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Modelling Profit Margin of Islamic Banking from a Theoretical Perspective: A Research Note

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Abstract

This paper presents a comprehensive theoretical exploration of the Net Profit Margin (NPM) concept through the lenses of institutional economics theory, agency theory, contract theory, and dealership theory. An analytical approach was employed to derive the theory of NPM and supported with reasons and justifications to divulge the merits of the theory concerned. The findings suggest that the profit margin formation in Islamic banks is holistic and multidimensional, extending beyond dealership theory to include institutional, contractual, and agency perspectives that collectively influence profit generation. Although this work is conceptual in nature, it highlights the need for future empirical investigations and recommends distinguishing NPM at the product level. Practically, the study provides valuable guidance for Islamic banks in diversifying their profit margin strategies and offers new insights into the theoretical development of profit margins. The originality of this study lies in its integrated model, which establishes a clear theoretical connection between multiple economic and managerial perspectives in explaining Net Profit Margin (NPM) behaviour in Islamic banks.

Keywords: Profit Margin, Islamic Banks, Dealership Theory, Modelling, Financing

Introduction

The banking system is considered one of the backbones of a country's economy, regardless of whether it is conventional or Islamic bank. Both acts as an intermediary that enable sustainable economic growth by ensuring that capital is available for investment in different sectors of the economy (Menicucci and Paolucci, 2016). In addition, this banking sector also plays an important role in promoting financial stability and resilience by providing various financial services such as savings accounts and loan products. Besides that, a banking institution essentially mediates external parties' economic transactions. For example, banks support fund-channelling from surplus units to deficit counterparts. Specifically, surplus units

would deposit the money in banks to be eventually lent to deficit units. As such, surplus units encompassed depositors while deficit counterparts involved borrowers. Similarly, Islamic banks performed fund-channelling from depositors to be circulated in the market using borrowers either individually or as company entities.

To ensure a sustainable intermediation function, banks need to be profitable, especially when Islamic banks face a few challenges while operating. Some of the challenges include 1) The high cost of compliance with Sharia law where the Islamic banks must comply with several Sharia law requirements, which can increase their costs. For example, Islamic banks are prohibited from charging interest, which can make it more difficult for them to generate profits; 2) Lack of Islamic financial infrastructure. The Islamic financial infrastructure is still in its early stages of development. This can make it difficult for Islamic banks to access capital and liquidity; and 3) Competition from conventional banks. Conventional banks are also offering Islamic financial products and services. This can make it difficult for Islamic banks to compete (Alam & Habibullah (2017).

The banks in general will generate profit by earning a higher interest rate on loans than they pay on deposits. The difference between the two is called Net Interest Margin (NIM) for conventional banks and known as Net Profit Margin (NPM) for Islamic banks. NPM is an important measure of profitability because it reflects the ability of Islamic banks to generate income from their intermediary functions. NPM differ from NIM in that Islamic banks offered contract and product types that are interest (*riba*) free. Besides that, Islamic banks operate on the principle of profit-and-loss sharing (PLS), which means that they share both the profits and losses of their investments with their customers. This means that Islamic banks cannot generate income from interest payments, as is the case with conventional banks.

Specifically, NIM implies the differences between bank incomes and expenses related to interest divided by total earning assets (Chortareas *et al*., 2012; Claeys & Vennet, 2008; Saleh & Abu Afifa, 2020) while NPM reflects the differences between bank incomes and expenses related to financing divided by total earning assets (Hutapea & Kasri, 2010; Sun *et al*., 2014). NIM and NPM are also important metrics for banks as it is a key indicator of their overall financial health and ability to generate income from their lending operations. Poor banking performance can lead to bank failure and crisis, both of which harm economic growth (Ongore and Kusa, 2013). NPM is an important financial metric for Islamic banks for several reasons. Firstly, NPM can be used to assess the overall financial health of an Islamic bank. A high NPM indicates that the bank is generating a significant amount of profit from its operations, which can be used to fund future growth, invest in new products and services, or return to shareholders in the form of dividends. A low NPM, on the other hand, may indicate that the bank is struggling to generate profits, which could lead to financial problems in the future. Secondly, NPM can be used to compare the performance of Islamic banks. This can be helpful for investors and other stakeholders who are considering investing in or doing business with an Islamic bank. A high NPM in one Islamic bank relative to other Islamic banks may indicate that the bank is a good investment or business partner. Thirdly, NPM can be used to track the performance of Islamic banks over time effectively.

Previous studies on NIM and NPM were empirical studies. Some of the previous studies on NIM for example, Angbazo (1997); Alhassan et al. (2016); Gupta & Mahakud (2020)

and Chortareas *et al*. (2012) mention some. Meanwhile, Lee and Isa (2017), Salleh, et al (2021), Malim and Normalini (2018), and Trinugroho et al. (2018) were among the study focusing on the NPM of Islamic banks. All these studies let conventional or Islamic banks only focus on the Dealership theory by Ho and Saunders (1981). Therefore, our study attempts to link the Dealership theory from the Islamic perspective. Besides, this study also contributes in terms of suggesting several supporting theories that can be related to building the NPM model theory from an Islamic perspective.

The supporting theories include institutional economics theory, contract theory and agency theory. It helps to explain and diversify the multiple sources of determinants of NPM that are defined by the different theories examined in this work. By using a literature review those theories that have been proposed are identified to explain the phenomenon, as well as the strengths and weaknesses of each theory. Conceptual framework development was then developed to visualise the representation of the different concepts and relationships that are involved in the phenomenon of NPM. This helped identify gaps in the existing theories and for developing new theoretical constructs. Finally, hypothesis development is about the relationships between the different concepts and variables that are involved in the phenomenon of NPM. These hypotheses were then tested through future empirical research using a variety of statistical techniques.

The outputs drawn from this study can benefit multiple parties concerned. Firstly, policymakers, namely the central banks can strengthen the quality of profit of Islamic banks and application of the theory of NPM in the Islamic banking institutions. Secondly, the theory can help strengthen the management of income by Islamic banks by implementing the practicality of the theory. Lastly, this study becomes a baseline framework for future researchers in integrating theories and practices via the theory of NPM. From a theoretical perspective, it is important to understand the factors that affect the NPM of Islamic banks to develop strategies for improving their financial performance. By understanding these factors, Islamic banks can make better decisions about their lending and investment activities, and they can also work to reduce their operational costs.

Therefore, this study is aimed at explaining the significance of the theory of NPM that could improve further understanding pertinent to the income generation of Islamic banks for improved productivity and profitability. Further, NPM research can help to improve the efficiency, stability, and prosperity of the economy.

NPM of Islamic Banks in Supporting Dealership Theory

Ho and Saunders' (1981) theory posited a dealership model based on the original idea of Stoll (1978), as well as Ho and Stoll (1980) concerning the role of dealers in dealing with securities price bargains in the securities market. Subsequently, Ho and Saunders (1981) applied the model to analyse the behaviour of banks in dealing with the market's deposit and financing rates. In this dealership approach, in determining its profit margin there are three assumptions applied.

The first assumption is bank being risk-averse is important in explaining the taken of profit margin. This model assumes the bank is a dealer or intermediary between the depositors and borrowers who are dynamic yet risk-averse. A bank manager who is a risk-

averse dealer will decide to charge rates that are going to maximize its utility expectations (Jensen and Mecking,1976).

The second assumption proposed in this dealership model is deposit inflow and lending outflow in banks do not occur simultaneously (Ho and Saunders, 1981; Fabozzi et al., 1994). The implication is the bank faced uncertainty on the arrival of deposits and demand for loans. If it is assumed there is no new deposit supply when a loan request is made at a certain time, the banks must finance the loan by borrowing in the money market. If the market interest rates increase, the cost of financing is high, then the banks face the risk of refinancing. On the other hand, if there is no new loan requested during the deposit is offered, then the banks will temporarily invest the deposit surplus funds in the money market at current interest rates.

If there is a fall in market interest rates, the cost of funding is no longer competitive causing banks to face the risk of reinvestment. In short, banks have to face the risk of refinancing and re-investment risks due to the volatility of market interest rates. The same applied to Islamic banks as the NPM relates to Base Lending Rate (BLR). BLR which is an interest is cyclical and speculative (Hempel *et al*., 1983). BLR will influence Islamic banking in determining the yield given to investors, especially those adopting a dual banking system. We can further explain the relationship between loans/financing requested and deposits offered as discussed by the law of supply and demand in the money market as figured out by the curve below.

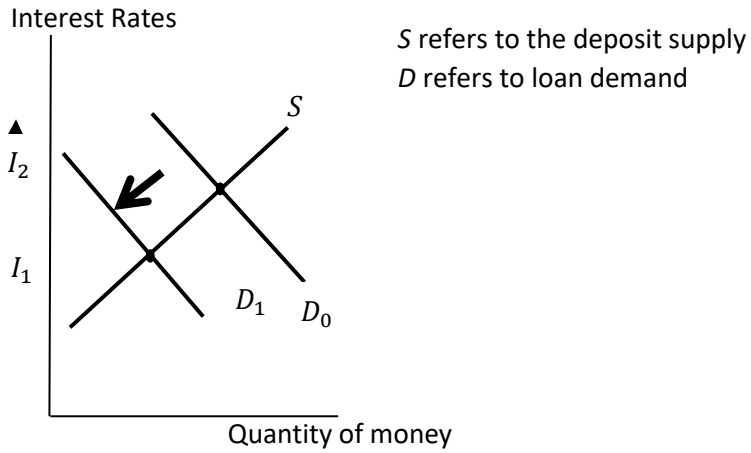

Figure 1: Demand for loan and supply for deposit in the conventional bank (Shift in the demand curve)

Figure 1 explains the law of demand in the context of deposit and loan market. According to this law of demand, the quantity demanded of a good or service decreases as the price of the good or service rises. Similarly, in the context of a conventional bank, loan demand is inversely related to interest rate. People are more willing to borrow money from banks when interest rates are low. People are less likely to borrow money from banks when interest rates are high (Fama, 1970; Mankiw, 2013). However, in this relationship banks may be less willing to lend money when interest rates are low. This is because low-interest rates can compress the net interest margins for banks, affecting their profitability and risk appetite

in lending. Consequently, while borrowers may find low-interest rates favourable, banks might exercise caution in extending loans in such circumstances.

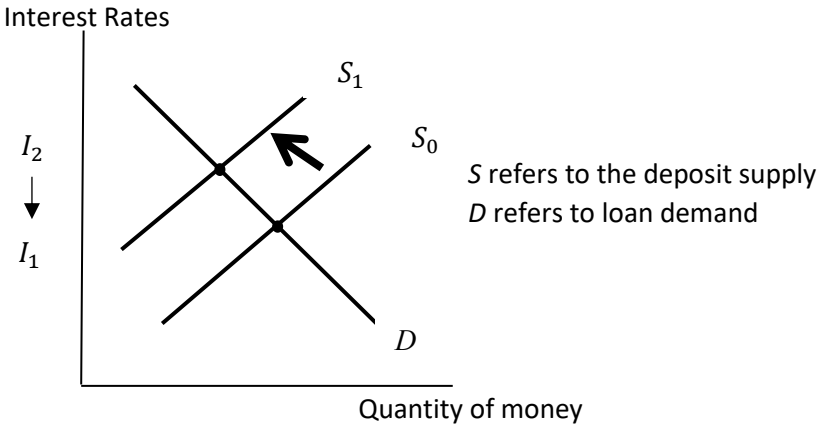

Figure 2: Demand for loan and supply for deposit in the conventional bank (Shift in the supply curve)

The law of supply, as in Figure 2, on the other hand, states that as the price of any good or service rises, so does the quantity supply. As a result, the quantity of deposits is inversely proportional to the interest rate. People are more likely to deposit money in banks when interest rates are high. People are less likely to deposit money in banks when interest rates are low. This also means that when there is increase in consumption tends to decrease the supply of deposits, as people have less surplus money to deposit. This decrease in supply can lead to an increase in the deposit interest rate. However, banks may be less willing to accept money deposits when interest rates are high, as this can affect their overall cost of funds and profitability.

In the banking sector, the equilibrium interest rate is more than just the rate at which the demand for loans aligns with the supply of deposits. Banks strive to keep their net interest margin positive, which are the differences between the interest rate charged on loans and the interest rate paid on deposits. This margin enables banks to cover their operating costs while also earning profits. Therefore, in practice banks set loan interest rates slightly higher than deposit interest rates to ensure a positive net interest margin. When the interest rate is below the equilibrium interest rate, there will be a shortage of loans, and when it is above the equilibrium interest rate, there will be a surplus of deposits. To ensure financial stability and profitability, banks must successfully manage their interest rate policies. However, it is important to consider that an increase in the deposit interest rate does not immediately translate to an increase in the credit interest rate. This is due to the fact that credit contracts are fixed for a period, and banks have to wait until these contracts expire before adjusting the rates on new contracts. The time lag between changes in deposit and credit interest rates suggests that banks might incur losses during this period but can compensate for these losses over time as the credit interest rate eventually adjusts [see Bidabad, (2017)]

On the other hand, in the Islamic bank context, where the conventional concept of interest is replaced by profit and loss sharing, the terminology shifts to the 'return on deposits' and 'profit rate on financing' or 'Islamic financing rate'.

- Return on Deposits (Islamic Deposit Rate):
  In the saving-deposit market, Islamic banks offer a return on deposits to their customers. Instead of fixed interest, this return is often based on the profits generated by the bank's Shariah-compliant investments. The demand for deposits from Islamic banks is influenced by factors such as the expected profitability of their investments, the risk-sharing nature of Islamic finance, and the prevailing economic conditions.

- Profit Rate on Financing:
  In the investment-credit market, Islamic banks provide financing based on profit-sharing arrangements rather than traditional interest-bearing loans. The profit rate on financing is determined by factors such as the expected returns from the funded project, the risk profile of the venture, and the mutually agreed-upon profit-sharing structure between the bank and the customer.

Explicitly addressing the concepts of 'return on deposits' and 'profit rate on financing highlighting the unique features of Islamic banking that differentiate it from conventional banking. This distinction reflects the ethical and Shariah-compliant principles governing financial transactions in Islamic finance.

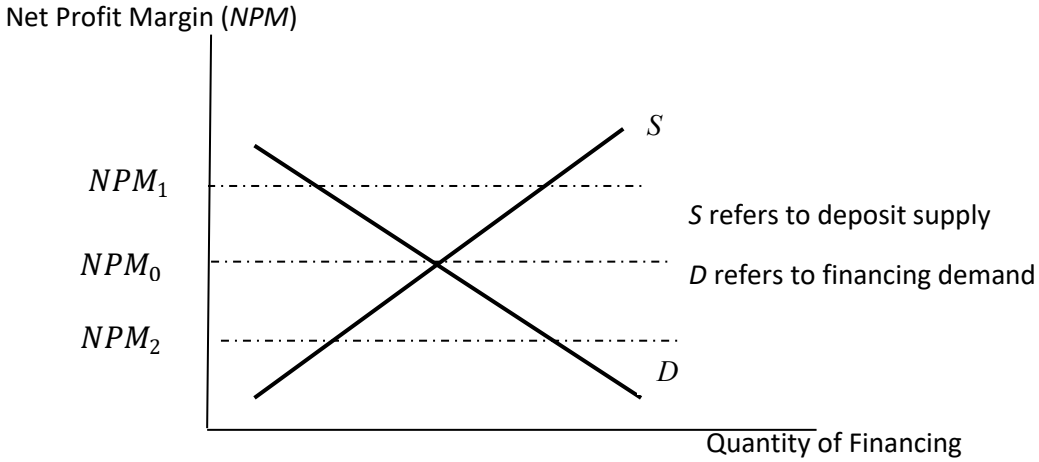

Figure 4: Demand (financing) and supply (deposit) in the Islamic bank

Figure 4 shows that same as the conventional banks, Islamic banks' financing and deposits can be explained by the supply and demand curve. The key difference between the conventional bank and Islamic bank figures is that conventional banks use lending and borrowing contracts while Islamic banks apply sales-based contracts (Rosly, 2005). In the context of an Islamic bank, the demand for financing is inversely related to the NPM. When the NPM is high, people are less likely to borrow money (financing) from Islamic banks. When the NPM is low, people are more likely to borrow money (financing) from Islamic banks. On the other hand, the supply of deposits is directly related to the NPM. When the NPM is high, people are more likely to deposit money in Islamic banks. When the NPM is low, people are less likely to deposit money in Islamic banks. The equilibrium NPM is the NPM at which the quantity of financing demanded equals the number of deposits supplied. When the NPM is

below the equilibrium NPM, there will be a shortage of financing. When the NPM is above the equilibrium NPM, there will be a surplus of deposits.

Figure 4 also helps to explain graphically the effect of the non-simultaneous supply of deposits and demand for financing in Islamic banking. Figure 4 shows that at point NPM_1 there is a surplus of deposits supply as compared to demand for financings. Therefore, here is where the banks will invest the depositor's money in a short money market to gain profits. When there is a decrease in NPM at point NPM_2, there is a surplus in demand for financings. Here, the banks will borrow from the short money market to match the demand for financing.

For both Figure 3 and Figure 4, there are two assumptions applied to explain the dealership model based on the demand and supply concept. The first assumption is the supply curve represents how much the depositors can offer their deposits. The second assumption is the demand curve represents loans or financing requested in the market. Finally, the third assumption is banks are in a competitive market.

The increase or decrease of NPM is also influenced by the changes in the determinant variables. For example, when there is an increase in operating cost, it will result in a decrease in the deposit's supply. Higher operating costs will shift the supply curve inward. This can be referred to Figure 5 below.

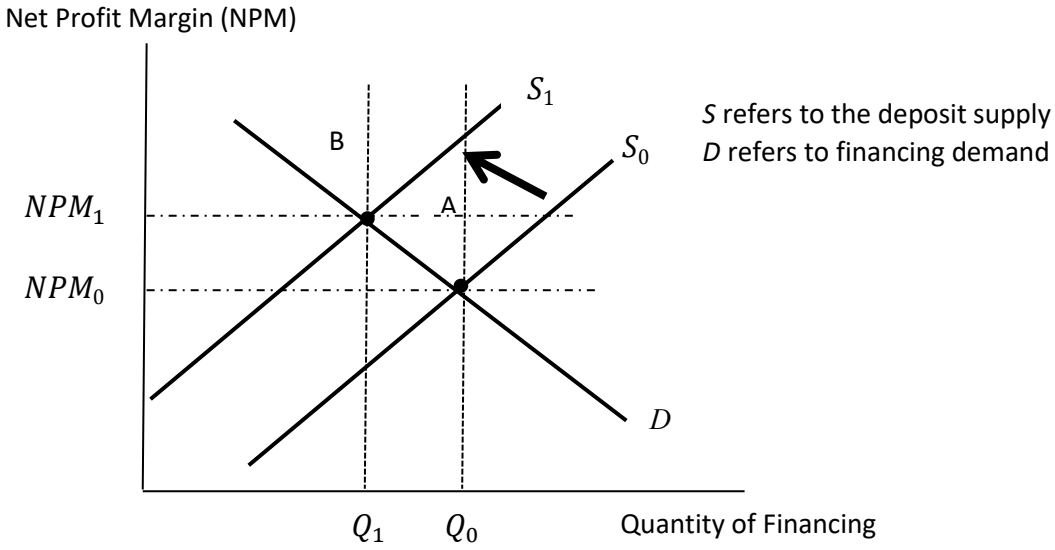

Figure 5: Shifted of NPM due to change in external factors

Based on Figure 5, shows that when there is an inward shift of the supply curve, the equilibrium point will move from point NPM_0 to NPM_1. Therefore, it can be concluded that these Islamic banks follow the law of supply and demand in managing the relationship between financing and deposit. For example, a higher operating cost (determinant factor) would result in the reduction of deposit supply from RM200,000 million to RM100,000 million causing an inward shift of the supply curve. This caused the equilibrium point to move from point A (NPM_0) to point B (NPM_1). As such, there will be a decrease in total financing offered by the Islamic banks at this new equilibrium (NPM_1), from point Q_0 at RM 300,000 million to Q_1 at RM 200,000 million.

The third assumption is the banks as dealers had to compete with other banks in the market to secure deposits by offering higher deposit rates and offering lower loan rates. Therefore, banks operating in highly competitive markets are still able to enjoy a positive margin. With all these three assumptions, Ho and Saunders (1981) have made it a fundamental variable to test the NIM.

Supporting Theories of Profit-Sharing Margin in Islamic Bank

The NPM is developed by 4 major theories which are dealership theory, institutional economics theory, contract theory and agency theory compared to NIM which is only developed by dealership theory. The details of the discussions are as follows:

Institutional Economics Theory

Apart from dealership theory, the Islamic banks which charged NPM can be related to an institutional economics theory. As an introduction, institutional economics emphasizes comprehending the relevance of evolutionary development or process as well as the role of institutions in influencing economic performance. Institutional economics highlights wider research of institutions and the dynamics of markets due to the complex interactions that may arise among various institutions (e.g., individuals, firms, states, and social norms). This interaction will involve a social structure such as rules that will become guidelines for social behaviour. There are formal and informal institutional rules, with formal may contain constitutions, laws and property rights while informal consist of taboos, customs, traditions, and codes of conduct (Jepperson, 1991). These rules act as a guide in decision-making, limit people's daily activities and shape human behaviour. This will indirectly reduce the uncertainty in operating the institutions as stressed by North (1990):

"Institutions reduce uncertainty by providing a structure to everyday life."

Islamic banks are institutions structured by the *Shariah* (Islamic rules). Precisely *shariah* is *Islamic* law that governed *Muslim*s in all aspects of life. *Shariah* law contains rules, obligations and also moral considerations. All banks need to follow this *Shariah* law if there are about to venture into the Islamic banking market. Islamic banks as one of institutional economics are influenced by their internal and external environment. The internal environment of Islamic banks given this institutional economic theory of wealth creation, Islamic economic system and interest rate abolishing. Here, there involved intermediary and agency roles of Islamic banks in creating wealth by providing interest-free services. These three internal environments of Islamic banks then have three distinctive structures mainly: (a) interest-free services (b) multi-purpose (for business or social) and not purely commercial, and (c) strongly equity-based-oriented (Ismail and Nor, 2011). Interest-free services not only refer to financing but also to depositing products as it is part of Islamic banks' services.

Other than non-equity financing such as BBA, *murabahah* and AITAB, these Islamic banks can venture into *mudharaba*h and *musyarakah* equity financing. These contracts of Islamic banking pose some issues, especially concerning the skills required to handle such various and complex instruments and transactions (Iqbal and Mirakhor, 1987). Besides that, according to Sundararajan and Errico (2002), because there are a variety of ways to finance a project, this Islamic banking can be riskier than conventional banking institutions due to the specific nature of contract risk offered by Islamic banks. Having many various contracts was

actually to suit multipurpose customers such as business and social. While not purely commercial, Islamic banks as business entity units can gain profit when playing their parts as an agent for investors, depositors and debtors.

While for the external environment, this study also adopts the New Institutional Sociology (NIS) as NIS focussed not only on internal issues (micro) but also on external issues (macro) (DiMaggio and Powell, 1991; Scott, 1995). In general, NIS explains the interaction between institutional structure and the social environment in which it operates. For the external environment, it is referred to some factors listed in new institutional sociology (NIS) such as economic constraints. For example, the economic constraint is the level of economic uncertainty that may impact the Islamic bank's performance such as the current economic conditions such as the level of inflation and the GDP growth in the country.

Contract Theory

Islamic banks practice an interest-free service which is one of the key components of the Islamic bank's internal environment. Therefore, this study will continue the discussion on contract theory precisely the Shariah-based contracts which play a vital role in Islamic banking's daily operation. A contract ('*aqd*) is a bond, guarantee or promise to carry out businesses (Rahman, 2009). The specific definition of contract as reported by Saleh (1990) is discussed as follows:

> "*The conjunction of an offer emanating from one of the two contracting parties with the acceptance of the other in the manner that affects the subject matter of the contract.*"

This definition above has touched on the pillar of contract which can be divided into four elements which are parties involved *(al-'aqidayn)*, subject matter *(al-ma'qud 'alayh)*, offer *(ijab)* and acceptance *(qabul)*. In Islam, the contracting parties must fulfil their promise as stated in the contract agreement. This is explained in the Quran which means:

> *"O you who have believed, fulfil [all] contracts……"*
>
> (Al-Maidah, 5: 1)

In our case, the parties involved are Islamic banking and its customers whether depositors or borrowers. The Islamic banks should properly manage their depositor's money while the borrower too should pay back the money borrowed from the banks as has been mutually agreed in the contract. Therefore, in this financial contract activities involved financial risks such as liquidity risk and credit risk (Siddiqui, 2008).

Indirectly, this contract binding those parties becomes a basis for any profit charged. This is because Islamic bank as a profit-based organization in determining profit margin is also heavily influenced by the types of contracts that apply either between the creditor and the bank or the debtor and the bank. The percentage of profits to be earned by the parties involved in the contract depends on the types of contracts stated earlier in the agreement. Examples of contracts binding the bank and third parties are *mudharabah* (investment contract), *musyarakah* (partnership), *wakalah* (agency), *ijarah* (rent) and *istisna* (construction).

From this contract, as an Islamic financial institution, the Islamic bank is bound to the legal rules of Islam regarding business contracts, for example, is free from *riba*[1]. This is supported by a hadith narrated by Baihaqi who said:

> *"Every loan which brings benefits (to the lender) is riba."*
>
> (Al-Syaukani, 1961)

Riba is said to be unfair because the lender gets profit without being exposed to market risk (always profit). In Islam, there is a concept of *al-ghurm bi al-ghunm* which means there is no profit without taking a risk. Therefore, people are only eligible to take profits if he is willing to bear the loss *(*Ahmed, 2014). In addition, the lender also asked for a guarantee such as collateral for a loan made by the debtor. If the debtor fails to pay its debts, then the creditor will take the property which considers being an illegal way to get profit as there is no value added created by the creditor to be given to the debtor. This is what has been practised today by conventional banking to earn interest where these conventional banks receive fixed income from loans without any added value in it.

Trading however is allowed in Islam because of the profit that comes from the sales and purchase activities involving *iwad* which is having a fair exchange between services and money. Rigorously *iwad* is having a counter value in a transaction. Here money received is in return for services given. According to Rosly (2005), when trading has *iwad*, there will be an element of equity and justice which then make it superior to the interest-bearing system.

In Islam, to gain profit (from a contract), there are three conditions need to be fulfilled which are: 1) bear the market risk (*ghurm*); 2) have effort or activity to generate added value (value added); and 3) take responsibility if there is a defect on the goods sold. For example, in *a musyarakah* contract, the principal share of profit is justified by their effort and risk carry. In this *musyarakah*, a profit is not promised and if there is a loss in their investment, their money is lost too. In selling and buying defective goods, in Islamic finance, this can be related to *khiyār al-ʿayb* (option of the defect). Here the seller is responsible for any defect on the goods sold and the buyer can return the goods if found defective. The seller has to ensure that the supply of goods is in its best condition and to disclose defects to the potential buyers if any. Therefore, any profit gain must be generated by taking a risk, giving an effort to give the best goods to the customers and taking responsibility by giving rights for coverage.

Therefore, in determining profit margins the Islamic banks should take into account the types of contracts involved as the generalization of the profit and business risks dealt by the Islamic banks also will be different in every contract involved. Besides that, these profit margins from the contracts may involve agency relationships. Thus, indirectly it consists of an agency theory.

Agency Theory

Agency theory involved a relationship between the principal and the agent. In detail, according to Jensen and Meckling (1976), an agency exists when a person appoints another person to act on his behalf:

[1] "Prophet (pbuh) cursed the consumer of *riba* and the one who feeds it and the one who witnesses it and the one who documents it." (Al-Muslim: Hadith No. 4093, Nasiruddin Al-Kattab).

"a contract under which one or more persons (the principal(s) engage another person (the agent) to perform some service on behalf of the principal which involves delegating some decision-making authority to the agent".

Any type of Islamic bank product, when two parties are entering the contract, can be related to agency theory. This not only involved financing products but also deposit products. Deposit products, for example, will involve agency via the action of a person handing over his assets (money) to another person for safekeeping. In this case, Islamic banks act as an agent for safekeeping purposes as delegated by the customer.

One of the elements in this agency theory is information asymmetry where there will be one side gain more information than the other side. Usually, those who become agents tend to use any information asymmetry and mislead principals by maximising their interests to the detriment of the principal's wealth. For example, when Islamic banks acted as an agent for depositors, first, there might be a conflict of interest in this principal-agent relationship between the principal and the agent. For example, depositors have an interest in an attractive return for their funds that have been deposited and stored in the Islamic bank. The Islamic bank has its judgment to achieve an attractive profit for the roles its plays.

Secondly, there might be a conflict in terms of manipulation by the agent derived from information asymmetry. As an agent, the manager has a chance to manipulate the depositor's funds return especially when these banks have the discretion to pay the depositors a return which is subject to the overall profitability of the banks (Errico and Farahbaksh, 1998). They tend to give deposit returns lower than the actual performance. Also, if looking from the customer perspective, the depositors who act as principals, in selecting their agent, there may be some criteria that they are looking for from their agent. Some of its due to the fact they wanted an agent that can play their role well. The depositors wanted to place their money in the safest banks (agents) in the market.

The risk-averse behaviour of depositors influences their decision either to place or not their money in the banks. One of the aspects that the depositors maybe wanted to consider is the liquidity of the banks. This liquidity is the ability of the banks to meet their future financial needs such as repayment capability (Muljawan, Dar and Hall, 2004). For example, this liquidity can be proxy by the ratio of liquid assets to the sum of deposits and short-term funds which was used by Ahokpossi (2013) and Marinkovic and Radovic (2014). If the banks have liquidity problems and are unable to meet their future financial needs the banks will have difficulty to attract depositors. Other than liquidity, Chapra and Ahmed (2002) observe that agency problems can affect the credibility of a bank thus affecting its ability to attract investors including the depositor.

Besides, this agency theory involved the topic of separation of ownership and control. The ownership owns by the shareholder but in terms of control, the business runs or control by the bank manager. One of the uniqueness of Islamic banks is that Islamic bank managers as compared to conventional banks are not only entrusted to maximize the value of their shareholders for example in gaining profit, but at the same time, they have to attain and fulfil *sharia*-compliant manner (Archer, Ahmed and Al-Deehani, 1998). In general, the shareholder wanted higher profit, and the banks as the agent wanted higher remuneration. Our variable

used which is a ratio of equity over total assets can reflect the need of banks in maximizing shareholders' value by giving a higher profit. The larger the shareholder, the larger the profit needed to be given by the bank to this shareholder (equity holder) which ends up with the bank charging higher NPM. Besides that, this ratio of equity over total assets is also used by many studies to measure risk aversion. In terms of risk aversion, these shareholders would require a better return in return for their money placed in a bank and exposed to risk.

Besides, Islamic banks can also be a principal in this agency theory. Islamic banks are a principal when the Islamic banks are giving financing to the debtor. Islamic banks acted as principals while the debtor is an agent. Here, adverse selection and moral hazard are two types of agency problems in lending. Adverse selection can be described as knowledge asymmetry, whereby the agents have greater information than the principal. It is a case in which the principal cannot ascertain the agent's skills and ability to fulfilling the principal's aims either in the hiring process or when the agent is working. For lending activity, adverse selection occurs when the bank as principal faces uncertainty about whether the borrower (agent) will fully utilize the money and be able to repay the money as promised. Armendariz and Morduch (2007) added adverse selection is when banks lack sensible information concerning potential borrowers and therefore cannot discriminate against risky borrowers (relates to credit risk or loan quality).

Equally, a moral hazard issue exists when there is no certainty that the agents will act in the best interest of the principal (Eisenhardt, 1989). Moral hazard can be categorized as either ex-ante or ex-post. In relating moral hazards to lending activity, these moral hazards have something to do with borrower actions before and after the financing is disbursed. Ex-ante commonly refers to imperfect information of the borrower which may affect the realization of returns to the lender. While ex-post moral hazard according to Armendariz and Murdoch (2007) is referring to the difficulty faced by a lender when the lender has lent money to the borrower and this borrower has invested the money. When the returns from the project are realised, banks may face default risk with the borrower (agent) might refuse to service the remaining financing or the possibility of avoiding full disclosure of profit (relates to credit risk or loan quality).

Accordingly, lenders charge high-interest rates to offset the higher risk associated with lending (Armendariz and Murdoch, 2007). According to Ahmed (2002), in Islamic banking, adverse selection occurs before the contract is signed as a result of the bank having less information about the project than the borrower. Therefore, the profit gained by the Islamic bank will differ when it acts as an agent and when the Islamic bank acts as a principal. This situation will also relate to the theory of profit and financial intermediary. This is related to NPM where one of the elements in NPM calculation is income distributed to the depositors and income received from lenders.

In discussing the function of an Islamic bank as an institution, the Islamic banking role as an agent, as a principal and indirectly as a middleman should not be put aside. This agency theory through its internal environment closely related to the contract theory that explains the role of an Islamic bank that not only can become a principal but also can play a role as an agent depending on the contract signed by the bank with the customer.

In addition, this study also found that agency can be related to financial intermediation theory that has been pioneered by Gurley and Shaw (1955); Gurley and Shaw (1960) which explain that a financial intermediary institution is an institution that works as a middleman between surplus units and deficits units. Typically for banking, the intermediary task that it does is channelling funds from lenders (surplus units) to borrowers (deficits units). The lenders in banking which are the depositors, place their money in banks as an intermediary which later this bank will give those funds to borrowers.

To relate this to agency theory, for example, the depositor as a principal appointed bank as an agent a safe taker and these banks somehow will invest the depositor's money to the borrowers. Here the banks acted as principals while the borrower was an agent. Islamic banks also play roles as financial intermediary institutions. Its acts as a middle party which meets and matches by accumulating small deposit funds with large loans and matching large deposits with small loans in the market. An Islamic bank is an organization or institution that replaces separate individuals making transactions in a large market. For example, an Islamic bank facilitates the lending of depositor’s fund to multiple borrowers which enable to reduce the risk. Another advantage is that Islamic banks help in eliminating costs for negotiating numerous transactions made by these individuals.

When Islamic banks play their roles as an intermediary for both lenders and borrowers, the Islamic banks may charge some price and get some profits from their roles played. Therefore, in this case, the Islamic bank when determining its profit margin (NPM) is influenced by its function as a financial intermediary or dealer function. Banks as dealers received deposits and offer homogeneous loans in terms of rates, sizes and maturities, with loans assumed to mature after the expiration of the decision-making period. The bank also determines the interest rates for loans and deposits to balance the non-simultaneously arrival between the demand for loans and the offering of deposits. This issue is related to the setting of NIM/NPM which is part of the dealership theory that has been discussed by Ho and Saunders (1981).

Conceptual Framework of Theoretical Based Profit-Sharing Margin

Based on the previous discussion, this study can conclude that an Islamic bank is a business entity that comprises four big theories such as institutional economic theory, contract theory, agency theory and dealership theory. Those theories are interrelated to one another and can form another theory term as the Theory of NPM. It can be illustrated in Figure 4:

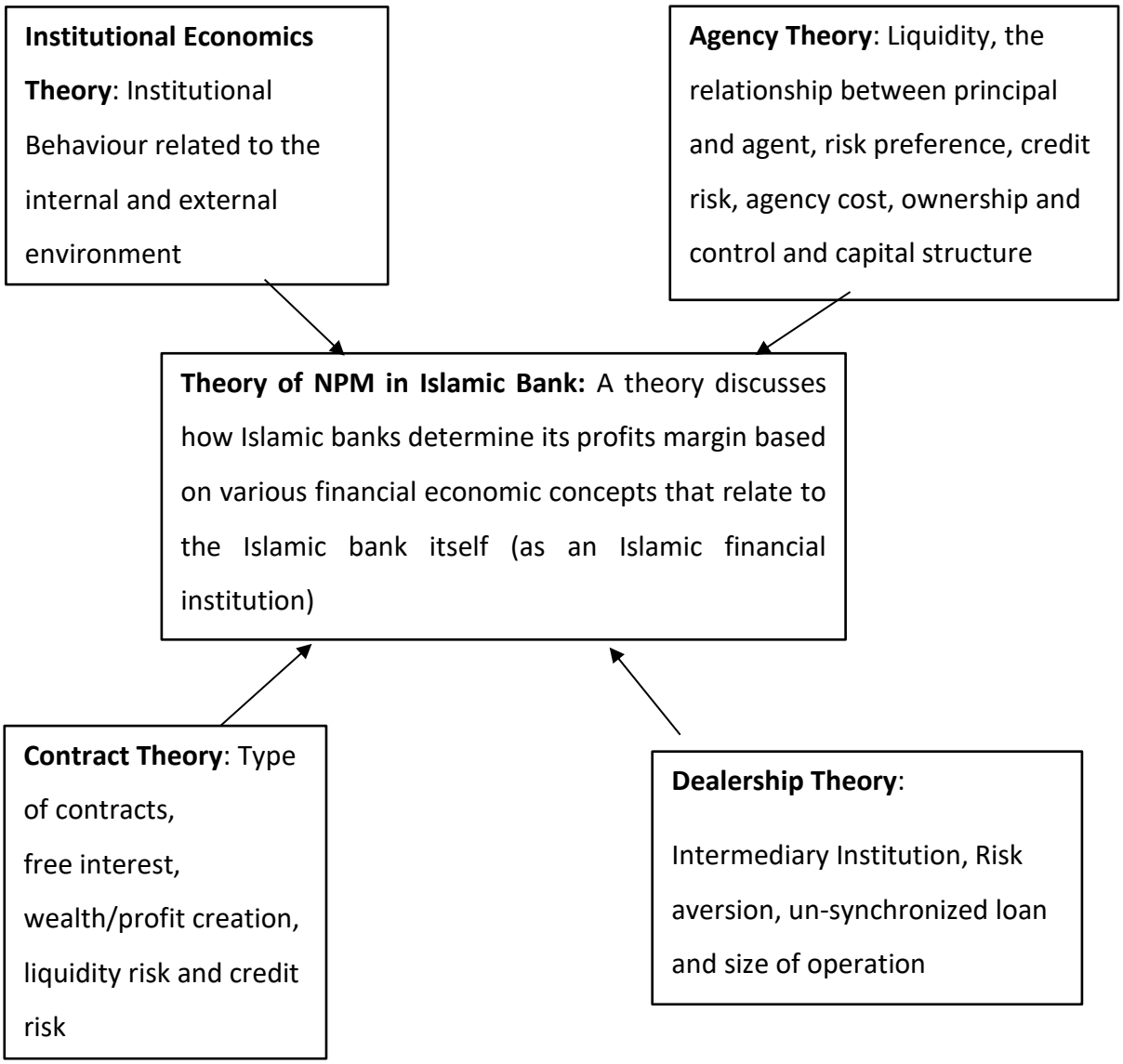

Figure 6: Foundations of the Theory of NPM in Islamic Banks
Source: Authors'

Model Development of Profit-Sharing Margin

To be more precise, the theory as per Figure 6 above can be explained by the following model:

$$NPM_{it}=\alpha_i+\beta_1 I\ Environment_{it}+\beta_2 E\ Environment_{it}+\ \varepsilon_{it} \qquad (1)$$

NPM is the net profit margin, *I* is an internal environment, *E* is external environment determinants and ε_{it} is the residual term and *i* and *t* refer to Islamic bank and time respectively.

Internal Environment External Environment

$$NPM_{it} = \alpha_i + (\beta_1 CT_{it} + \beta_2 DT_{it} + \beta_3 AT_{it}) + (\beta_4 IET_{it}) + \varepsilon_{it} \quad (2)$$

This baseline model for the internal environment consists of contract theory (CT), dealership theory (DT) and agency theory (AT). While the external environment consists of institutional economic theory (IET).

Bank Specific Macro Specific

$$NPM_{it} = \alpha_i + (\beta_1 SZ_{it} + \beta_2 RA_{it} + \beta_3 OC_{it} + \beta_4 LQ_{it} + \beta_5 AQ_{it} + \beta_6 SAV_{it} + \beta_7 DEM_{it} + \beta_8 FD_{it}) + (\beta_9 GDP_{it} + \beta_{10} INF_{it}) + \varepsilon_{it} \quad (3)$$

Macro Specific

This CT, DT and AT for the internal environment consist of several bank-specific variables such as SZ (size), RA (risk aversion), OC (operating cost), LQ (liquidity), AQ (asset quality), SAV (saving deposit), DEM (demand deposit) and FD (fixed deposit). While for the external environment, there are macro-specific variables such as GDP (GDP growth) and INF (inflation).

This model has been tested by Salleh (2021) in her study. The study focused on Malaysian Islamic banking during the year 2008 until 2017. Static panel data was used to answer the research questions regarding the determinant of NPM in Malaysia. The result revealed that size as measured by total financing was found to have an insignificant impact on Malaysia's NPM. Meanwhile, risk aversion, operating cost and liquidity were found to have a positive relationship with NPM. Asset quality and DEM were found to be insignificant to NPM. The other deposit composition such as SAV and FD were found to have a negative impact towards NPM. Meanwhile, GDP growth and inflation have an inverse relationship to NPM.

Conclusions and Recommendations

In discussing the NPM of Islamic banks, the derivation of margin is not only limited to Dealership theory but also other relevant theories such as institutional economics, contract and agency theory. We recommend considering all these theories to reflect the NPM of Islamic banks by deriving a new theory called the Theory of NPM that provides a new perspective of NPM from an integrative approach.

The Institutional Economics Theory (IET) for example, should be taken into consideration in NPM theory as Islamic banks have to abide by the *Shariah*, interest-free and involved equity financing in playing their roles as intermediaries. Besides that, as part of IET, there is a New Institutional Sociology (NIS) which consists of an interaction between institutional structure (Islamic banks) and the social environment (GDP and inflation). As Islamic banks are economic players and operate in a market that will be impacted by changes

in GDP and inflation, therefore this interaction might give an impact towards the level of NPM too.

Meanwhile for agency theory, when a transaction involved two parties it will relate to an agency relationship. Islamic banks can be both the principal and agent depending on the contract they are bounded to, such as financing or deposit contract. The profit gained by the Islamic bank would also differ depending on the Islamic banks' role. The impact of adverse selection, manipulation due to information asymmetry, and selection of agents based on past profit performance could influence the setting of NPM.

This research makes a theoretical contribution to the literature as it advances the discourse on Islamic bank profitability beyond the dealership paradigm, which has dominated the conventional analysis of net interest and profit margin. By combining dealership theory, institutional economics, contract theory, and agency theory, this research develops a Theory of Net Profit Margin (NPM) that is theoretically informed by the unique features of Islamic banking. The combination of these theoretical approaches fills a theoretical gap in the conventional literature, which has relied heavily on conventional bank analogies and a single-theory approach to understanding Islamic bank profit margin. From a theoretical perspective, this research contributes to the literature as it reframes NPM from an exogenous determinant of intermediation risk to an endogenous determinant of Shariah governance, contract heterogeneity, principal-agent relationships, and macro-institutional constraints. From a contextual perspective, the research is important as it provides a framework for understanding profit margin formation in the context of Islamic banking operations, which are subject to dual banking system constraints, regulatory oversight, and macroeconomic dynamics. By explicitly relating NPM to Shariah-compliant contracts, risk sharing principles, and institutional environments, the research provides a more nuanced understanding of profit margin formation, thereby improving the conventional analysis of Islamic bank profitability. From a practical perspective, the research contributes to the maturation of Islamic banking theory as it provides a coherent framework for understanding the complex relationships between profit margin, governance, and financial intermediation. By providing a more nuanced understanding of profit margin formation, the research provides a more sensitive foundation for empirical testing, thereby improving the conventional discourse on Islamic financial economics.

Next, here are some recommendations for the development of the Theory of NPM that are useful for policymakers and Islamic banks in diversifying their platforms for profit margin generation:

- Developing a more comprehensive understanding of the factors that contribute to NPM. The Theory of NPM currently focuses on a relatively narrow range of factors, such as asset quality, cost efficiency, and profitability. However, there are likely other factors that also play a role in NPM, such as the bank's risk appetite, its customer base, and its regulatory environment. Policymakers and Islamic banks should work to develop a more comprehensive understanding of these factors so that they can better target their efforts to improve NPM.
- Developing more effective tools for measuring NPM. The current tools for measuring NPM are not always accurate or reliable. Policymakers and Islamic banks should work

to develop more effective tools for measuring NPM so that they can better track their progress and identify areas where they need to improve.

- Providing more support for Islamic banks. Islamic banks face several challenges, including a lack of regulatory clarity, a limited pool of Shariah-compliant investments, and high operating costs. Policymakers should provide more support for Islamic banks to help them overcome these challenges and succeed in the global financial system.

The limitation of this study is the research did not distinguish NPM at the product level. The NPM may be charged differently for every individual product despite having a similar underlying Shariah contract. Future studies could include other factors such as taxes, deposit insurance, portfolio effect, and maturity transformation into the NPM theory or try to come out with additional supporting theories. It is because all these factors are closely related to the operation of the Islamic banks which may contribute to NPM determinants. Besides, an examination of the duration impact involving financing disbursement on NPM could also be considered in the literature.

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