

# ANALYZING THE RELATIONSHIP BETWEEN MACROECONOMIC INDICATORS AND THE INCIDENCE OF FINANCIAL SCAMS IN MALAYSIA

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**Abstract:** This study examines the relationship between key macroeconomic indicators—unemployment rate, inflation rate, and household debt level—and the incidence of financial scams in Malaysia from 2010 to 2021. The objective is to determine how fluctuations in these economic variables affect the occurrence of financial fraud, providing insights into the socio-economic factors that may drive scam activities. The data for financial scams was obtained from the Malaysian Royal Police, while the macroeconomic indicators were sourced from the Department of Statistics Malaysia. Ordinary Least Squares (OLS) regression was employed to analyze the data, focusing on how each variable influences scam incidents. The findings reveal that the unemployment rate has a statistically significant positive impact on the number of scam cases, suggesting that rising unemployment contributes to an increase in financial fraud. Specifically, for each one-unit increase in the unemployment rate, approximately 4.125 more scam cases are observed. In contrast, inflation and household debt levels do not show statistically significant effects on the prevalence of financial scams. The model explains 60.6% of the variability in scam cases, highlighting unemployment as a critical factor influencing financial fraud. These findings underscore the need for policymakers to focus on addressing unemployment as part of broader strategies to combat financial scams and mitigate the socio-economic vulnerabilities that facilitate fraud, especially during periods of economic instability.

**Keywords:** Financial scams, Unemployment rate, Inflation, Household debt, Malaysia.

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## INTRODUCTION

The relationship between macroeconomic indicators and the incidence of financial scams is an increasingly pertinent area of research, particularly in emerging economies like Malaysia. This paper aims to analyze how economic growth, unemployment, and inflation—key macroeconomic indicators—interact with the prevalence of financial scams. Understanding these dynamics is crucial for policymakers and stakeholders in developing effective strategies to mitigate financial fraud.

This study employs a quantitative approach to examine the correlation between macroeconomic indicators and the incidence of financial scams in Malaysia. By utilizing secondary data from various reputable sources, including government reports and academic journals, the research seeks to establish a comprehensive understanding of how fluctuations in economic growth, unemployment rates, and inflation impact the vulnerability of individuals to financial scams. Previous studies have indicated that economic downturns often correlate with increased rates of fraud as individuals may become more desperate for financial solutions during tough times (Panigrahi et al., 2020; Sukirno, 2000).

The primary purpose of this research is to identify patterns and relationships among economic growth, unemployment, inflation, and the incidence of financial scams. By doing so, this paper aims to contribute to the existing literature on economic behavior and financial crime. It seeks to answer critical questions: Do higher unemployment rates correlate with an increase in financial scams? How does inflation affect consumer

vulnerability? The findings are expected to provide insights that can guide future policy interventions aimed at reducing the incidence of financial fraud.

This research contributes to both academic literature and practical applications by providing empirical evidence on the interplay between macroeconomic factors and financial scams. While prior studies have explored individual aspects such as unemployment and inflation in relation to economic growth (Yuniati & Mataram, 2019; Foroni & Furlanetto, 2022), there remains a gap in understanding how these factors collectively influence financial fraud. By addressing this gap, this paper aims to inform policymakers about potential socio-economic vulnerabilities that arise during periods of economic instability, thereby enhancing public awareness and fostering resilience against financial scams. Through this analysis, we hope to underscore the importance of integrating economic policies with consumer protection measures to create a more secure financial environment for individuals in Malaysia.

## LITERATURE REVIEW

### *Economic Growth*

Economic growth refers to the process of advancing an economy, which leads to increased production of goods and services and, consequently, improved societal welfare. A significant relationship exists between economic growth and population dynamics. As the population grows, the labour force expands, contributing to the potential for further economic development (Anifatul et al., 2022). Various factors that can influence economic growth include unemployment and inflation. These factors are crucial for grasping the overall health of economics. Economic growth is often influenced by the unemployment rate, as highlighted by Okun's Law. This principle suggests that higher unemployment leads to inefficient utilisation of resources, which can have a negative impact on public sentiment and reduce purchasing power parity. As a result, consumer demand for goods and services diminishes, triggering a multiplier effect that further hampers economic growth. The decrease in consumption leads to a reduction in demand, prompting producers to scale back their production, thereby exacerbating the slowdown in economic growth (Foroni & Furlanetto, 2022).

Population growth can contribute to increased unemployment: however, it also has the potential to expand the labour force, which in turn effects the production of goods and services. This rise in production leads to an increase in national income, as reflected by a higher Gross Domestic Product (GDP). The expansion of the labour force drives economic growth, and as GDP rises, household income tends to grow. This increase in income may encourage families to invest in higher education, facilitating greater participation of women in the labour market (Lukitasari & Ismayani, 2021).

### *Unemployment*

Unemployment is defined as the proportion of the labour force that is not currently employed and is actively seeking work. This term also encompasses individuals who are working fewer than two days per week or those seeking more stable employment. Unemployment typically arises from an imbalance between the number of job seekers and available positions. It negatively impacts the economy by reducing both income levels and overall productivity. Consequently, unemployment can contribute to societal issues such as poverty and inequality (Smith, 2019; Brown & Taylor, 2020). Workers are defined as individuals aged 15 years and above who are either currently employed, have a job but are temporarily not working, or are actively engaged in seeking employment. This demographic encompasses those actively participating in the labour market, reflecting both the employed and the unemployed who are searching for work opportunities (Central Statistic Agency, 2023).

According to the provisions of Law Number 13 of 2003 on Labour, workers are defined as individuals capable of performing tasks to produce goods and services for personal or communal needs. This legal framework underlines the fundamental role of labour in both personal welfare and broader economic development. In many developing nations, employment issues are prevalent, often arising from inadequate education and skill levels within the workforce. Consequently, labour productivity remains low, posing

significant challenges to economic progress and development initiatives (Yuniati & Mataram, 2019). This issue arises due to a mismatch between the skills possessed by the available workforce and the specific demands of the labour market, leading to relatively low labour absorption. As a result, the unemployment rate increases, reflecting the imbalance between the growing population and the limited availability of jobs.

In other words, the supply of labour exceeds the demand for it, contributing to higher levels of unemployment (Zusen & Setyowati, 2022). The quality of the workforce directly influences the standard of goods and services produced. Consequently, the skills and qualifications of the labour force are crucial factors in workforce absorption. Enhancing human resources requires targeted initiatives, including investment in human capital. The strength of a nation's human capital is largely determined by the quality of its education system (Nurrachmi, 2019). Individuals with higher levels of education typically possess a diverse range of skills and expertise, which enhances their employability and contributes to reducing unemployment rates (Suhadi & Setyowati, 2023).

### ***Inflation***

Economic growth tends to be adversely affected by high inflation rates. According to Sukirno (2000), inflation plays a significant role in destabilizing a nation's economy. Elevated inflation exerts a negative influence on domestic production, leading to a decrease in the output of export goods. This decline in production occurs because rising prices diminish consumer demand for goods, thereby reducing the overall production capacity.

A high rate of inflation is often viewed as a signal of macroeconomic instability, reflecting a government's inability to effectively manage its macroeconomic policies. In extreme cases, such as hyperinflation, inflation can lead to severe economic consequences, including a significant decline in output. Under conditions of high inflation, the real value of money erodes rapidly, diminishing the incentive to hold cash, and resulting in increased reliance on barter systems. This shift frequently disrupts economic activity and contributes to a reduction in the production of goods (Cagan, 1956).

Moreover, inflation drives up labour costs and the prices of raw materials, which in turn increases the base cost of production. As a result, the selling price of domestically produced goods rises, making them less competitive both in local and international markets. Consequently, this combination of reduced demand and increased production costs can stifle economic growth, as it limits the ability of domestic industries to expand and compete. High inflation, therefore, undermines both supply-side and demand-side factors, creating a challenging environment for sustained economic development (Investopedia, 2024).

According to Nopirin (2000), inflation occurs when there is a sustained increase in the overall demand for goods and services within an economy, leading to a general rise in prices. This phenomenon affects key aspects of the economy, including national output, the distribution of income, and the allocation of production resources. The impact of inflation on income distribution is referred to as the "equity effect", while the "efficiency" and "output" effects describe how inflation influences the allocation of production inputs and overall national income, respectively. These effects collectively demonstrate how inflation disrupts both economic efficiency and social equity, altering the balance of income and resource distribution.

### ***Household Debt***

The accumulation of household debt can pose a significant threat to the economic system if it reaches unsustainable levels. Mian (2009) offers empirical evidence showing that rising household debt serves as a strong predictor of financial crises and economic recessions. The consequences of increasing household debt include a decline in household savings and investment (Hull, 2003), reduced private consumption, and diminished demand in the housing market (Debelle, 2004). As households divert income to service outstanding loans, their ability to spend and invest decreases, potentially hindering overall economic growth. This debt overhang can lead to a protracted slowdown, as consumption and investment, key drivers of growth, are suppressed.

A high level of household debt not only weakens the broader economy but also poses significant risks to financial stability. Excessive debt can lead to payment defaults or bankruptcies when borrowers are unable to meet their financial obligations. Such situations increase systemic risk, as seen in credit bubbles, where widespread borrowing collapses under financial strain. A prominent example of this occurred during the U.S sub-prime mortgage crisis in 2008, which triggered mass foreclosures and led to the downfall of major financial institutions such as Lehman Brothers and Merrill Lynch. The collapse of these institutions demonstrated how unsustainable household debt can destabilize the financial system and cause long-term economic disruption (Charpe & Flaschel, 2013).

The Malaysia Department of Insolvency (MDI) report reveals that approximately 60 Malaysians declare bankruptcy every day, with the majority being young adult between the ages of 18 and 35 (Malaysia Department of Insolvency (MDI) & Credit Counselling and Debt Management Agency (AKPK), 2019). This indicates that young adults, in particular, are grappling with credit card debt to meet their financial needs, reflecting deeper systemic issues related to personal finance management among younger generations. Households generally take on debt to stabilize their consumption over time, however, individual behaviours such as living beyond one's means are also contributing factors (Ahmed Ismail, Sohail et. al, 2010). Moreover, financial deregulation has reduced borrowing costs (Hull, 2003), the easy of accessing credit facilities through facilities like AEON credit or Court Mammoths encourages increased credit spending. Rising cost of living and housing, along with strong economic growth, further make households comfortable with taking on debt.

International research has extensively examined the determinants of household debt at the macro level (Kim, Lee, Son, & Son, 2014; Meng, Hoang, & Siriwardana, 2013; Meniago et al., 2013; Ganga, 2010). However, relatively few studies focus on Malaysia, despite its rising household debt-to-GDP ratio. According to World Bank study, Malaysia's household debt-to-disposable income ratio stands at 140%, one of the highest in the world, surpassing even the U.S. at 123% and Thailand at 52% (World Bank, n.d)

This study fills gaps in the literature by focusing on Malaysia's unique regulatory environment, offering insights that may not be applicable in other contexts. It provides recommendations for policymakers on managing household debt to avoid damaging effects, especially in developing countries. Additionally, it addresses the limitations of previous studies, which often overlook the impact of financial crises on household debt models (Nurhuda, 2015).

### ***Financial Scams***

In today's digital age, online scams have emerged as a major global threat, affecting millions of individuals and posing serious risks to both personal financial security and broader economic stability. The financial ramifications are often devastating, as victims may lose their entire savings, accumulate significant debt, or face severe financial disruption. These scams take various forms, including phishing emails, social media fraud, fraudulent SMS messages, tech support scams, scareware and more. Their primary objective is usually to steal sensitive data such as credit card information, login credentials, and identify documents (Button, 2014; Norton, 2022).

Online fraudsters use diverse schemes, ranging from fake multilevel marketing or pyramid ventures to counterfeit job offers, auction scams, and high-interest loan frauds. These scams are rarely random; rather, scammers often invest considerable effort into researching and profiling potential victims to enhance the likelihood of success. Skilled social engineers, the masterminds behind these scams, rely on their ability to manipulate and deceive their targets with persuasive tactics (Norton, 2022).

A common feature of many scams is the promise of easy, risk-free financial gains. For example, investment frauds often lure victims with unrealistic claims of rapid, high returns – sometimes up to 1,000% within just a few hours or days. Despite an awareness of the high-risk nature of such schemes, many individuals, motivated by greed or financial desperation, fall prey to these tactics (Badua, 2020). These fraudulent schemes thrive in times of economic uncertainty, as seen during the COVID-19 pandemic, when many individuals sought additional income due to wage stagnation and financial pressure (Badua, 2020).

The rise of online scams is closely connected to the proliferation of cybercrime, which encompasses a wide range of illegal activities, including email spoofing, malware dissemination, ransomware and identity theft. These crimes, like money laundering, are often financially motivated, with the aim of disguising illicit funds by making them appear legitimate (Button, 2014). Money laundering involves complex transactions designed to obscure the origins of illegal profits, enabling criminals to evade detection and continue reaping the benefits of their activities.

In Malaysia, for example, fraudulent activities such as Macau scams, credit card fraud, e-banking fraud, inheritance scams, and insurance fraud have become increasingly prevalent, with significant financial losses reported. The ongoing rise of these activities, especially love scams and parcel scams, underscores the evolving nature of cybercrime. Notably, Macau scams, a type of fraud involving impersonation of authorities to extort money, have been particularly damaging in recent years, exploiting victims' trust and fear to extract large sums of money (Malaysia Department of Insolvency, 2019).

## METHODS AND FINDINGS

### *Methodology*

This study aims to examine the relationship between macroeconomic indicators—unemployment rate, inflation rate, and household debt level—and the incidence of financial scams in Malaysia over the period from 2010 to 2021. The analysis uses Ordinary Least Squares (OLS) regression to evaluate the impact of these economic variables on scam incidents, offering insights into how economic pressures may influence scam-related activities.

The data for financial scams, which serves as the dependent variable in this study, was collected from the Malaysian Royal Police. This dataset contains annual records of reported scam cases, providing a comprehensive view of the trend in financial fraud activities over the 12-year period from 2010 to 2021. The macroeconomic data for the three independent variables—unemployment rate, inflation rate, and household debt level were obtained from the Department of Statistics Malaysia.

The unemployment rate represents the percentage of the labor force that was unemployed each year, reflecting general economic conditions and the potential influence of joblessness on financial desperation. The inflation rate, defined as the annual percentage change in the consumer price index, was included to capture any potential effects of rising costs on financial behavior and vulnerability to scams. Lastly, the household debt level, measured as a percentage of GDP, was incorporated to examine whether higher levels of household indebtedness increase exposure to financial fraud. These macroeconomic indicators were chosen for their potential role in shaping the economic pressures that could either drive individuals into scams or make the population more susceptible to fraudulent schemes.

### *Regression Model*

The OLS regression model is specified as follows:

$$FSt = \beta_0 + \beta_1 URt + \beta_2 IRt + \beta_3 HDt + \epsilon t$$

Where:

- $FSt$  = Financial scams in year  $tt$  (dependent variable)
- $URt$  = Unemployment rate in year  $tt$  (independent variable)
- $IRt$  = Inflation rate in year  $tt$  (independent variable)
- $HDt$  = Household debt level in year  $tt$  (independent variable)
- $\epsilon t$  = Error term

The OLS regression analysis provides key insights into the relationship between financial scams and macroeconomic indicators in Malaysia from 2010 to 2021. The model exhibits an **R-squared** value of 0.606, indicating that approximately 60.6% of the variability in the number of scam cases can be explained by the independent variables: unemployment rate, inflation rate, and household debt level. After adjusting for the number of predictors, the **Adjusted R-squared** value is 0.459, suggesting a moderate fit of the model. Additionally, the **F-statistic** of 4.105, with a corresponding p-value of 0.0489, confirms that the overall model is statistically significant, meaning that at least one of the predictors is significantly associated with financial scams.

As shown in Table 1, among the three macroeconomic indicators, the unemployment rate is the only variable that has a significant positive impact on the number of scam cases. With a coefficient of 4.125 and a p-value of 0.007, the results suggest that for every one-unit increase in the unemployment rate, there is an increase of approximately 4.125 financial scam cases. This relationship is statistically significant, indicating that higher unemployment may contribute to a rise in financial scams, potentially due to increased financial desperation or vulnerability during periods of joblessness.

In contrast, the inflation rate does not have a statistically significant effect on scam incidents, with a coefficient of -0.0433 and a p-value of 0.761. While the negative coefficient suggests a possible inverse relationship between inflation and scam cases, this result is not significant enough to draw any reliable conclusions. Similarly, household debt level also shows no statistically significant relationship with the incidence of financial scams, as indicated by its coefficient of 1.6626 and a p-value of 0.544. Although the positive coefficient implies a potential positive association, the lack of statistical significance prevents this variable from being meaningfully interpreted in the context of this study.

**TABLE I: REGRESSION RESULT**

Variable	Coefficient ( $\beta$ )	Std. Error	t-Statistic	p-Value
Intercept	1.6626	2.6631	0.6245	0.544
Unemployment Rate	4.125	1.1232	3.673	0.007**
Inflation Rate	-0.0433	0.1355	-0.3194	0.761
Household Debt	1.6626	2.6631	0.6245	0.544

**Note: p-value < 0.05 indicates statistical significance**

## CONCLUSION

Financial scams, particularly in the online realm, pose a significant threat to individuals and economies alike. The evolving sophistication of these fraudulent schemes requires constant vigilance and proactive measures from both the public and private sectors. As cybercrime continues to expand, so too must efforts to educate, protect, and support those most vulnerable to these predatory tactics. Effective collaboration and regulation are key to reducing the prevalence and impact of financial scams in an increasingly interconnected world.

### *Economic and Social Implications*

The consequences of financial scams extend beyond individual financial loss, often contributing to broader economic instability. Fraud schemes disrupt consumer trust in financial institutions, increase operational costs for businesses, and necessitate costly legal and regulatory responses. Moreover, the psychological and emotional toll on victims is profound, often resulting in anxiety, stress, and a diminished quality of life.

Research has shown that individuals who fall victim to scams are often driven by a desire to improve their financial situation, particularly during periods of economic hardship. For instance, during the COVID-19 pandemic, many people, faced with income loss or reduced wages, were particularly vulnerable to investment frauds that promised quick, high returns (Badua, 2020). This economic vulnerability creates fertile ground for scammers, who exploit individuals' desire for financial security and stability.

***Policy Implications and Recommendations***

Addressing the growing threat of financial scams requires a multifaceted approach. Governments, financial institutions, and regulators must work together to strengthen cybersecurity measures, improve public awareness, and implement stricter legal frameworks to combat fraud. Financial literacy campaigns, aimed at educating the public on the risks of online fraud, should be prioritized to help individuals recognize the warning signs of scams and make informed decisions. Additionally, enhanced collaboration between law enforcement agencies and international organizations is essential for tracking and prosecuting cross-border cybercrime networks.

To mitigate the financial and social impact of these scams, policymakers must consider stricter regulations on financial service providers, particularly those offering high-risk investment products. Moreover, the creation of support systems for scam victims, such as counselling services and financial recovery programs, could help alleviate the long-term effects of financial fraud.

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