MANAGERIAL OVERCONFIDENCE, INFLATION UNCERTAINTY, AND CAPITAL STRUCTURE CHOICE: EVIDENCE OF MALAYSIAN SHARI'AH-COMPLIANT FIRMS

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey-Fuller
BNM	Bank Negara Malaysia
IFSB	Islamic Financial Services Board
GMM	Generalized Method of Moments
MIER	Malaysian Institute Economic Research
MIFC	Malaysia International Islamic Financial Centre
SAC	Shari'ah Advisory Council
KLCEC	Kuala Lumpur Stock Exchange Shari'ah Index
DJIM	Dow Jones Islamic Market Index

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ABSTRAK

Menggunakan set data unik 332 firma senarai awam pembuatan dan bukan pembuatan patuh Shari'ah Malaysia sepanjang tempoh 2010-2018, tesis ini mengkaji pilihan struktur modal dalam konteks keyakinan tinggi pengurus dan ketidaktentuan inflasi, memfokuskan pada interaksi dinamik antara kedua-duanya. Penemuan empirikal utama panel dua langkah Sistem GMM menunjukkan bahawa peningkatan keyakinan tinggi pengurus, yang diukur oleh Business Condition Index dari Malaysian Institute of Economic Research (MIER), berupaya meningkatkan pilihan struktur modal hutang dalam firma pembuatan yang bersaiz besar, mengesahkan ramalan keutamaan teori "overconfidence-standard pecking order" oleh Heaton (2002). Kajian ini juga mendapati bahawa kedua-dua ukuran ketidaktentuan inflasi, iaitu variabiliti dan ketidaktentuan inflasi, memberikan pengaruh negatif langsung terhadap struktur modal syarikat-syarikat Shari'ah, walaupun dengan cara yang berbeza. Dalam kes syarikat-syarikat pembuatan, variabiliti inflasi berkait rapat dengan pengurangan penerbitan hutang, manakala syarikat-syarikat bukan pembuatan mengalami penurunan penerbitan hutang yang berkaitan dengan ukuran ketidaktentuan inflasi. Walau bagaimanapun, apabila mengambil kira variabiliti inflasi, yang diukur sebagai kebolehubahan inflasi atau sisihan piawai purata CPI untuk tempoh 12 bulan, menjadi jelas bahawa ia boleh mengurangkan kesan positif peningkatan keyakinan tinggi pengurusan terhadap struktur modal. Pada dasarnya, firma pembuatan yang diketuai oleh pengurus yang berkeyakinan tinggi mungkin tidak mematuhi sepenuhnya urutan

biasa ketentuan “pecking order”. Sebaliknya, mereka mungkin menunjukkan urutan ketentuan yang lebih lemah atau kepatuhan teori “pecking order” bertentangan, seperti yang diterangkan dalam model Hackbarth (2008). Oleh itu, kajian ini mencadangkan bahawa persepsi risiko pengurus yang terlalu yakin terhadap ketidakpastian makroekonomi dipercayai tidak menggalakkan pengurus di firma pembuatan terbabit daripada mengambil risiko yang tinggi semasa tempoh kebolehubahan inflasi yang tinggi. Dengan itu, keyakinan tinggi pengurus terhadap keputusan pembiayaan firma patuh Shari’ah boleh dipengaruhi oleh ketidaktentuan makroekonomi.

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ABSTRACT

Using a unique dataset of 332 manufacturing and non-manufacturing Malaysian Shari'ah public-listed firms over the 2010-2018 period, this thesis explores capital structure choice in the context of managerial overconfidence and inflation uncertainty, focusing on the dynamic interaction between the two. The main empirical findings of a panel robust two-step System GMM show that increased managerial overconfidence, proxied by the Malaysian Institute of Economic Research's (MIER) Business Condition Index (BCI), increases financial leverage in manufacturing firms of considerable size, aligning with the overconfident-standard pecking order theory proposed by Heaton (2002). The study also revealed that both measures of inflation uncertainty, namely variability and uncertainty, exert a direct negative influence on the capital structure of Shari'ah firms, albeit in distinct ways. In the case of manufacturing firms, inflation variability is associated with reduced debt issuance, while non-manufacturing firms experience a decrease in debt issuance linked to the measure of inflation uncertainty. Nevertheless, when considering inflation variability, quantified as the standard deviation of mean CPI inflation over 12 months, it becomes apparent that it can attenuate the positive effect of managerial overconfidence on financial leverage. In essence, manufacturing firms led by overconfident managers may not strictly adhere to a standard pecking order. Instead, they might demonstrate a weaker pecking order or a preference aligned with the reverse pecking order, as outlined in Hackbarth's (2008) model. Therefore, this research suggests that risk

perceptions of overconfident managers on macroeconomic uncertainty they are unwilling to accept may act as a counterweight to optimism, discouraging overconfident managers in the manufacturing sector from taking risks on more debt during periods of high inflation variability. As a result, the effect of managerial overconfidence on Shari'ah firm financing decisions is not independent of the macroeconomic uncertainty.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Since the first modern private Islamic bank, the Dubai Islamic Bank was established in 1975, Islamic finance has grown remarkably. Today, the global Shari'ah-compliant financial assets, covering banking and non-bank financial institutions, financial markets, money markets, and insurance (Takāful), are estimated at $2.05 trillion in 2017 (Islamic Financial Services Board, 2018). As part of this Islamic finance sphere, Malaysia retains its leading position as the world's most developed Islamic finance market, with Islamic banking co-existing with conventional banking. Despite being a small and open emerging economy, Malaysia was recognized and placed first in 2017 (Malaysia International Islamic Financial Centre, 2018). Furthermore, the Malaysian Islamic Capital Market (ICM) continues to play a more prominent role in the issuing of global Islamic bonds (sukūk) in 2018, with a market share of 38 per cent (Securities Commission Malaysia, 2018).

On the global and domestic fronts, the Islamic financial industry has drawn the attention of many academic researchers. For example, in capital structure research, financial researchers have a growing interest in providing a plausible economic justification for the financial behaviour of a firm that complies with Shari'ah-compliant principles (hereafter referred to as the "Shari'ah firm").

In the big picture of this strand of research, why and how a firm decides to finance its assets has been a long-standing debate among financial researchers (Frank and Goyal, 2003; Shyam-Sunder and Myers, 1999). To date, several modern capital structure theories have been developed to answer those questions, including trade-off theory (Kraus & Litzenberger, 1973), pecking order theory (Myers, 1984; Myers &

Majluf, 1984), and more recently, a market-timing theory (Baker & Wurgler, 2002). However, none of the hypotheses above provides an entirely satisfactory answer to what influences the firm's financing decision.

Considering the cornerstone of Islamic finance lies in its emphasis on a risk-sharing mechanism (Maghrebi, 2015), Shari'ah firms align themselves with the teachings of al-Quran and al-Hadith, upholding ethical standards by prohibiting riba (usury), maysir (gambling), gharar (excessive uncertainty), and avoiding of haram (forbidden) activities (Iqbal & Mirakhor, 2011; Wilson, 1997). An examination of Islamic finance literature reveals that Islamic scholars postulate that the nature of the capital structure for Shari'ah firms should inherently diverge from that of their non-Shari'ah counterparts (Ayub, 2007; Bugshan, 2022). In this context, profit-and-loss sharing (PLS) contracts or equity financing models such as *mudarabah* and *diminishing musharakah* find greater resonance within Islamic finance principles, fostering a shared responsibility for risks and rewards among the firm and its stakeholders (Askari et al., 2012; Çizakça, 2014).

The Islamic and conventional viewpoints diverge in their perceptions of debt. According to Ashraf (2015), Shari'ah firms typically follow a conservative approach, rely less on debt leverage and place greater emphasis on equity or internal funds. This approach inherently reduces their susceptibility to financial distress due to the constraints on interest-based debt within Islamic finance (Sukor and Abdul Halim, 2022). In contrast to Shari'ah firms, non-Shari'ah or conventional firms are not bound by the limitations and ethical principles outlined in Islamic religious law. Instead, they operate within the conventional monetary policy (Askari et al., 2014; Uddin and Halim, 2015), where the conventional financial systems and banking framework often employ risk transfer rather than risk-sharing instruments (Mirakhor & Zaidi, 2007).

According to most Islamic scholars, interest-based debt instruments, including conventional bonds and derivatives, are viewed as conflicting with Shari'ah principles (Sakti et al., 2016; Uddin & Ahmad, 2020). By considering these characteristics, non-Shari'ah firms would have more diverse capital structures, including a mix of equity and interest-debt financing, and are more inclined to assume higher interest debt levels to enhance their operations, which could result in increased financial risk (Halim et al., 2019).

Nevertheless, another strand of the literature documented that Islamic banks in many prominent Islamic banking countries typically allocate more non-PLS financing than PLS financing. In Malaysia, the PLS proportion constitutes less than 3 per cent of the average total bank financing (Abdul-Rahman et al., 2014), whereas, in Indonesia, it accounts for about 35 per cent (Abedifar et al., 2013). On the other hand, In the Middle East and North Africa (MENA) countries, around 75 per cent of total financing offered by Islamic banks is non-PLS financing, such as *murabahah* instruments, also known as cost-plus financing (Ali, 2011). In the Gulf Cooperation Council (GCC) countries, the proportion of *murabahah* financing remains around 85 per cent (Alandejani and Asutay, 2017).

Hence, contrary to the expectations and inspirations of many Islamic finance advocates, Islamic debts of non-PLS financing are instead permissible but restricted (Nienhaus, 2011). Although non-PLS contracts are deemed acceptable, they are still weaker within the Shari'ah framework (Ebrahim & Sheikh (2016). Mirakhor and Zaidi (2007) argue that in contrast to PLS contracts, non-PLS contracts provide fewer incentives to entrepreneurs on longer-term investment projects and improve risk management.

Aggarwal and Yousef (2000) demonstrate that current Islamic banks often provide a significant portion of short-term debt financing to entrepreneurs rather than long-term financing. A similar argument from Gunn and Shackman (2014) found no significant variations in firms' capital structures in Muslim versus non-Muslim countries, but notable distinctions emerged in the preference for short-term debt over long-term debt among firms in Muslim nations. Their conclusion highlights that firms in Muslim countries, heavily reliant on short-term debt, forego the stability benefits of long-term debt, rendering them vulnerable to financial distress or credit crunch situations.

In reality, Islamic debt financing is permissible at the firm level and is subject to specific restrictions. Due to differing ijtihad or self-exertion among Shari'ah scholars, diverse Shari'ah screening methodologies have emerged across various countries (Ashraf & Khawaja, 2016; Kasi & Author, 2016). As a result, the admissibility and the variation in Shari'ah screening restrictions for Shari'ah firm status naturally raise two questions among recent financial researchers (Akbar et al., 2022; Alnori & Alqahtani, 2019; Hussain et al., 2020): (1) Is the decision of the Shari'ah firm to resort to external funding (i.e., debt and equity) relevant to modern theories of capital structure? (2) What other unobservable factors would plausibly affect the use of debt and equity in the Shari'ah firm financing decision?

However, progress on these issues is limited but growing. So far, very few papers in Islamic financial literature attempt to understand the determinants of capital structure for Shari'ah firms. These studies typically investigate the determinants of the target leverage level based on trade-off theory and seek to explain pecking order behaviour through firm-specific variables. Earlier studies, including Ibrahim et al. (2015), Jaafar et al. (2017), Nor et al. (2012), Ramli & Haron (2017), Thabet et al.

(2017a), and more recently, Yildirim et al. (2018), have found the importance of several firms-specific variables, as well as macroeconomic-level variables in the capital structure of Shari'ah firms. However, a lack of consensus exists among existing studies in Islamic finance regarding the traditional explanatory determinants, alongside modern theories like trade-off, pecking order, and market timing, contributing to contradictory predictions about the relationship between Shari'ah firm leverage and its determinants.

1.2 Motivation

The foundational assumption of complete rationality and risk aversion, a cornerstone in standard economic and rational choice theories (Okasha, 2007), has transformed in recent decades. Financial markets, once perceived through a fully rational lens, are now approached with a minimally rational perspective (Rubinstein, 2000), acknowledging that the behaviors of individual managers and investors are not always rational but often diverge from predictions based on traditional economic models. This shift has garnered significant attention from behavioral economics and finance proponents, leading to a burgeoning interest in exploring psychological biases (De Bondt & Thaler, 1996; Malmendier & Tate, 2015; Reyes et al., 2022).

This research, situated in the context of the behavioral corporate finance literature, recognizes this departure from strict rationality in individuals' financial choices. First, it addresses the challenges unique to Islamic finance, emphasizing the distinctive aspects of decision-making within Shari'ah firms. These factors may contribute to the lack of a clear consensus regarding the influences on financial decisions, particularly in Shari'ah firms' existing capital structure research.

Malaysia was selected as the research avenue due to its status as an emerging Southeast Asia country where Islam is the state religion, with a significant religious population of approximately 63.5 percent in 2020 (U.S. Depart. of State, 2022). A recent study by Seo et al. (2022) suggests that Islamic religiosity significantly guides Malaysian Muslim employees in their daily lives spiritual and behavioral dimensions. In fact, Malaysia is a multicultural society. A study by Hooy and Ali (2017) indicates that over 80 percent of Shariah firms in the country are owned or operated by non-Muslims. Nevertheless, around 52 percent of these firms have Muslim chairpersons, and only 30 percent feature a predominantly Muslim board of directors.

Grounded in Shari'ah principles, the diversity among managers in Shari'ah firms is typically assumed to be shaped by Islamic religious beliefs and ethical considerations despite cultural differences, introducing a non-economic dimension to their decision-making. Drawing from a recent study by Y. Li and Xu (2020), which emphasizes the significant influence of the risk aversion trait in religion on firm risk-taking in China, coupled with the understanding that the majority religion shapes national culture, and culture, in turn, impacts managerial decisions on capital structure (Antonczyk and Salzmann, 2014; Lam et al., 2012), this study argues that cultural factors and ethical considerations, including the prohibition of interest (Riba), avoidance of uncertainty (Gharar), and rejection of gambling (Maysir) may exert an indirect effect on managerial decision-making, fostering a national culture characterized by risk aversion, particularly among Shari'ah managers.

Reviewing these non-economic restrictions and other economic fictions, one can understand how these real-world complexities and assumptions might alter Shari'ah firms' capital structure decisions. Results from Hooy and Ali (2017) suggest that Muslim CEOs exhibit financing styles distinct from their non-Muslim

counterparts, opting for less debt due to taking a lower risk and demonstrating lower performance. However, Alzahrani et al. (2017) contend that such differences cannot be solely attributed to religion but may involve governance issues.

As such, rational models, traditionally assuming economic factors as the sole determinants of decisions, may overlook the comprehensive impact of cultural and ethical concerns. Existing standard traditional models might not fully grasp the challenges and constraints posed by Shari'ah principles, potentially underestimating the impact of cultural influences, including managers' intrinsic traits, such as psychological biases, on the decision-making of ordinary managers.

More importantly, because Islamic financing strictly prohibits the charging of interest on debt and encourages profit and loss sharing, it prompts this study to consider whether a set of factors to non-Shari'ah firms in conventional behavioral finance will influence economic decisions. Specifically, the focus is on the Shari'ah firm's capital structure decisions within the framework of Islamic behavioral finance, as highlighted by Musse et al. (2015).

Motivated by the numerous cognitive and emotional biases studies in conventional behavioral finance and the unresolved issues within Islamic finance literature, this study aims to explore the impact of two alternative variables: managerial overconfidence and inflation uncertainty. Acknowledging the reality that individuals do not consistently adhere to rationality in financial decisions, including these two alternative unobservable variables, enriches the depth of the investigation. This research seeks to contribute novel insights, providing a more comprehensive understanding of how rational, risk-averse managers navigate the intricate terrain of financing decisions within the unique framework of Shari'ah firms.

Secondly, a preliminary exploration into the convergence of managerial overconfidence and inflation uncertainty within Islamic finance necessitates a foundational comprehension of these two interest variables from Shari'ah perspectives. This understanding serves as a valuable precursor, allowing for comparative analysis and seeking potential guidance from Shari'ah principles in navigating these distinctive concepts within Islamic finance. It may underscore the distinctive facets of decision-making processes within Shari'ah firms.

The term "overconfidence," introduced in applied psychology during the 1960s (Skala, 2008), represents a complex cognitive bias encompassing an inflated sense of self and egocentric beliefs (Heger and Papageorge, 2018). Notably, other concepts such as hubris, denoting exaggerated self-confidence or pride (Hayward and Hambrick, 1997; Roll, 1986), and grandiose narcissism (Macenczak et al., 2016; O'Reilly and Hall, 2021), coexist within psychology and share common ground with the broader concept of overconfidence. In conventional behavioral finance, managerial overconfidence is operationalized as an upward bias in expectations regarding future outcomes, often referred to as optimism. It also involves overestimating the precision of one's private information, leading to an underestimation of risk. The overconfidence bias appears to be closely associated with entrepreneurs and managers (Chwolka and Raith, 2023; Salamouris, 2013).

However, the concept of overconfidence is not explicitly discussed in the Qur'an using the same terms found in modern Western psychological literature. Furthermore, there is a noticeable absence of a dedicated body of research explicitly addressing this cognitive bias from Islamic psychology and Islamic finance literature perspectives.

While Islamic principles offer a comprehensive ethical framework, the exaggerated self-confidence or pride linked to hubris is generally viewed negatively. The Qur'an cautions against arrogance and emphasizes virtues like humility, modesty, and complete trust in God (Tawakkul) as remedies within the Islamic framework. For instance, Quranic verses advise against engaging in baseless disputes and arrogance leads to the sealing of the heart, emphasizing the negative consequences of such actions from a religious perspective (Abdullah, 2006, v. 35:40) and reminding people with arrogance and walking proudly on the earth (Abdullah, 2006, v. 37:17), highlighting God's disapproval of such behaviors.

As Islamic behavioral finance represents a relatively new strand of research within the Islamic finance domain (Musse et al., 2015), there is a considerable need for further efforts to incorporate conventional behavioral capital structure theories into the framework of Islamic capital structure. A question may arise: Would it be acceptable to comply with Shari'ah principles if rational, risk-averse managers at Shari'ah firms are not always rational but are prone to managerial overconfidence with a tendency to choose short-term Islamic debt instruments over equity issuance?

Within Islamic finance research, risk and return are tied to ownership (asset), emulating the spirit of divine coincidences like Kenneth Arrow's theory of risk-bearing with the virtue of truthfulness through a risk-sharing mechanism (Alzahrani et al., 2017; Mirakhor, 2014). Askari et al. (2012) further argue that risk-sharing in Islamic finance is not similar to the risk-transfer mechanism in the conventional financial system because the main essence of equity financing is to remove economic agents from the debt burden and ease their (mind) reasoning in the face of economic risk and uncertainty (ambiguity aversion).

Two assertions can be synthesized from the theoretical behavioral finance on managerial overconfidence and risk-sharing in Islamic finance literature: first, in economic terms, rational, risk-averse managers who are prone to managerial overconfidence tend to overestimate the accuracy and reliability of their information and judgments (Malmendier and Taylor, 2015), and they tend to make more aggressive, risky financial decisions on debt issuance (Heaton, 2002).

Second, from an Islamic behavioral finance perspective, the potential for overconfident, risk-averse managers to incur losses in risk-sharing contracts creates natural incentives for them to make well-informed and prudent decisions. In the face of uncertainty and potential fall shorts, overconfident, risk-averse manager are less likely to neglect these factors when they know that their interests (managerial wealth) are directly tied to the outcomes.

In other words, due to their overconfidence and aversion to risk, these managers are more vigilant and attentive to the uncertainties and potential pitfalls of their decisions. Because their interests, particularly their managerial wealth and compensations, are directly linked to the outcomes of these decisions, the managers have a natural incentive to make well-informed and prudent choices. In a recent study, Heaton (2019) argues that the structure of incentives influences managerial behavior, particularly regarding risk aversion and optimism, a tendency to overestimate the accuracy of information and judgments. Strong boards and high-powered incentives can mitigate the risks of overly optimistic managers.

On the other hand, the concept of inflation uncertainty is less known and not explicitly discussed in Islamic finance literature, even from the Shari’ah perspective. However, given that this concept stems from uncertain monetary policy about the

trajectory of future inflation targets, understanding how the conventional monetary policy works to curb inflation is necessary.

How inflation should be defined in a conventional monetary system is often unclear. According to Austrian School economists, the original term of inflation refers to a rise in the quantity of money under the fiat monetary system and fractional-reserve banking, also known as monetary inflation. As a result, inflation is bad news and unnecessary among Austrian economists (Mises, 1912). On the contrary, mainstream economists, including Keynesian and Chicago School monetarists, describe inflation as the increase of the average price of goods and services in an economy, and if the average rate of inflation is low and stable, the news is not always bad (Taylor, 2000). The Austrian School differs from mainstream economics because the former considers it an inflationary cause, while the latter seems more popular as an inflationary outcome (Cachanosky, 2009; Salerno, 1995).

Mainstream economists generally agree that in addition to predictable external shocks like global commodities market prices, other shocks, including fiscal and monetary policy, political uncertainty, and financial crises, can contribute to growing domestic inflation (Vansteenkiste, 2009). In contrast to Keynesian economics, which emphasizes fiscal policy and demand-side interpretation, monetarists like Milton Friedman believe that inflation is solely a monetary policy concern. Therefore, central bank intervention is required to control the rate of money supply, suggesting that the better the future of inflation is correctly predicted, the less harmful it is to real economic growth (Friedman, 1963, 1977).

Conventional monetary policy, characterized by discretionary decisions made by central banks to manage the money supply and interest rates, plays a pivotal role in shaping economic conditions. According to Friedman (1963), as central banks adjust

interest rates or implement other policy tools to control inflation, the resulting monetary inflation can influence inflation expectations among economic agents, including firms' managers. One significant outcome of monetary policy is monetary inflation, referring to the increase in the overall money supply within an economy (Glas & Hartmann, 2016). According to Austrian School economists, monetary expansion sets in motion a chain of interconnected factors that profoundly impact economic agents, with a notable influence on firms' managerial decisions. When economic agents anticipate an accommodating monetary policy stance or a rise in the money supply, they often infer a potential increase in overall price levels.

Although the expectation of economic agents is crucial in a monetary policy decision, it is challenging under full-information rational expectations, leading to a negative impression of the central bank's competence (Blinder et al., 2016; S. Kumar et al., 2015). Unpredictable monetary policy can introduce an element of uncertainty about future inflation into their decision-making processes (Golob, 1994). Managers facing uncertainty about future prices may alter their investment decisions. Expecting higher prices can lead them to a cautious approach, potentially delaying long-term investments and adjusting pricing models to accommodate potential inflationary pressures.

On the other hand, since interest (riba) is prohibited in Islamic monetary policy, there has been no consensus among Islamic scholars and economic researchers on alternative tools and mechanisms that Islamic monetary policy can use to curb inflation and achieve price stability. Some call for a 100 percent reserve system (Askari, Iqbal, Krichene, & Mirakhor, 2014). Others like Abdullah (2020) and Jaffar et al. (2017) argue that inflation is more stable if Islamic monetary policy ties the value of money to gold standards, which reintroduces the dinar and dirham. However, other scholars

like Santoso et al. (2017) and Cizakca (2010) oppose the idea of returning to a bimetallic system due to its impractical in modern times, including some impediments with international agreement even though the gold currency system is more stable and superior than fiat money.

This study argues that since the inflation-inflation uncertainty nexus has been a hotly debated topic in macroeconomic research, the cause of inflation and its uncertainty in Islamic monetary policy may not be similar from a conventional monetary policy perspective. In conventional monetary policy, where monetary inflation refers to the increase in money supply in an economy over time through authority discretionary actions on interest rate adjustments, earlier Muslim economists, like al-Maqrīzī, classified inflation as caused by natural factors and human error. A natural inflation phenomenon occurs when a natural disaster, such as a flood, imposes supply constraints on the marketplace (Siregar et al., 2020). When the availability of goods and services becomes limited, an increase in consumer demand may lead to upward pressure on prices as individuals are willing to allocate more financial resources toward acquiring the same goods and services. Conversely, inflation can result from human errors, such as bribery, oppressive taxation, a country's budgetary deficit, and weak political administration. This study posits that the former scenario tends to cause transient inflation, whereas the latter, characterized by human error factors, manifests as a more gradual but potentially enduring and exacerbating form of inflation (Al-Marhubi, 2000; Elkamel, 2019).

Given the findings from a study conducted by Grais and Ahmed (2014), it is evident that conventional monetary policy indirectly impacts Islamic financial institutions. In light of this observation, it is reasonable to assert that rational, risk-averse managers at Shari’ah firms are more likely susceptible to the effects of inflation

uncertainty arising from the monetary inflation and unpredictability inherent in conventional monetary policy decisions.

Thus, by investigating the influence of these new unobservable variables on the financing preferences of Shari'ah firms, this paper aims to provide valuable insights into the decision-making processes within such firms. While the behavioural capital structure literature acknowledges that individuals are not always rational in their financial decisions, this paper also recognizes the lack of a clear consensus across existing capital structure studies in Islamic finance regarding traditional explanatory determinants versus modern theories such as trade-off, pecking order, and market timing. This research contributes to the broader understanding of financial decision-making within the context of Shari'ah firms, shedding light on the factors that account for prominent financial behavior features of ordinary or normal managers within the perspective of Islamic behavioral finance, compared to the rational managers in standard finance, as suggested by Statman (2014).

1.3 Background of the Study

1.3.1 Managerial Overconfidence in Behavioral Finance Research

Traditional economic models generally refer to frameworks and theories rooted in classical and neoclassical economics (Caraman, 2015). These models often assume that individuals and firms are rational decision-makers, acting to maximize their utility or profit. Classical economic models, pioneered by economists like Adam Smith and David Ricardo, laid the foundation for understanding market behavior through concepts such as supply and demand (O'Brien, 2017). Neoclassical economics, which emerged in the late 19th and early 20th centuries, expanded on these ideas and introduced mathematical rigor to economic analysis (Mirowski, 1993). In these

traditional models, rationality is a key assumption, implying that individuals have consistent preferences and make choices that align with their best interests given the available information (Bromiley & Papenhausen, 2003).

Behavioral economics, in contrast, challenges some of these assumptions by incorporating insights from psychology to understand how individuals deviate from perfect rationality due to cognitive biases and heuristics. Earlier research on behavioral finance can be traced back to Nobel laureate Herbert Simon's concept of limited rationality, which describes a person who does not seek to maximize his decision (choice) but rather satisfy (Simon, 1947, 1955, 1957). Simon further asserted *homo economicus*, or economic man, which emphasizes that humans act rationally and without error, only prevails in how people ought to behave, not how they do behave (Simon, 1959, p. 254). The assumption of universal human rationality in normative models appears somewhat limited in behavioural finance (Barberis & Thaler, 2002; Simon, 1947, 1959). Many recent behavioural economics and finance research show that individual decision-making often suffers from cognitive and emotional biases (Lerner et al., 2015; Lovallo & Kahneman, 2003; Pope & Sydnor, 2015).

Behavioural research extensively documents two closely related cognitive biases: optimism and overconfidence. The behavioral corporate finance literature often distinguishes between optimism and overconfidence. Optimism is usually defined as a subjective overvaluation of the likelihood of favourable future events, while overconfidence relates to underestimation of the risk or variance of future events (DeLong et al. 1991, Goel and Thakor 2000). However, the terms are interchangeable in much of the behavioral finance literature.

In psychology research, overconfidence bias is characterized by an egocentric belief, as highlighted by Heger and Papageorge (2018). This cognitive bias and other

self-serving biases have occupied a prominent position in the social and experimental psychology literature for decades (Svenson 1981; Miller and Ross 1975; Alicke 1985; Larwood and Whittaker 1977). Individuals exhibiting overconfidence bias tend to perceive themselves as more skilful in performance, possess greater actual ability, exert higher control, and have better chances of success (Svenson, 1981; Taylor & Brown, 1988; Weinstein, 1980). Overconfidence bias has been documented as a prevalent and robust cognitive phenomenon among entrepreneurs and managers (Cooper et al., 1988; Landier & Thesmar, 2009).

The term "managerial overconfidence", as used in this study, aligns with the definitions put forth by Moore and Healy (2008) and Moore and Schatz (2017), and it closely corresponds to recent studies such as those by Hribar and Yang (2016), Kramer and Liao (2016), and Wang et al. (2016). These recent works adopt the terminology of Moore and Healy (2008) and Moore and Schatz (2017), using the term "managerial overconfidence" to encompass both overestimation and over-precision (miscalibration). In their investigations, managerial overconfidence is defined as an upward bias in expectations of future outcomes, often referred to as optimism, coupled with an overestimation of the precision of one's private information, leading to an underestimation of risk.

For instance, Hribar and Yang (2016) discovered that overconfident CEOs are more inclined to voluntarily issue earnings forecasts with smaller prediction ranges. Meanwhile, Kramer and Liao (2016) delved into the potential impact of CEO overconfidence on external analyst forecasts through the information provided to analysts. Surprisingly, their observations revealed that when overconfident managers overestimate future firm performance and the accuracy of their private information, they are more likely to furnish positive information to analysts. This, in turn, increases

the probability of analysts issuing optimistic forecasts for firms led by overconfident managers.

Managers play a crucial role in numerous firm decisions. Unlike decisions made by unbiased managers, where rational investors accurately price all decisions, biased managers, specifically those characterized by optimism and overconfidence, tend to make decisions that deviate from the market's perspective (Hackbarth, 2008). Consequently, neglecting the consideration of managers' cognitive bias, mainly managerial overconfidence, would overlook a vital link influencing various firm decisions. In recent years, theoretical and empirical evidence has demonstrated that managerial overconfidence explains various corporate decisions, including investment, financing, and dividend choices (Baker & Wurgler, 2013). Moreover, it extends to earnings forecasts, with spillover effects observed on external analysts' forecasts (Hribar & Yang, 2016; Kramer & Liao, 2016).

In recent years, growing behavioral finance studies have found that managerial overconfidence can help explain various business decisions. Studies indicate that overconfident managers exhibit tendencies to overestimate the returns to their investment projects and over-invest (Lin et al., 2005; Wang et al., 2016), particularly when they have abundant internal funds (Malmendier & Tate, 2005), distributing lower dividends (Cordeiro, 2009; Deshmukh et al., 2010), overpaying for target companies, and engaging in value-eroding mergers compared to their unbiased counterparts or CEOs (Malmendier & Tate, 2008). Moreover, overconfident managers, particularly leading firms based in Christian countries, tend to utilise cash to finance international mergers and acquisitions (Ferris et al., 2013). Additionally, they face a heightened likelihood of forced turnover (Campbell et al., 2011) while simultaneously achieving greater success as innovators (Galasso & Simcoe, 2010;

Hirshleifer et al., 2016)(Hirshleifer et al., 2016) when contrasted with unbiased managers. These findings collectively suggest the multifaceted impact of managerial overconfidence on diverse facets of firm decision-making.

Despite an extensive literature in behavioral finance postulating that managerial overconfidence has been found to lead to risky behaviour in various business settings (Ben-David et al., 2007; Gervais & Odean, 2001; Moore & Schatz, 2017), both theoretical and empirical studies of managerial overconfidence in capital structure decisions can be ambiguous. From a theoretical perspective, the literature reveals that there exists a consensus on the first rung of the pecking order theory; thus, managerial overconfidence generally prioritizes internal financing as their primary choice over external financing (Hackbarth, 2008; Heaton, 2002; Malmendier et al., 2007). However, there is a lack of consensus regarding the second rung of the pecking order, specifically whether they prefer debt over equity.

Existing models, exemplified by Heaton (2002) and Malmendier et al. (2007), predominantly posit that overconfident managers tend to adhere to the standard pecking order theory, opting for debt as their primary choice over equity. Malmendier, Tate, and Yan (2011) posit that an overconfident manager exhibits a more pronounced preference for the pecking-order theory in financing decisions, showing a preference for debt over equity financing when opting for external funding. Their research aligns with Heaton's (2002) model, and their framework also anticipates a connection between managerial overconfidence and the standard pecking-order theory. An intriguing aspect of Malmendier, Tate, and Yan's (2011) model is the prediction of a link between overconfidence and debt conservatism, which implies that overconfident managers might be hesitant to utilize debt or accumulate more earnings, leading them to avoid debt usage. However, Hackbarth's (2008) theoretical framework challenges

this notion by proposing that overconfident managers may exhibit a reverse pecking-order preference, favoring equity over debt in their financing decisions.

The existing empirical evidence on the role of managerial overconfidence in capital structure decisions is limited but steadily growing. Up to this point, the literature review paints a mixed result regarding the influence of managerial overconfidence on capital structure decisions. Some studies, including Lin et al. (2008), Oliver (2005), Oliver and Mefteh (2010), and Park and Kim (2009), contend that managerial overconfidence strengthens the traditional pecking order theory. In contrast, a more recent contribution by Vivian and Xu (2018) provides innovative evidence supporting the idea that overconfident managers tend to favor equity financing, thereby endorsing a reverse pecking-order preference.

1.3.2 Inflation Uncertainty in Macroeconomic Research

The global consensus surrounding the effects of unconventional monetary policies (UMPs) implemented by developed countries on emerging market economies (EMEs) post the 2008–09 financial crisis has garnered heightened attention from economists and policymakers alike, particularly since the early 2010s. Monetary researchers, including Belke and Rees (2014), Hofman and Kamber (2020) and Tillmann (2016), have highlighted the significant spillover impacts of UMPs on emerging economies.

Initially, unconventional monetary strategies were devised to address short-term financial vulnerabilities and specific objectives of the U.S. and the European Central Bank (ECB) (Dwyer et al., 2023; Hofman & Kamber, 2020). However, these policies have raised concerns regarding potential tail risks for emerging market economies (EMEs) (Kiendrebeogo, 2016). Notably, these impacts are shown in

situations such as the rush of capital into Asian markets, fluctuations in the nominal exchange rate, and imminent shifts in EMEs' economic interest rate policies, driven by the Federal Reserve's quantitative easing measures and the repercussions of the U.S. monetary policy normalization in 2015 (Bank Negara Malaysia, 2015; BNM, 2008, 2010; Tran and Pham, 2020).

The growing spotlight on emerging-market financial markets, motivated by a complicated interplay between developed and emerging-country monetary policies, has consequences for comprehending global finance dynamics. The complexities of these relationships highlight the interdependence of the world's financial systems, where decisions implemented by advanced countries have repercussions on relatively smaller economies like Malaysia. Malaysia's experiences in the aftermath of UMPs reflect the more profound challenges and possibilities confronting emerging economies as they navigate the complexities of the global financial system.

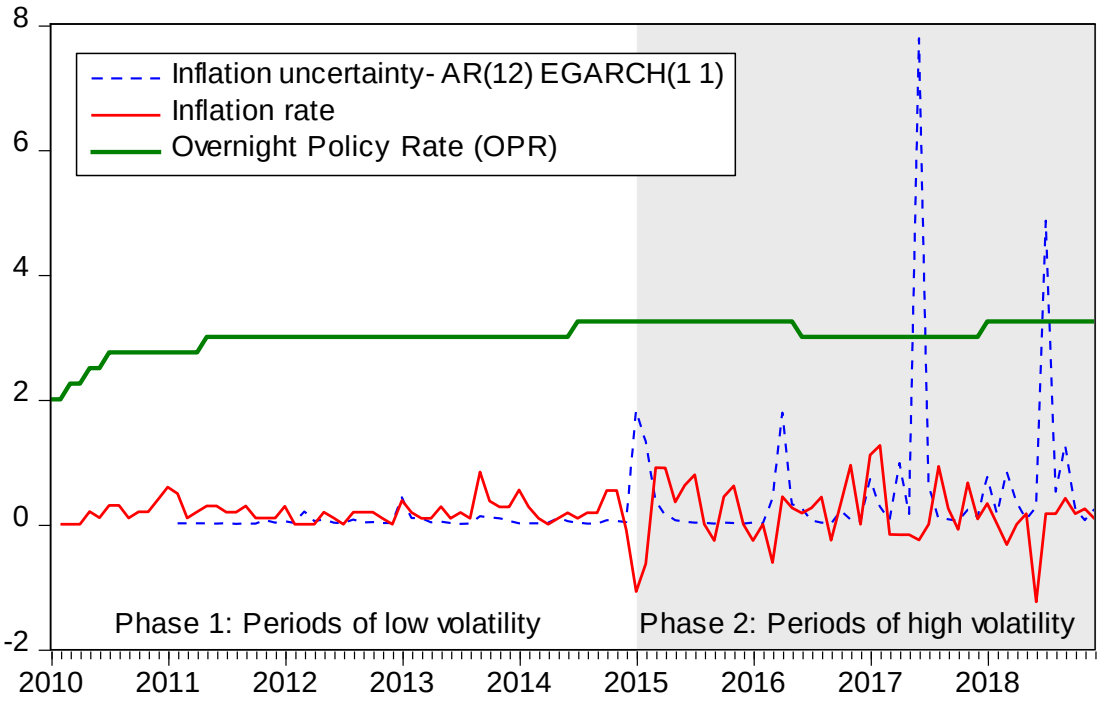

Figure 1.1 Inflation Rate, Inflation Uncertainty and Overnight Policy Rate (OPR) in Malaysian Economy 2010-2018

Figure 1.1 illustrates the time plot of inflation and inflation volatility, highlighting periods of heightened volatility with a shaded grey area denoting phase 2. A brief examination of the plot reveals that over the past nine years (2010-2018), the Malaysian economy has witnessed fluctuations in low and high volatile inflation rates and its uncertainty. It is noteworthy that, unlike other ASEAN-5 countries that transitioned to an inflation targeting (IT) policy, Malaysia opted for an interest rate targeting (IR) policy in November 1995. Subsequently, in 2004, the Bank Negara Malaysia (BNM), the nation's Central Bank, introduced a new interest rate framework known as the Overnight Policy Rate (OPR) to signal the monetary policy stance.

Malaysia's monetary policy underwent strategic adjustments to address dynamic economic conditions. Beginning with the aftermath of the 2008-2009 financial crisis, the Overnight Policy Rate (OPR) reached a historic low of 2.00 percent. In subsequent years, it gradually increased to 3.00 percent by May 2011, reflecting efforts to normalize the OPR in response to recovering domestic economic growth, asset prices, and credit expansion (Bank Negara Malaysia, 2015; BNM, 2008, 2010). This period was marked by a notable upswing in asset prices and a transient phase of currency appreciation, as indicated by research conducted by Yan et al. (2016 and Yin et al. (2017). The central bank, Bank Negara Malaysia (BNM), recognized the potential risks of prolonged low OPR, emphasizing the importance of averting broad-based financial imbalances.

Amid global uncertainties in 2013, the OPR was maintained at 3.00 percent, suggesting a prudent approach to support economic stability (Bank Negara Malaysia, 2014). In 2015, the Malaysian economy experienced substantial capital flow reversals attributed to the initiation of U.S. monetary policy normalization in January. In

response to this economic landscape, the monetary authorities in Malaysia adopted an accommodative stance, maintaining the Overnight Policy Rate (OPR) at 3.25 percent. This strategic decision aimed to effectively address the challenges stemming from dynamic shifts in commodity prices and global risk factors (BNM, 2015).

The subsequent years witnessed a focus on sustaining economic growth in 2017, marked by a robust 5.9 percent expansion and contained domestic inflation (BNM, 2017). However, in 2018, the emphasis shifted to price stability, leading to the normalization of accommodation with a 3.25 percent OPR (BNM, 2018). The evolving stance illustrated Malaysia's commitment to adapting its monetary policy to ensure macroeconomic stability, prevent financial imbalances, and navigate global economic shifts.

While comprehending the impact of Malaysian monetary policy responses to global monetary forces on the local economy is necessary, it is also important to grasp the welfare cost of inflation, particularly in the private sector. Understanding these measures and their effects is essential for a comprehensive understanding of their impact on the domestic economic landscape. This understanding becomes crucial for taking appropriate measures, especially for firms sensitive to unpredictable monetary policy. By grasping the reactions of Malaysian monetary policy to global dynamics, measures can be devised to help these firms navigate and mitigate the adverse effects of unpredictable monetary policy reactions on their financial decisions.

From a monetary perspective, fostering general price level stability contributes to a country's economic growth (Friedman, 1963). However, maintaining low and stable inflation poses a persistent challenge for most central banks' monetary policies (Candia et al., 2020; Khan et al., 2006; Ozkan, 2000). While price stability enables firms to identify the best investments in projects with the highest returns (Beaudry et

al., 2001), unforeseen changes in the general price level can distort the cost of capital (Fischer & Modigliani, 1978). In an inflationary environment, not only does the advantage of using debt in a firm's capital structure become uncertain, but the number of investments financed with debt starts to decline, leading to lower economic growth (Fischer et al., 2013; Hackbarth et al., 2006).

In macroeconomic research, the inflation-inflation uncertainty nexus has been a hotly debated topic in economic and financial studies for a long time, theoretically and empirically, following the earlier work of Friedman (1963) and Okun (1971). Friedman (1963) made two hypotheses: First, an increase in the average inflation rate leads to increased uncertainty about future inflation (inflation uncertainty). Second, increased inflation uncertainty distorts the information content of prices in efficiently allocating resources via real economic activity. He argued that monetary authorities can act differently in a highly inflationary environment. Ball (1992) asserts that the timing of policy interventions to control inflation is also unpredictable.

Cukierman and Meltzer (1986) further hypothesize that causality can run from inflation uncertainty to inflation, providing evidence against Friedman's premise. Fischer (1981), Pourgerami and Maskus (1987), and Ungar & Zilberfarb (1993) support Friedman-Ball's hypothesis on the causality direction from inflation to inflation uncertainty, but they argue that the sign of the relationship should be negative rather than positive. In contrast, Holland (1995) argued that policymakers might use the “Stabilization motive” to reduce the average inflation rate in the presence of higher inflation uncertainty. Consequently, many researchers like Baharumshah et al. (2016), and Berument et al. (2009), more recently, Iyke and Ho (2020) conclude that there is no consensus in the literature on the nature of the relationship between inflation and

inflation uncertainty in conjunction with these ambiguous theoretical hypotheses on causality.

While the direction of the inflation-inflation uncertainty nexus is crucial for monetary policy to control inflation, existing theories support that increased inflation uncertainty can affect the decisions and behaviors of economic actors in the real economy (Conrad & Karanasos, 2005; Karahan, 2012). Numerous papers suggest that elevated inflation uncertainty can hinder investment, slow economic activity, and impede long-term planning (Huizinga, 1993; Kamasa et al., 2022; Wang et al., 2016) and displays asymmetric behavior in numerous countries (Albulescu et al., 2017; Daniela et al., 2014; Stilianos Fountas et al., 2002; Heidari and Bashiri, 2010; Kontonikas, 2004), including those with low and stable inflation, such as Malaysia (Baharumshah and Soon, 2014; Mohd et al., 2013). In other words, this asymmetry implies that the effects of inflation uncertainty are not consistent or equal in magnitude during rising and falling uncertainty.

Macroeconomists have given considerable attention to the negative impact of inflation on welfare, particularly the uncertainty associated with economic agents' inflation expectations (Drakos et al., 2020; Golob, 1994; Sims, 2011; Willard, 2012). This aspect is crucial for monetary policymakers to understand how individuals and firms in the economy anticipate future inflation (Drakos et al., 2020; Sims, 2011; Willard, 2012). Assessments of inflation expectations hold significant relevance in the realm of central banking, spanning both advanced and emerging market economies. According to Coibion et al. (2020), the realization of actual inflation is, to some extent, contingent on the expectations held by economic agents. These expectations can influence crucial domestic economic and financial variables, ultimately shaping the decisions of households and firms (Golob, 1994).