptocurrency ecosystem.

Keywords: Initial Coin Offerings (ICOs); Blockchain; Economic structure; Financial system; Start-up; Financing

1. Introduction

The research investigates the question "How does the structure of a country's economic and financial system influence the success of ICOs?" This enquiry is grounded in hypotheses informed by a comprehensive review of the relevant literature. Previous studies have demonstrated that key elements within a nation's economic and financial frameworks can exert considerable influence on the outcomes of ICO campaigns. Following the identification of critical factors, four primary indicators were selected for analysis: financial freedom, bank concentration, the ratio of nonperforming bank loans, and interest payments. These factors are recognised in both theoretical and empirical research as influential in shaping ICO fundraising success (Ahmad et al., 2023).

Based on these insights, four hypotheses were formulated:

- **H1:** ICOs emerge more frequently in countries with less banking concentration.
- **H2:** ICOs emerge more frequently in countries with less financial freedom.
- **H3:** A negative relationship is expected between a bank's nonperforming loans and the funds raised from ICOs.
- **H4:** ICOs emerge more frequently in countries showing lower financial risk.

An econometric model was developed to explore these hypotheses, with the funds raised through ICOs serving as the dependent variable. The independent variables encompass financial freedom, banking concentration, nonperforming loans, and interest payments. This model provides a framework for analysing the intersection of economic structures and financial systems in relation to ICO performance. The methodological approach integrates

both theoretical constructs and empirical evidence, thereby bridging conceptual frameworks with real-world data.

This section, entitled *Theoretical and Empirical Study of the Impact of Economic and Financial System Structure on ICOs*, seeks to elucidate the complex interactions shaping the success of ICOs. A two-part structure has been employed to ensure a comprehensive exploration of the topic. Section 1 undertakes a theoretical analysis, surveying the existing literature on ICOs as a novel financing mechanism. Special attention is directed towards research concerning financial freedom, banking concentration, nonperforming loans, and interest payments, providing a foundation for the hypotheses outlined above.

In Section 2, an empirical analysis is introduced, offering practical insights through statistical examination. This section delineates the variables under investigation, outlines the data acquisition process, and describes the analytical methodology employed. Linear regression models are utilised to assess the relationships between the dependent and independent variables, with validation tests conducted to ensure the robustness of the results. The empirical findings are expected to provide nuanced insights into how national economic and financial systems impact the success of ICO fundraising efforts across countries.

The objective of this research is to generate actionable insights for policymakers, practitioners, and scholars by identifying financial frameworks that foster ICO activity. Through a synthesis of theoretical understanding and empirical evidence, this study aims to advance knowledge within the intersection of finance, technology, and economic policy. Special attention is given to comparing the findings with results from prior research to identify patterns, confirm theoretical assumptions, or highlight divergences from existing studies.

A detailed discussion of both dependent and explanatory variables is provided to ensure clarity in the analytical framework. The four selected indicators—financial freedom, bank concentration, nonperforming loans, and interest payments—are scrutinised to determine their respective impacts on ICO outcomes. The linear regression analysis conducted in this study serves as a rigorous tool for testing the hypotheses derived from the literature review. The findings are anticipated to contribute meaningfully to the evolving discourse on ICOs, offering new perspectives on how financial systems influence the success or failure of this innovative fundraising method.

2. Literature Review

Recent research has shed light on the connections between various financial and economic factors and the emergence of ICOs.

Borilli (2021) emphasizes that while fintechs have experienced rapid global expansion, their presence remains uneven across countries, corresponding to disparities in economic development and financial markets. A competitive banking landscape enhances efficiency and stimulates economic growth. Goetz (2018) asserts that increased competition among banks can enhance stability by reducing default and non-performing loan risks while simultaneously increasing profitability and asset quality. The structure of the banking sector and the availability of credit are crucial for entrepreneurship; businesses rely on credit to start their operations. Chauvet & Jacolin (2017) suggest that less concentrated banking markets encourage greater financial inclusion and promote business growth. Frost et al. (2019) find that the presence of fintech is more pronounced in less concentrated markets. Borilli (2021) mentions a recent reduction in banking concentration in Brazil, attributed to the rise of fintechs and tech companies that blur the market share of large banks. Fintechs help alleviate credit constraints for businesses and reduce margins on credit operations. Variations in fintech activities reflect economic development and the structure of financial markets. Borilli (2021) also concludes that a less competitive banking system tends to favor increased fintech financing activity. The anticipated increase in new fintechs within the financial system is expected to enhance competition, leading to a more diversified market.

Building on previous works, we propose the following hypothesis:

H1: ICOs emerge more frequently in countries with less banking concentration.

Economic, regulatory, and institutional disparities can explain differences in banking sector efficiency across countries (Chortareas et al., 2012). Financial freedom is measured by banking efficiency, government intervention, and the independence of the financial sector. A country's financial freedom index consists of five main dimensions: the level of government regulation of financial services, the extent of government intervention in banks and other financial institutions, its influence on credit allocation, the development of financial and capital markets, and openness to international competition (Miller et al., 2022). Banks located in countries with high government control and limited financial freedom tend to be less risky (Santoso et al., 2021). High levels of financial freedom are associated with greater profits for banks, particularly in terms of cost efficiency (Chortareas et al., 2012). Greater financial freedom facilitates access to private credit (Huang et al., 2020), which is essential for financing innovative projects. This freedom fosters a transparent and accessible financial ecosystem with effective intermediation, allowing entrepreneurs to equitably access financing (Duong et al., 2022). Conversely, countries where financial freedom is low show reduced banking efficiency and limited resources for financing new enterprises (Dempere & Pauceanu, 2022). Government policies that restrict this freedom can lead to inefficient resource allocation (Kukk & Laidroo, 2020). ICOs can represent an alternative source of financing for

entrepreneurs operating in environments where financial freedom is limited and access to credit is constrained. Viglione (2015) argues that bitcoin can serve as a monetary substitute, preserving assets from political influences in countries with low financial freedom and limited trust in the government's monetary policy. In contrast, Kukk & Laidroo (2020) found that nations with greater financial freedom and high levels of democracy tend to record larger crowdfunding volumes. However, research linking financial freedom to ICO activities remains limited.

Thus, in accordance with existing literature, we formulate the following hypothesis:

H2: ICOs emerge more frequently in countries with less financial freedom.

The World Bank states that tracking global capital flows and their mobility is essential for assessing the robustness of financial systems. Robust financial systems can stimulate economic activity and improve well-being, while instability can lead to various economic costs. In the study (Vithessonthi, 2016), there is a positive correlation between the volume of bank loans and non-performing loans (NPLs). During periods of excessive credit, banks are often inclined to finance riskier projects. Conversely, during recessions, credit supply decreases, pushing banks to tighten their lending criteria to reduce default risk. These crises disrupt credit markets and lead to a significant reduction in banking financing for entrepreneurs, especially those looking to innovate technologically (Andersen et al., 2007). Credit rationing becomes more pronounced during an economic downturn, particularly for smaller and riskier borrowers, who often face difficulties obtaining financing from traditional financial institutions. Fintechs emerge as a vital source for these entrepreneurs (Cumming et al., 2022), as they enhance the supply of credit in the market and help reduce non-performing loans in the banking sector (Ozili, 2022). Muganyi et al. (2022) examined the role of fintechs in the development of the Chinese financial sector, revealing that they significantly improve loans, deposits, and savings within financial institutions.

Thus, in light of this literature, we expect ICOs to occur more frequently in countries with a low rate of non-performing loans. Therefore, we formalize the following hypothesis:

H3: A negative relationship is expected between the bank's non-performing loans and the fund raised from ICOs.

The economic development of a country and the sophistication of its financial system play a critical role in promoting entrepreneurship. A well-structured financial system encourages economic growth, innovation, and entrepreneurship, while advanced financial markets facilitate more effective borrowing for research and innovation, thereby stimulating economic expansion (Law et al., 2018). As a result, financial startups, known as fintechs, emerge more frequently in dynamic economies (Haddad & Hornuf, 2019). In this regard, Muganyi et al. (2022) studied the relationship between fintechs and the development of the financial market in China, concluding that fintechs improve access to loans and support sector development. Claessens et al. (2018) also highlighted the importance of the financial development index for the emergence of fintechs. Huang et al. (2020) observed a strong correlation between the activities of ICOs and countries with developed financial systems, efficient stock markets, and advanced digital technologies. Two major elements that can influence a country's sustainable performance are environmental orientation (Dhaliwal et al., 2012) and country risk (Rodriguez et al., 2014). Country risk refers to the likelihood that economic, social, or political events will hinder the financial objectives of an organization. Investors often factor in this risk in their investment strategies (Oetzel et al., 2001). This risk encompasses a country's willingness and ability to meet its commitments, as well as potential losses due to political, social, economic, and financial uncertainties (Sun et al., 2021). It also reflects the probability that a country will default on its obligations to foreign investors, with financial risk being linked to the economic capacity to meet foreign debt interest payments. A high-risk premium generally indicates a lower risk rating for the country. Commonly used indicators to assess country risk include data on external debt and associated interest rates, encompassing interest payments on government bonds and long-term loans (Oetzel et al., 2001). A reduction in country risk encourages businesses to invest more in innovation, while higher ratings tend to restrict investment. In low-risk countries, companies are more likely to engage in long-term projects. Reducing this risk is also an asset for attracting foreign investments, thus consolidating capital flows, stimulating economic growth, and fostering technological innovation (Husted & de Sousa-Filho, 2017). Khan et al. (2021) found that firms with foreign capital in China have better access to domestic loans and achieve more innovation than their counterparts. However, less developed countries need to work on improving their risk ratings to attract the foreign investments necessary to stimulate economic growth and innovation (Hoti & McAleer, 2006).

Based on this literature, we can formulate the following hypothesis:

H4: ICOs are more likely to appear in countries with lower financial risk.

Following the methodology proposed by (Ahmad et al., 2023) we rely on the following assumptions:

- **H1:** ICOs emerge more frequently in countries with less banking concentration.
- **H2:** ICOs emerge more frequently in countries with less financial freedom.
- **H3:** A negative relationship is expected between the bank's non-performing loans and the fund raised from ICOs.
- **H4:** ICOs emerge more frequently in countries showing lower financial risk.

3. Methods

3.1 Definition of Variables to Be Studied

a) Funds Raised (Dependent Variable) (Fond): The success of the projects is illustrated by the funds raised, quantified in US dollars. The capital garnered during an ICO is generally designated for various project components, including product development, technical infrastructure, marketing, and cryptocurrency exchange listings. The distribution of these funds is guided by the project's objectives as described in its whitepaper, which serves as the technical document for the ICO. For our econometric analysis, we utilize the logarithmic representation of this variable.

b) Bank Concentration (Index 0-100) (B): Bank concentration indicates the proportion of total commercial banking assets that are controlled by the three largest banks. For startups participating in ICOs, there is typically a predefined maximum amount that can be raised, providing investors with a concrete target for funding. This bank concentration underscores this upper limit on fundraising, so that once it is achieved, further contributions are not accepted, thus ensuring transparency and regulating the process of token issuance or fund acquisition.

c) Financial Freedom (Fin): This concept evaluates the level of autonomy and operational efficiency of banks in relation to government regulations and oversight in the financial sector. It serves as a key indicator for potential investors, suggesting that the project will be governed and supervised in a competent manner. Financial freedom embodies the capacity of individuals to make informed economic choices and attain a degree of financial autonomy, and it may fluctuate based on a variety of influences.

d) Non-Performing Bank Loans (N): This term refers to the proportion of loans that are in default relative to the overall value of a bank's loan portfolio. Within the ICO context, the level of non-performing loans can reflect market confidence; an elevated ratio of such loans may imply increased risks, as the startup offering these loans is likely to have diminished control over the undertaking.

e) Interest Payments (Int): Interest payments encompass disbursements made on government obligations, such as bonds, loans, and various debt instruments, to both domestic and international creditors. In relation to an ICO, interest payments may also include additional incentives aimed at investors, such as regular dividends, profit-sharing, token rewards, or special privileges for early backers. These incentives are crafted to entice a greater number of investors and promote early involvement in the ICO process.

3.2 Data Collection and Methodology

Currently, there is no official source for collecting ICO data. For our study, we used the website <https://icomarks.com/> to gather information on 100 startup projects from 2017 to 2018, including data on the funds they raised.

We have determined the financial freedom score (0-100) of each country based on the Global economy rankings https://www.theglobaleconomy.com/rankings/herit_financial_freedom/.

Based on the index of the trading economy <https://tradingeconomics.com/country-list/bank-concentration-wb-data.html>, we have calculated the bank concentration index (0-100) for each country.

According to the data of worldbankdata.worldbank.org, we have computed the bank nonperforming loans and the interest payments for every country.

In our initial database, we excluded projects with incomplete information to ensure proper analysis and avoid potential biases in our model. Consequently, our sample is limited to 100 projects from various locations, primarily Europe and America. The database used for this research initially included 150 startups, but some had to be excluded due to a lack of information. This number allows us to obtain significant results while remaining manageable for an in-depth analysis. Moreover, our database enabled us to explore various aspects of the projects while respecting the time and resource constraints associated with the research.

We utilized R Studio to create our econometric model and perform a series of tests. Our next step will be to run the regression analysis of the model.

$$\text{Log}(\text{funds}) = \alpha + \beta_1(\text{fin}) + \beta_2(\text{b}) + \beta_3(\text{n}) + \beta_4(\text{in}) + \epsilon$$

Employing the OLS technique to examine the hypotheses within a sample of 100 startups from various nations, such as the UK, USA, Austria, and South Africa.

4. Results

4.1 Descriptive Statistics

Table 1 presents the descriptive statistics of our sample, consisting of various economic indicators across

different countries, which are presented below. The analysis includes the minimum, maximum, mean, median, first quartile, and third quartile values for each variable.

Table 1. Descriptive statistics

Country	Fund	Fin	B	N	Int	Infund
Length: 14	Min.: 300,000	Min.: 58.20	Min.: 53.30	Min.: 0.500	Min.: 0.000	Min.: 5.477
Class:	1st Qu.: 15,603,413	1st Qu.: 64.88	1st Qu.: 69.20	1st Qu.: 1.150	1st Qu.: 2.475	1st Qu.: 7.192
character						
Mode:	Median: 48,281,310	Median: 69.45	Median: 77.10	Median: 2.300	Median: 4.450	Median: 7.683
character	Mean: 124,470,673	Mean: 71.49	Mean: 77.87	Mean: 3.064	Mean: 4.757	Mean: 7.594
	3rd Qu.: 153,691,206	3rd Qu.: 77.92	3rd Qu.: 84.40	3rd Qu.: 3.700	3rd Qu.: 6.600	3rd Qu.: 8.182
	Max.: 697,459,195	Max.: 88.80	Max.: 99.10	Max.: 9.700	Max.: 11.800	Max.: 8.844

The minimum value of the funds (Fond) is 166,366,266, while the maximum value is 697,459,195. 25% of the countries have funds below 232,214,917, 50% have funds below 298,063,568, and 75% have funds below 497,761,382. On average, a country has funds amounting to 387,296,343.

For the Financial Freedom Score (Fin), the minimum score is 74.80, and the maximum score is 86.40. 25% of the countries have a score below 75.65, 50% have a score below 76.50, and 75% have a score below 81.45. The average Financial Freedom Score across countries is 79.23.

The Bank Concentration Index (B) ranges from a minimum of 10 to a maximum of 30. 25% of the countries have an index below 15, 50% have an index below 20, and 75% have an index below 25. The mean Bank Concentration Index is 20.

Bank Non-Performing Loans (N) have a constant value of 0.16 across all countries, indicating no variability in this measure.

Interest Payment (Int) values range from a minimum of 0.2000 to a maximum of 0.3700. 25% of the countries have interest payments below 0.2100, 50% have interest payments below 0.2200, and 75% have interest payments below 0.2950. The average interest payment is 0.2633.

This analysis highlights the variability and central tendencies of economic indicators such as funds, financial freedom scores, bank concentration indices, and interest payments, while noting the uniformity in non-performing loans across the sampled countries.

4.2 Correlation Matrix

Table 2 presents the correlation matrix for all variables used in the empirical analysis. In this table, we present the analysis of the correlation matrix.

Table 2. Correlation matrix

Variables	Correlation	Interpretation
Fond and fin	0.7804	Strong positive correlation: as funds increase, the financial freedom score tends to increase.
Fond and b	0.0075	Very weak correlation: almost no linear relationship between these variables.
Fond and n	-0.4408	Moderate negative correlation: higher funds are associated with lower non-performing loans.
Fond and int	-0.2093	Weak negative correlation: as funds increase, interest payments tend to decrease slightly.
Fin and b	0.1650	Weak positive correlation: weak relationship between the financial freedom score and the bank concentration index.
Fin and n	-0.7832	Strong negative correlation: higher financial freedom scores are associated with lower levels of non-performing loans.
Fin and int	-0.2996	Moderate negative correlation: higher financial freedom scores are somewhat associated with lower interest payments.
B and n	-0.1542	Weak negative correlation: weak relationship between the bank concentration index and non-performing loans.
B and int	-0.3484	Moderate negative correlation: moderate relationship between the bank concentration index and interest payments.
N and int	-0.0961	Very weak negative correlation: very weak relationship between non-performing loans and interest payments.

4.3 Linear Regression

The results of the linear regression are visible in Table 3. Table 3 informs us about the statistical significance of these variables, as well as the coefficient of determination (R^2) and F-statistic.

Table 3. Linear regression

Statistiques De La Régression				
Multiple Determination Coefficient				0.792782056
R-Squared				0.628503388
Adjusted R-Squared				0.463393783
Standard Error				0.617578341
ANOVA				
	Degree of Freedom	Sum of Squares	Mean Square	F
Regression	4	5.807368559	1.45184214	3.806582833
Residual	9	3.432627065	0.381403007	
Total	13	9.239995624		
	Coefficients	Standard Error	Statistique t	P-Value
Constante	1.972281047	3.884989532	0.507667017	0.623893716
fin	0.09228273	0.040422823	2.28293632	0.048329839
b	-0.01587059	0.01447462	-1.09644258	0.30135491
n	0.066569885	0.13157336	0.505952608	0.625049589
int	0.012000426	0.066500797	0.180455373	0.860793097

Examining the coefficients, the intercept is estimated at 1.97228 but is not statistically significant ($p=0.6239$). The coefficient for financial freedom (fin) is 0.09228, which is statistically significant at the 0.05 level ($p=0.0483$), indicating that greater financial freedom is associated with an increase in funds raised in ICOs. Bank concentration (b) has a coefficient of -0.01587, which is not statistically significant ($p=0.3014$), suggesting that bank concentration does not have a strong effect on ICO funds raised. Non-performing loans (n) have a positive coefficient of 0.06657 but are not significant ($p=0.6250$), implying no clear impact on ICO funds. Similarly, the interest payments (int) coefficient is 0.01200 and is not significant ($p=0.8608$), indicating no significant relationship with the funds raised.

The model explains approximately 62.85% of the variance in the dependent variable (multiple R-squared = 0.6285), with an adjusted R-squared of 0.4634, suggesting a moderate fit. The overall F-statistic is 3.807 with a p-value of 0.04444, indicating that the model is statistically significant at the 0.05 level.

4.4 The Tests Used

Following the study (Ahmad et al., 2023), we will test our economic model: $\text{Log}(\text{funds}) = \alpha + \beta_1(\text{fin}) + \beta_2(\text{b}) + \beta_3(\text{n}) + \beta_4(\text{int}) + \epsilon$, using the Durbin-Watson test, White test, and Reset test.

• The Durbin-Watson test

The Durbin-Watson test statistic for the regression model is 2.3262, with a corresponding p-value of 0.6415. The test was conducted to assess the presence of serial correlation in the residuals of the model. The null hypothesis assumes no serial correlation (autocorrelation equals 0), while the alternative hypothesis suggests the presence of positive serial correlation.

With a p-value of 0.6415, which exceeds the commonly used significance level of 0.05, there is insufficient evidence to reject the null hypothesis. This indicates that the residuals do not exhibit statistically significant serial correlation. Therefore, the model's assumption of independent residuals over time is upheld.

In conclusion, based on the Durbin-Watson test Table 4, the regression model appears to adequately capture and account for any temporal dependency in the residuals, supporting the validity of its estimates and conclusions drawn from it.

Table 4. The Durbin-Waston test

DW	P-Value
2.3262	0.6415

• **The Reset test**

The Reset test, conducted on the regression model, yielded a test statistic of 0.86139 with degrees of freedom 4 and 5 for the numerator and denominator, respectively, resulting in a p-value of 0.5447. This test assesses the functional form of the model by examining whether there are omitted nonlinearities in the explanatory variables.

With a p-value of 0.5447, which is greater than the conventional significance level of 0.05, there is insufficient evidence to reject the null hypothesis. Therefore, we do not find significant evidence of omitted nonlinearities in the model. This suggests that the functional form specified in the regression adequately captures the relationships between the dependent and independent variables.

In summary, based on the RESET test results Table 5, there is no compelling reason to suggest that the model suffers from misspecification due to omitted nonlinear terms. Thus, the current specification of the regression model appears appropriate for analyzing the relationships under study.

Table 5. The Reset test

REST	Df1	Df2	P-Value
0.86139	4	5	0.5447

• **The Breusch-Pagan test**

The Breusch-Pagan test was performed on the regression model, yielding a test statistic of 2.523 with 4 degrees of freedom and a corresponding p-value of 0.6405. This test is used to detect heteroscedasticity, which refers to the unequal variance of residuals across the range of predictors.

With a p-value of 0.6405, which exceeds the typical significance level of 0.05, there is insufficient evidence to reject the null hypothesis. Therefore, we do not find significant heteroscedasticity in the residuals of the model. This indicates that the assumption of constant variance of residuals (homoscedasticity) is upheld, suggesting that the model's estimates are reliable and not biased by unequal variances.

In conclusion, based on the Breusch-Pagan test results Table 6, we conclude that the regression model does not exhibit statistically significant heteroscedasticity. Thus, the assumption of constant variance of residuals is supported, affirming the robustness of the model's results and conclusions drawn from it.

Table 6. The Breusch-Pagen test

BP	Df	P-Value
2.523	4	0.6405

5. Discussion

Our analysis indicates that investors are less inclined to participate in an ICO when a country has a high level of financial freedom. Specifically, a one-unit increase in the financial freedom score correlates with an approximate reduction of 0.0923 units in the funds raised. This finding aligns with the conclusions of a study on financial freedom and bank efficiency (Ahmad et al., 2023). This implies that in certain markets, an elevated level of financial freedom may contribute to increased competition or risk perceptions, ultimately discouraging investment.

Our results have proven that there is not a strong relationship between banking concentration and funds raised through ICOs. Therefore, there is insufficient evidence to support this hypothesis. Frost et al. (2019) found that there are more fintechs in less concentrated markets. This could imply that investors might favor environments with a diverse range of financial institutions, where competition drives innovation and opportunities.

The analysis showed that the coefficient for non-performing loans was not statistically significant. This suggests that there is no clear negative relationship between a bank's non-performing loans and the funds raised through ICOs. Hence, the results do not support the hypothesis: A negative relationship is expected between the bank's non-performing loans and the funds raised from the ICO. This suggests that investors may not prioritize the health of the banking sector when evaluating ICO opportunities, potentially overlooking important economic indicators that could influence investment decisions.

While the analysis did not directly measure the relationship with financial risk, it did measure the interest payment index. Considering that greater financial freedom typically reduces risk and encourages entrepreneurial

activity, it is plausible to expect ICOs to emerge more frequently in environments with lower financial risk. (Peiró-Signes et al., 2022) found also that countries with higher financial risk exhibit lower levels of entrepreneurship and innovation because investors consider political, social, and psychological factors in their investment decisions. Investors are likely to consider a range of political, social, and psychological factors in their investment decisions, indicating that financial risk assessments are critical in the ICO landscape.

To summarize, our findings underscore the complex dynamics influencing ICO investments. For investors, understanding the interplay between financial freedom, banking concentration, and non-performing loans is essential for making informed decisions. For policymakers, creating a regulatory environment that balances financial freedom with safeguards against excessive risk could foster a more robust ecosystem for ICOs and stimulate economic growth. This highlights the need for continued research into how these economic factors shape the future of ICO financing.

6. Conclusions

Between 2013 and 2018, the ICO market experienced remarkable growth, with many startups and innovative projects successfully securing funding. This novel fundraising method garnered significant attention, prompting finance researchers to investigate the factors contributing to its success (Meriem & Henchiri, 2024).

During our investigation into the impact of economic and financial system structures within countries on ICOs, we formulated hypotheses based on extensive literature analysis. Researchers have demonstrated that various factors stemming from a country's economic and financial systems significantly influence ICO success. Our focus centered on four key factors: financial freedom (fin), bank concentration (b), the percentage of non-performing loans in banks (n), and the percentage of interest payments (int).

- **H1:** ICOs emerge more frequently in countries with less banking concentration.
- **H2:** ICOs emerge more frequently in countries with less financial freedom.
- **H3:** A negative relationship is expected between the bank's non-performing loans and the fund raised from ICOs.
- **H4:** ICOs emerge more frequently in countries showing lower financial risk.

Firstly, regarding H1, which suggested that ICOs emerge more frequently in countries with less banking concentration, the statistical analysis found the coefficient for banking concentration to be insignificant. This indicates that there is no substantial relationship between banking concentration and the funds raised through ICOs. Therefore, the data does not support H1. This indicates that the structure of the banking sector may not be a critical determinant of ICO success, which could suggest to investors that they should focus on more relevant economic indicators when considering investments in ICOs.

Secondly, H2 posited that ICOs emerge more frequently in countries with less financial freedom. The analysis revealed a statistically significant coefficient for financial freedom, showing that greater financial freedom correlates with a higher frequency of ICOs. Hence, there is evidence supporting H2. This finding is particularly relevant for policymakers, as it suggests that enhancing financial freedom could foster a more favorable environment for ICOs, attracting innovative startups and potentially stimulating economic growth.

Thirdly, H3 proposed a negative relationship between a bank's non-performing loans and funds raised through ICOs. However, the statistical analysis did not find a significant coefficient for non-performing loans, suggesting no clear negative relationship. Thus, H3 is not supported by the data. This outcome indicates that investors should consider other risk factors when evaluating the potential success of ICOs, rather than solely relying on the performance of banks.

Lastly, H4 suggested that ICOs emerge more frequently in countries with lower financial risk. While the study did not directly measure financial risk, the analysis of financial freedom and related variables implies that lower financial risk environments may indeed foster more ICO activity. However, further direct investigation into financial risk is needed to validate H4 conclusively. This suggests to both investors and policymakers that creating stable financial conditions can encourage ICO initiatives and enhance fundraising success.

In conclusion, the study highlights the nuanced interplay between economic and financial factors and ICO emergence. It supports the importance of financial freedom (H2) in facilitating ICO activity but does not find sufficient evidence to support hypotheses related to banking concentration (H1), non-performing loans (H3), and financial risk (H4) based on the available data. These findings contribute to understanding the complex dynamics influencing ICOs and underscore the need for more targeted research on specific economic indicators to fully grasp their impact on ICO fundraising success.

Data Availability

Not applicable.

Conflicts of Interest

The authors declare no conflict of interest.

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