Abstract: How is the Real Sector Index Used for Pricing? This research tries to identify the key elements in the implementation of the real sector index for Islamic banking. Analytic network process was employed as method. This research finds that price is a micro issue, therefore banks should not only use macro approach. Banks need to build micro metadata on each of their customers’ business sectors. The priority data that must be made available is the financial statements of companies listed on the stock exchange. The level of cash generated method becomes the priority formula to guide the price of each business financing.
Sharia banks and financial institutions have to shield this PLS practice because, firstly, the interest rate is prohibited in Islamic principal, and secondly, it is not in line with the economic distribution justice. Unfortunately, there is no alternative measurement that can be applied by sharia banks as a benchmark in their pricing method (Narayan et al., 2018; Sakti, 2012; Shaban et al., 2014; Trakic, 2013; Trinugroho, 2018).

The reference rate that will be a substitute for interest rates must have conditions that are in line with Islamic financial principles. The first requirement that Islamic bank reference rates must acquire is the establishment of fair value, where each party (debtor and bank) has balanced information related to the real rate of return. The second condition is fairness; i.e., there is no relationship with interest rates. Islamic banks and debtors must obtain a justice rate of profit and expense of funds in accordance with real conditions, not based on interest rates. This reference rate will also have a strategic position, which will be a real differentiator with conventional products and mechanisms so that the competitiveness of Islamic banks will be established.

Research studies about the Islamic bank price benchmark, so as not to refer to interest rates, has been frequently done. The majority of the benchmarks from these research studies are the house rent index to finance homeownership, with various formulas. However, research to find the price index in financing homeownership as well as working capital, along with the constraints and infrastructure needed in the implementation of the index, has not been available yet. The novelty of this research is to obtain the real sector index in sharia banks, both for reference pricing in home financing and venture capital, as well as to find a systematization in its implementation, which includes identification of constraints and required infrastructure. The constraints and infrastructure needed were explored and identified through the opinion of scholar and professional, then the analysis was carried out to determine which elements are the most priority employing the ANP method.

This research was conducted to find out and overcome obstacles, challenges, benefits, and prospects as a system in implementing the real sector index based on the consensus of regulators, banks and the business/industry through qualitative and quantitative research techniques with the analytic network process (ANP). A contribution of the results of this study is that the index and infrastructure findings implemented will prevent Islamic banks from setting rates of return above the real capacity of the real sector. If Islamic banks continue to use interest rates as a reference, then in the short term, it will make it difficult for the real sector to develop in the long run, and it will even threaten the survival of Islamic banking and will hamper the economy. Since the respondents involved are Islamic bank stakeholders, the results of the study represent a general consensus of stakeholders. This research gives answers to the problems relating to Islamic banking, regulators and industrial units require measures that are in accordance with Islamic values and are integrated between corporate, industrial and system units (Narayan et al., 2018; Sakti, 2012; Shaban et al., 2014; Trakic, 2013; Trinugroho, 2018). In this case, it is necessary to immediately implement a system of determining the price of syari’i capital that is transparent, fair and accepted by the market (Supriyanto, 2015).

**METHOD**

One of the most sophisticated as well as comprehensive multi-specification option-making techniques is ANP. This technique builds modeling of dependencies and feedback among factors in the network. Therefore ANP is an optimal technique to find interdependence amongst variables in various levels (Safullah, 2020). In this technique, a formula of complex comparison matrices is a set to grab decision-makers’ choice in multiple forms (Zhu et al., 2015). ANP will precisely find which items are prioritized, either from the main criteria or sub-criteria, so that the proposed model is more eligible and applicable. Another advantage of ANP is that it is more reliable and valid due to its expert-based system.

The data used is the primary data obtained from an in-depth interview with practitioners and academics, which is the stakeholder of sharia banking—followed by filling the questionnaire by respondents at the second stage. The respondents selected in this survey were three persons from the element of the regulator (Central Bank of Indonesia / CBI and Financial Services Authority / FSA), four persons from academics and researchers, two persons from Majelis Ulama Indonesia / MUI (Indonesian Council of Religious
ANP has four axioms, as follows: The first is reciprocity: meaning that PC (EA, EB) is a comparative assessment pair of variables A and B, looked from the parent variable C, indicating how many times more factors A have what factors B are, so PC (EB, EA) = 1 / Pc (EA, EB). In the illustration, if A is five times larger than B, then B is 1/5 of the magnitude of A. The second is homogeneity, which means that the factors compared in the ANP design structure should not have too many distinctions because they can tend to face greater mistakes in obtaining an appraisal of supporting factors that affect the conclusion. The third is the priority: that is, decisive weighting with an interval scale [0,1] and as a measurement of relative influence. The fourth is dependency: it is presumed that the composition can be connected to the part that makes up the cluster.

The steps in the ANP method are shown in Figure 1. Based on Figure 1, the first model structure is constructed built on previous research, both theoretically and empirically, and a questionnaire filled by the banking master and practitioners, and in-depth interview for more information to get the actual pieces of evidence. Second formula quantification step using the questions in the ANP questionnaire through pairwise comparison between the factors in the cluster to obtain which of them has a more dominant effect and how far the difference through a numeric level of 1-9 (see Table 1 and 2). The data were then grabbed and submitted for generating the output namely priority and supermatrix. The questionnaire of each respondent was submitted in a distinctive ANP network. Third synthesis and analysis, where synthesis is the opposite of analysis. If analysis means to unravel material or abstract entity into its elements, then synthesis means to combine all parts into becoming one. Because complexity, important decision situation, or forecast, or allocated resource, often involves too many dimensions for the human to be able to conduct synthesis intuitively, therefore we need a way to be able to synthesize from multi-dimension. The more important function in AHP / ANP is its ability to help us in measuring and synthesis of amounts of elements in the hierarchy or network. No other technique has a synthetic facility similar to AHP / ANP.

If in the case of A1, A2, A3, ..., An is a part of the matrix hierarchy. Comparing of

Figure 1 The Step of Research
Source: Chemweno et al. (2015), Giner-Santonja et al. (2012), Oatley et al. (2013), Poveda-Bautista et al. (2012), Tjader et al. (2014), Valmohammadi & Ghassemi (2016)
a pair of factors \((A_i, A_j)\) that we use to be reflected by \(A = (a_{ij}), \) matrix \(n \times n, \) which \(i, j = 1, 2, 3, \ldots, n.\) Determine a package of numerical weights \(w_1, w_2, w_3, \ldots, w_n\) that reflect the comparison obtained, so the formula becomes like this:

\[
\begin{bmatrix}
A_1 & A_2 & \cdots & A_n \\
\frac{w_1}{w_i} & \frac{w_1}{w_i} & \cdots & \frac{w_1}{w_i} \\
\frac{w_2}{w_i} & \frac{w_2}{w_i} & \cdots & \frac{w_2}{w_i} \\
\vdots & \vdots & \ddots & \vdots \\
\frac{w_n}{w_i} & \frac{w_n}{w_i} & \cdots & \frac{w_n}{w_i}
\end{bmatrix}
\]

Because every line is fixed multiplication from the first row, therefore \(A\) mean unit rank. With multiply \(A\) and weight vector \(w,\) the equations system formed is:

\[
Aw = nw
\]

(1)

To obtain the scale of the matrix ratios, the system below must be solved. This means that:

\[
(A-nI)w = 0
\]

(2)

In practice, using ANP methods in the study varies widely in various fields. These are delivered by Hashemi et al. (2015), Kubler et al. (2018), Lee et al. (2017), Lin et al. (2015), Rusydiana (2016), Setianingrum et al. (2019), and Wu (2012).

For the purpose of maintaining the level of consistency index and facilitating the interview process with expert respondents. The author uses the ANP questionnaire format. This questionnaire format is significant in making the research process more effective by maintaining the rules of the method developed by some researchers. Table 2 is an example of the questionnaire format.

The selection of respondents in the study was conducted by considering respondents’ understanding of the problem. The number of respondents (all names of respondents are hidden) in this study consisted of Islamic bank stakeholders, from the elements of the National Sharia Board – Indonesian Council of Ulama (NSB-ICU), Central Bank of Indonesia (CBI), academics, and researcher (In full). They are Dono (a member of NSB-ICU and a supervisory board for a number of sharia banking institutions), Bambang (Formers Director of Islamics Banking Directorate of CBI, and the chief commissioner of one of the Islamic banks), Udin (a member of NSB-ICU and a supervisory board for a number of sharia banking institutions), Komkom (senior researcher of CBI), Agung (Assistant Director of the Department of Islamic Economics and Finance of CBI), Maman (academics), Tukiyem (academics), Pawpaw (academics).

**RESULTS AND DISCUSSION**

Some important points from the in-depth interview results in the first stage, which form the basis of constructing the ANP model construction. It can be seen as follows:

"Because how to make it when the CBI determines interest rates, he must consider the real sector as well. Well, now it seems that it is..."
one of the references to determine interest rates. What is the real sector like? This index is used now, he said. But maybe this is the index used by the composite index, which has been merged into one so you” (Bambang).

Based on Bambang’s explanation, the central bank must consider the real sector when it comes to determining interest rates. Whereas the real sector index to be implemented in Islamic banks has been initiated by CBI since before the establishment of the FSA, but in its journey constrained by the transfer of HR CBI and FSA. Here’s the full explanation:

“There is not yet one benchmark that can say if I finance the real sector such as planting oil palm or planting rubber, how much can actually be billed, what is the rate of return, now that’s not there. Since then, we at CBI have conducted research to produce an index. And at that time, we did very detailed research. So if I am not mistaken, at that time, there were 20 commodities before, if I am not mistaken. So it’s a direct commodity, not just a trade, agriculture sector. The farm was detailed again. So it is calculated, how much is the actual rate of return than if we planted oil palm or we planted rice, how much is it actually? So later, you find out how many returns and for the results how much. So that the index is discovered, and at that time what the name was and in calculating the index, there were also variables that included. Because after all, when we talk about the profit of the real sector, how much does it have to sell? This means that inflation is also calculated there. There is also an element of inflation there. So that the model can be upgraded every year when there are new inflation figures, it will only be included in the number, he will calculate it himself” (Bambang).

So, according to Bambang, until now, it is not known how much the returns from the real sector of customers are financed by the bank with certainty. Therefore according to Bambang, CBI has long tried to find formulations of the real sector index of 20 commodities from the trade and agriculture sectors, where one of the variables accommodated is inflation. But until now, the index has not been able to be applied because of the many obstacles and challenges, including the transfer of the function of the Bank of Indonesia to the FSA. In fact, until now, Islamic finance has used conventional barometer, such as LIBOR, COFI, LIBOR, etc. In pricing, and hence the return on financial investment (Azmi et al., 2019; Majdoub et al., 2016).

The opinion of the next expert is Dono. He explained that the index calculation formula must take into account the existence

<table>
<thead>
<tr>
<th>Item</th>
<th>Construction Calculation</th>
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<tbody>
<tr>
<td>1</td>
<td>The level of cash generated (the ratio of cash generated for a period to the gross investment that circulates for that period)</td>
</tr>
<tr>
<td>2</td>
<td>ROE</td>
</tr>
<tr>
<td>3</td>
<td>Tobin’s Q (a physical asset’s market value divided by its book value)</td>
</tr>
<tr>
<td>4</td>
<td>Cost components: Liquidity financing (rate of return), defaults, administrative costs, risks, marketing, etc.</td>
</tr>
<tr>
<td>5</td>
<td>Others mention:</td>
</tr>
</tbody>
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Source: Chemweno et al. (2015), Giner-Santonja et al. (2012), Oatley et al. (2013), Poveda-Bautista et al. (2012), Tjader et al. (2014), Valmohammadi & Ghassemi (2016)
of a transmission mechanism between the real and monetary sectors, both the inflation variable and also the exchange rate, in full as follows:

“The formula is translated into two levels. So we talked about multi-stages. The first is that it must be translated first in the form of risk and return. We must talk about adjusted return, risk-adjusted return. Because it could be a high business return but the risk is also high, this is the first stage. That is, there must be an internal adjustment within the industry. Now, after we calculate the risk adjustment return, we enter the second stage, which is the stage when looking for each risk-adjusted return to inflation. What’s the formula? So later we get the formula, for this industry, for the food industry, for example, rice, for example, the inflation formula is, for example, risk-adjusted return plus or minus with a percentage” (Dono).

So, according to Dono, the real sector index must be interpreted as a result of calculating the average risk of a business and the level of inflation because the presence of a transmission mechanism from a real and financial sector cannot be denied. In general, the exposure of the expert respondents mentioned above is under research at ISRA-Malaysia, entitled An Islamic Pricing Benchmark. The results of the study recognize the positive impact of four macroeconomic factors for all fields: growth in industrial production, to see on the whole growth; changes in the M2 (money supply), to notice monetary liquidity; Malaysia exchange rate, to capture relative global competitiveness; and the Kuala Lumpur Composite Index again, to capture on the whole market conditions. The weighted average of the sectoral results identified by the APT is advised here as the sharia price reference level applicable to the market in general. Monte Carlo simulations are carried out to get a better perceptivity of the final price level and its predictive ability. In conclusion, the model has a good predictive ability (Kassim, 2016; Lassoued, 2018).

Tukiyem explained that the proposed formula for the real sector index had not yet received a final consensus from the stakeholders of Islamic banks in the world, a full explanation as follows: All parties agree that Islamic banks must be connected to the real sector, only how to measure it, it is a debate that has not yet finished. Some of the proposals raised were Tobin’s Q and or GDP growth from international academics, Mudharabah Index in Malaysia, and Karachi bank inter-rate in Pakistan. But unfortunately, all these sizes have weaknesses. Tobin’s Q can only be applied to public companies. Karachi bank inter-rate still contains elements of interest. GDP growth is also not commonly applied in the financial sector.

As stated by Tukiyem above, several previous studies, have proposed price measures to be applied in Islamic banks. The study, based on this evidence, found the conclusion that rental prices are a more appropriate benchmark than the level of loans for sharia home financing product prices (Yusoff et al., 2016). Another study states that Tobin’s Q can be used to proxy capital costs in an interest-free economy (Nechi & Smaoui, 2019).

A complete explanation was added by Maman, who revealed various obstacles to the formation of the real sector index pioneered by CBI from before the FSA. The main obstacle lies in the absence of a business database (except databases on the Indonesia Stock Exchange / IDX), calculation formulas, and responsible institutions. The following is a detailed explanation:

“According to Arrow-Debreu, there is only one economic counterbalance, namely the interest rate. In 2010, we conducted a study to find alternative economic offsets through real sector returns. We need a large business database. So we study the cash recovery rate profile of each industry on the Indonesia Stock Exchange in order to obtain good and established data. In addition, we also study the profile of large debtor data sourced from Central Bank of Indonesia” (Maman).

Maman explained that research on the real sector index that had been conducted, the result of a collaboration between universities and Indonesian banks in 2010, found that the main obstacle was the availability of a correct business database. At that time,
the proposed CRR (cash recovery rate) concept from a publicly-traded company that already had good financial reports. Statement of Maman is in line with the results of the study which states that the recommended Islamic price-setting (IPBM) guide model is built based on estimated yield levels for each project related to cash flow in subsequent projects aimed at relative to the capital invested (Ahmed et al., 2018). The CRR can be translated as the firm’s profitability level. In other words, CRR is similar to the level of cash generated, which means the firm’s ability to achieve and surpass targeted return levels. However, shareholders require measurable information on how much cash can be generated or recovered from all of the firm’s projects to estimate the firm’s profitability. The successful firms try to achieve at least the overall return rate originally used by them as a reference for the determination of investment (Ranajee & Pathak, 2019).

Maman also explained the importance of data from companies listed on the IDX. It can be seen as follows:

“However, if the bank wants to understand the actual results for each business sector, such as agriculture, plantation, etc., the CRR profile of companies listed on the exchange, from each business sector, is only a preliminary guideline. In order not to be biased, the actual implementation, the bank must use customer financial report data directly” (Maman).

According to Maman above, the data sources from companies listed on the stock exchange can be a reference or just as a preliminary guide. The actual calculation must be directly from the customer, so there is no bias.

Maman and Udin also added about real sector index. Their explanation can be seen as follows:

“As a commercial bank, Islamic banks have very strong FSA and CBI regulators. At the same time, the real sector index is the actual rate of business return. If the Islamic bank is ready, then the index should be broadcast by FSA and or CBI as information to the public” (Maman).

“The formulation of the real sector index as a reference to price indicators in Islamic banks has the main variables, namely default risk, liquidity risk, profitability, claimed costs, administrative costs, and others” (Udin).

The opinions of Maman and Udin complemented each other. Maman explained how importance of the existence of institutions that facilitate the management of the real sector index. On the other hand, Udin provides a technical explanation about real sector index. It is a component, which consists of default risk, liquidity risk, profitability, costs that can be claimed (administration and others).

Further explanation of the constraints, systems, and institutions that play a role in implementing the real sector index is described by Agung. It can be seen as follows:

“CBI and FSA work together to support the methodology and system implementation of the real sector index. CBI already has financing data from each business sector based on data from public companies, which can be used as a benchmark. Islamic banks can use the same calculation method for each customer because each customer’s business will produce a different rate of return” (Agung).

Furthermore, Agung explained that CBI currently has a system and method for calculating indexes in each real sector, using company-based data listed on the Jakarta Stock Exchange. In terms of implementation, it must be adjusted again to the conditions of each customer’s yield so that Islamic banks need their own formula for that purpose. But whether implementation in Islamic banks will be required or not depends on the policies of the financial services authority. Consequently, the importance of the availability of audited financial statements as a source of data was also confirmed by Agung.

So, according to the Agung, index of the real sector whose data input is sourced from the financial statements of companies that have been listed on the Jakarta stock exchange is just a general picture. So that
later must be adjusted to the yield of each customer, this is in line with the opinions of Maman above.

Furthermore, Tukiyem explained the same thing with Agung and Maman, that although using company data listed on the exchange, it can still be used as a retail business reference. The explanation can be seen as follows:

“What we are catching maybe the downstream at the company level, the input from the retailers. Then at least this can still be used as a benchmark. For example, if 10% was previously approved, for retailers who are at a tight rate in the market, chili traders are like that, this is too high, right, the bank can make adjustments. I think if, at the retail level, it might not be that big” (Tukiyem).

So, according to Tukiyem, because the firm’s profitability rate method requires the input of valid financial statements, then the data input from the financial statements of companies listed on the Indonesian stock exchange can still become a benchmark for retail businesses by further adjustments by Islamic banks. Then Tukiyem explained how to implement the firm profitability rate through the cash return level concept in Islamic banks to customers, as follows:

“With this measure, the bank is asked to actively monitor through financial statements. Yes, the debtor is asked to provide financial statements to the bank. So that later it can be further processed to update the size of the CRR that has been built. At that time, we even suggested, could CBI not have FSA at that time? It integrated the information needs using to estimate the CRR into their SID, the Debtor Information System. So bank---, now what is usually seen is only the value of financing, collectibility, right. Now, with this, we have to have added new information, which according to banking, is expensive. Not efficient to apply. That’s the obstacle” (Tukiyem).

So, according to Tukiyem, the Bank asks the debtor’s financial statements on a regular basis to the customer to be inputted into the Debtor Information System. So that in the SID, in addition to info on the value of financing and collectability, and updated the cash return level is also available.

The importance of the existence of metadata, reinforced by the opinions of Pawpaw. This is complete as follows:

“So far, the bank has never built metadata at the micro-level. Because banks never make metadata on microdata, banks will use macro data to assess micro ones. For example, inflation, interest rates are used for pricing. Inflation, interest rates are macro. What does it mean? When banks or CBI or FSA want to enter the microdomain, they don’t want to prepare micro metadata. If it is built, it is built both at the CBI, FSA, and at the bank level, then the pricing system using the real sector index will be built because it’s only a formulation. The point is the availability of data” (Pawpaw).

Pawpaw explained that so far, the bank has never built metadata at the micro-level. So what happens is banks use macro data to assess microdata. In this case, for example, inflation and interest rates are used to determine prices on a micro-scale. Therefore we need the availability of microdata to formulate pricing in real terms.

Komkom gave an explanation of whether or not the Islamic bank must implement the real sector index. It can be seen as follows:

“The implementation is because it is actually market information, so its nature is not mandatory. Its nature is not mandatory. It is not required in the world of finance or banking. Especially financing, for example, if he wants financing to the automotive sector, he can then see how much the real sector actually benefits. So can we not be able to capture from Aceh to Papua that market information is in-
cluded in one table. Then we...the processing application is then sent back to the whole area to be a reference for all” (Komkom).

It was affirmed by Komkom that the index of the real sector is market information and serves as a reference for all parties. Consequently, the implementation of the real sector index is not mandatory. In other words, it follows the market rules.

Next is related to how the index implementation is explained by Komkom. It can be seen as follows:

“The competent authority in handling the real sector index can be in the form of special institutions, or synergy between institutions. For example, the National Islamic Finance Committee (NIFC) handles development policies. CBI as a monetary authority. FSA is the industry authority and the authority of the fatwa in the NSB-ICU. Then the Central Bureau of Statistics (CBS) must present market data accurately, day after day, not year by year” (Komkom).

Komkom further explained that in its implementation, those authorized to issue the real sector index were institutions such as the Financial Services Authority or the National Sharia Finance Committee or the Central Bureau of Statistics. Market data must be accurate, for example, day after day, not yearly or decades of data.

The urgency of implementing the real sector index as a price reference so that the economic structure is not damaged, explained by Pawpaw. It can be seen as follows:

“Now suppose the interest rate is set at 6.75. The real sector index is only 5%. What does that mean? The state has structured economic destruction. Overcapacity” (Pawpaw).

Pawpaw stressed that the interest rate could be higher than the yield capacity in the real sector in general. In other words, the interest system has arranged economic damage because it is beyond the real capacity of the real sector. The opinion of Pawpaw is supported by the results of the study, which concluded that the reference that is acquired from a real sector of the economy prevents debate and disagreement among the stakeholder in the pricing formula. It also brings accountability in the banking industry with the fairness reference used in the pricing rule (Daly & Frikha, 2016; Grira et al., 2019).

Based on the overall in-depth interviews conducted in 2018 - 2019 in this study, there are important points for the application of the real sector index. These points are the real sector index is the rate of return on business in real term, which can be used as an alternative economic equilibrium other than the interest rate. The real sector index is market information that should be disseminated by the authorized institution. Because as market information, banks are not required to apply the index. The source of data used to formulate the index of the real sector is the cash recovery rate in each business sector. As an initial guideline, financial statements from companies listed on the Indonesian stock exchange can be used. If the Islamic bank is ready, it can calculate the real sector index using the actual data of each customer, using the same calculation method. Some suggestions from experts about alternative methods of calculation or measuring the real sector index include Tobin’s Q, mudharabah / ijarah index, GDP growth, and car rental elasticity. As for the variables that can be added to the price index calculation are the default risk, liquidity risk, price components, and others. The authority in the application of the index is a synergy of the National Sharia Finance Committee, CBI, the Financial Services Authority, the Central Statistics Bureau in all regions, and the fatwau commision. An important function of the real sector index is to prevent structural economic collapse caused by financing customers having to pay the price of the financing product above the actual rate of business return.

**Model framework.** The Analytic Network Process (ANP) method produces Figure 2. Figure 2 is a combination of literature review, in-depth interviews, and FGD, obtained seven key elements needed in the implementation of the index, as follows: the first is the index calculation formula as a general reference, the second is the index calculation formula for setting prices at the level micro, the third is the institution (single or dual banking), the fourth is the data center institution (data collection and processing of the real sector index), the fifth in the index pe-
period (index information duration), the sixth is index regulation (mandatory or free), the seventh is the index user profile (customer profile of the index user at the beginning of the implementation).

The urgency of identifying needs a key element in the implementation of price references is the infrastructure needed to build transparency, accountability, independence, responsibility, and fairness, thus strengthening the degree of compliance with sharia. The level of compliance with sharia increases will strengthen governance, followed by increasing the competitiveness of sharia banks. This is similar to the finding of research that revealed that the impact of information asymmetry between capital owners and managers carries harmful moral hazards. This is an unresolved problem of agency principal until now (Harahap, 2016). The importance of these key elements is also in line with the results of research on the main aspects in the realization of Islamic bank operations, namely, the standard operational procedure, the organizational structure, the institutional infrastructure, and sharia governance (Rama, 2015).

Criteria and sub criteria. Seven key elements are needed, as can be seen in Figure 2 above. And each of these elements has several sub-elements. Each of these sub-elements is alternatives that can be chosen. To select and determine which sub-elements are best in supporting the realization of the real sector index requires expert approval through a pairwise comparison assessment and followed by a supermatrix calculation. In ANP, these elements and sub-elements are other names for criteria and sub-criteria.

Based on the whole ANP process stages, the first element is the data source for index formula as a general reference. The element of the data source has 4 sub-elements. The first is a cash flow based on the capital market / financial market. The second is the sectoral GDP. The third is *ijarah/mudaraba* index. The fourth is the elasticity of car rental prices. The four sub-elements are priority alternatives for data sources, which can be selected as data sources, to formulate the index as a general reference.

The next finding is the second element. That is the index formula in the micro-level. The meaning is the index formula to set prices at the micro-level. The element of index calculation formula at the micro-level has four sub-elements. The first is the level of cash generated. That is the ratio of cash generated

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**Figure 2. The framework of Model Implementation of The Real Sector Index**
from a firm operating, and on the whole cost of firm operating, during the same year. The second is the ROE. The third is Tobin’s Q. The fourth is the cost component consisting of liquidity financing/rate of return, defaults, administrative costs, risks, marketing, etc. The four sub-elements are 4 alternative priorities, one of which can be chosen as a pricing formula at the micro-level.

The third element needed for the realization of real sector index is institutional. The element of institutional has two sub-elements. The first is dual banking. The meaning of dual banking is conventional and sharia banking regulators under one institution. The second is single banking. The meaning of single banking is conventional & sharia regulators separated for healthy competition purpose.

The fourth element is the data centre agency. The role of the data centre agency is the collection, processing of real sector index, and regulators. The agency also tasked do photographing data to get accurate calculations of real sector index. The element of data centre agency has five priorities of alternatives. The first is CBI. The second is FSA. The third SCB. The fourth is the ministry of industry and trade. The fifth is NSFC.

The further point needed for the realization of real sector index is the fifth element. That is the index period. The element of the period of information index has five sub-elements. The first is daily. The second is weekly. The third is monthly. The fourth is annual. The meaning, the period of the real sector index can be daily or weekly or monthly or annual.

The sixth element is index regulation. The element of index regulation has three sub-elements. The first is required by FSA and CBI. The second is free / non-mandatory implementation. The meaning of free implementation that the real sector indexes are just market information. The index is also as guidelines so as not to become gharar in setting prices. The third is the implementation required only for several designated Islamic banks in Indonesia, such as BMT, banks in Aceh, as a role model of banks that use the index in price references.

The next key element for the realization of the real sector index is the seventh element. That is the user profile. The meaning of the user profile is the first best-prepared customer to apply the real sector index in Indonesia. The seventh element has 4 sub-elements. The first is public companies / public companies on the IDX. The second is companies that already have financial reports with reputable external audits. The third is MSMEs that already have financial reports with an external audit that have a good reputation. The fourth is Bank customers in Aceh province. Due to Aceh is the special region applying the sharia principle, so the prediction, their society will be easier to implementation real sector index rather than the interest rate.

These are the seven key elements required in implementing the real sector index in Islamic banks explained above. Based on the framework and explanation of the criteria and sub-criteria above, then in principle, the findings of seven elements in the implementation of the real sector index are in line with the results of research on governance that must be applied in Islamic banks to increase public confidence. The results of the study stated that Islamic governance performance and public trust of Islamic banks need to be improved (Rama & Novela, 2015). Islamic Corporate Governance is the most important point to reduce fraud, speculation, insider trading, and other moral hazards (Supriyanto, 2015). Islamic and conventional banks have fundamentally different principles, concepts and practices in politics, ethics and moral economics. The difference should be the competitiveness of Islamic banks to strengthen distribution equity and economic growth based on real sector (Aprilia et al., 2017).

Based on the framework and explanation of the criteria and sub-criteria above, then in principle, the findings of seven elements in the implementation of the real sector index are in line with the results of research on governance that must be applied in Islamic banks to increase public confidence. The results of the study stated that Islamic governance performance and public trust of Islamic banks need to be improved (Dewindaru et al., 2019). Islamic Corporate Governance is the most important point to reduce fraud, speculation, insider trading, and other moral hazards (Alzahrani, 2019).

Priority element based on ANP calculation. The results of the supermatrix computation based on the pairwise comparison questionnaire. the results of the assessment of expert respondents obtained in Figure 3.

Figure 3 shows dual banking being a sub-element in the institutional regulator
that is more influential than single banking in the implementation of the index. This finding is supported by the results of research, which states that the dual banking system in Malaysia provides a greater level of competition, as indicated by a downward trend in differences in concentration ratios during the research period (Mohammed et al., 2015). But it contradicts the results of the study also in Malaysia, with the results of research indicate the involvement of interest rates in sharia bank pricing in the dual banking system (Ishak, 2019).

Figure 4 shows the CBI, the FSA and the CBS being more influential agencies as real sector data collectors and processors compared to the NIFC and the ministry of industry and trade. CBI and FSA work together in bank supervision to protect the interests of the public. CBI does macroprudential, while FSA carries out macro-prudential supervision (Mukhibad, 2018). CBS task, in this case, is to conduct real statistical sector, set up coordination and cooperation as well as developing and maintaining statistical with other institutions both public and private, according to the rules applicable legislation. Although in general, Islamic banks need synergy from various related institutions. This is as a result of research which states that GMS, Body of Commissioners, Body of Auditors, Islamics SupervisoryBody, Compliance Director, Internal Audit, and external monitoring system consisting of FSA, public accountants, National Sharia Board, and stakeholders are the elements that play
a role in the implementation of governance in Islamic banks (Purnomo, 2016).

Figure 5 shows venture listed on IDX (Indonesia Stock Exchange) being the most important element compared to sectoral GDP, the ijarah / mudharabah index, the elasticity of car rental prices in the index calculation formula as a general price reference. The finding that financial data from the Company Listed on the IDX can be the main priority based on the calculation of the real sector index, in line with previous research which states that the main indicator of economic in a country is the composite stock price index (Hamza & Saadaoui, 2017; Terayana & Triaryati, 2018).

While the GDP variable that appears as a basis for calculating priority indexes is in line with previous research that GDP can be a representation of the minimum level of profit nationally. So the calculation of asset prices in Islamic financial institutions is as follows: GDP + Over Head Cost + Return on Assets (Supriyanto, 2015). This is also in line with previous research findings that alternative benchmark in sharia banks is nominal gross local output growth level because sharia finance has to be connected to the business sector (Gharbi, 2016).

However, in Indonesia, in determining the level of Islamic financings such as mortgages, multipurpose loans, and other loans, it is not based on the price of elasticity cars because Islamic banking still uses JIBOR (Jakarta Inter-Bank Offers Rate) or the average interest rate of the largest banks in Indo-
nesia (Supriyanto, 2015). Benchmark prices for Islamic bank products are complicated, mainly because it is difficult to find liquidity arrangements (Islahi, 2008).

Figure 6 shows the level of cash generated, a measuring concept of the firm’s profitability rate, being the most important element compared to ROE, Tobin’s Q and cost components in the index calculation formula to set prices for customers. The level of cash generated is a way that is employed to assess the firm’s outcome taking into account depreciation.

The level of cash generated is the number of funds from operations, the result of the disposal of long-term assets, capital costs and a depreciation in current assets divided by the average initial and final total gross assets. In other words, the company’s level of cash generated is the ratio of cash recovery for the term to the gross investment that rotates for that period. Regarding the results of the level of cash generated research results can be equated with the profitability of the company or in other words, the level of cash generated equal IRR. In a study by Ranajee & Pathak (2019), it was found that large companies tended to show a stable level of cash generated. The result is similar to the finding of Andrews et al. (2010). But in reality, the calculation of profits in conventional banks, what happens is the portion of the bank or capital owner of the risk premium, spread and term premium is the largest component when compared to other components so that a financial system like this will create an unfair distribution of income or in terms, The Quran, only circulates among rich people (Supriyanto, 2015).

Figure 7 shows the monthly duration is the most influential duration compared to daily, weekly, yearly index information. The
need for a period is due to the circular rate of profit (different from linear interest rates), i.e., different profits per period. The turnover of goods is often fast and sometimes slow. If the turnover is fast, then a little profit. If the rotation is slow, there are many benefits (Hamza & Saadaoui, 2017; Supriyanto, 2015).

Figure 8 shows the implementation of the index required on Islamic banks, which was determined as a role model, which became a more influential choice than required of all banks. The real sector index is essentially market information that is not allowed intervention from the state. However, if it is intended for a pilot project implementation and/or enforcement of sharia principles by considering local wisdom, regulators can provide relevant regulations. It turns out that the rapid increase in the number of Islamic banking is more due to the rise of Islam, so it has not been due to excess profit-loss sharing paradigms and regulations similar to conventional products (Meslier et al., 2017; Sukmana & Ibrahim, 2017).

Figure 9 shows a more important profile of customers to implement the index are a company that has been listed on the Indonesian stock exchange and customers who already have external audited financial statements, compared to BMT customers and Islamic Aceh bank’s customers. As a comparison with the above findings, the results of research in Pakistan indeed found that on the other hand, the features of product value and service quality are the main factors on consumers choosing Islamic banks, not because of religious beliefs (Awan & Bukhari, 2011). The finding of this research is in line with the behavior of consumers in Indonesia who choose Islamic banks more due to consideration of bank staff services, bank physical appearance, accessibility, and price (Muchtar et al., 2012). In this case, the importance of selecting profiles in the initial stages of the implementation of the index is due to fulfill the principles of transparency and accountability, so that priority is given to customers or companies that tend to be stable, have good growth and public audited financial statements. This is reinforced by the findings of research on the cash return level concept that has been described previously. Large firms tended to exhibit a stable cash return level (Andrews et al., 2010).

Pricing determination in Islamic bank products and services is a way to create economic justice from investment income and public welfare in the form of business costs that are more affordable than the interest system. The current banking system only prioritizes the profits of investors and bank management (Hamza & Saadaoui, 2017; Supriyanto, 2015).

CONCLUSIONS

Seven key elements needed in the implementation of the index are. First, the institutional form of the regulator and dual banking is a sub-element in the institutional regulator that is more influential than single banking in the implementation of the index. Second, agencies collecting and processing data in the real sector the central bank, the
FSA and the CBS are more influential agencies as collectors and processors of real sector data than the NIFC and the ministry of industry and trade. Third, priority calculation of the index formula as a general reference refers to cash flow based on the capital / financial market is more influential data sources than sectoral GDP, ijarah / mudharabah index, and elasticity of car rental prices. Fourth, in the calculation formula at the customer’s micro-level, the level of cash generated (the ratio of cash generated for a period to the gross investment that circulates for that period) is the most important element compared to ROE, Tobin’s Q and cost components. Fifth, the index information duration, the monthly duration, is the most influential duration compared to daily, weekly, yearly index information. Sixth, in the regulation implementation index, implementation of the index is required in Islamic banks which are determined as role models to be a more influential choice than required to all banks. Seven, the profile of customer index users, the customer profiles that are more important for implementing the index are customers who have been listed on the IDX and customers who have the external audited financial report.

In this case, the central bank, FSA, and NIFC to immediately coordinate and work together to implement the real sector index as a price reference in Islamic banks. They also need to encourage and facilitate the construction of micro metadata immediately to support the implementation.

Based on the above findings, we offer suggestions for further research. The first is that it needs to be investigated more closely what are the components of revenue, costs, risk and depreciation to get a comprehensive cash level figure as a measure of company level profit, which is easy to do and universally accepted. The second needs to be done on the appropriateness of the selected priority elements, which are related to the enforcement of sharia principles, price stability in the real sector / inflation, and economic justice. Therefore, research respondents multiplied more and involved all Islamic bank stakeholders proportionally so that the results obtained a more comprehensive solution and the model produced was stable. The main limitation of this study is the number and variance of respondents’ expertise is still lacking.

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