Analysis of Structure, Conduct and Performance of Sharia Insurance Industry in Indonesia

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Abstract: Structure, conduct and performance of Sharia insurance industry in Indonesia have been analyzed in this study. This analysis once reexamined the hydeveloped by Bain. The method used in this research is the survey explanatory with hypothesis testing. Population of 49 Sharia insurance companies listed on the Financial Services Authority (FSA) which includes life insurance sharia, sharia insurance and reinsurance companies. Structure is measured by concentration ratio of 4 biggest companies (CR4), conduct is measured by the cost of the advertisement with the total sales ratio and the performance is measured by Return On Assets (ROA) and Return On Equity (ROE). To test the hypothesis the three variables and multiple regression are used. The results showed that the structure of the Sharia insurance industry in Indonesia is categorized as tight oligopoly. By partial and multiple structures, conduct and performance of Sharia insurance industry in Indonesia had a positive relationship

Key words: Sharia insurance, market structure, market conduct, finance performance, analysis of structure

INTRODUCTION

The insurance industry in Indonesia has an important role in the economy and becomes a priority especially in the Law No. 40 of 2014. This law has been eenacted and is valid on October 17, 2014 replacing Law No. 2 of 1992 on Insurance Business that had been enforced for 22 year. There are three important roles of the insurance industry in the economy. First, the insurance industry provides the means of transfering and minimizing risk efficiently which is one of the essential components to realize growth in the economy. Second, the existence of the healty and strong insurance industry can reduce the need of government intervention through the guarantee program or the use of state budget funds in the event of a major disaster. Third, the insurance becomes a means of collecting long-term funds that are needed in the construction.

The above phenomenon would be interesting to study if it is associated with the study of the industrial economy. As it is known that the development of industrial organization started by Mason (1939) and Bain (1951) through the development paradigm of structure-conduct and performance (hereinafter referred to as SCP). They argued that the structure of the industry will determine how the industry players behave which in turn determines the performance or the performance of the industry. Structure is usually measured by the ratio of the concentration. Among other behaviors seen from the level of competition or collusion between manufacturers. The

performance or the performance of an industry is measured among others on the degree of innovation, efficiency and profitability. SCP is three main categories that are used to see the condition of the market structure and competition in the market. The structure of a market will affect the behavior of the company in the market that jointly determines the overall performance of the market system. This paradigm has been able to implement the law anti-trust enforcement

Studies on the SCP paradigm subsequently examined by experts by emphasizing the rationale to develop the company to be great and the, price theory determined the econometric estimation (Demsetz, 1973; Phillips, 1967; Becker, 1983). Schmalensee (1989) provides a comprehensive review of studies of SCP. During 1980-1990 Triole emphasized on strategic decision making and the concept of Nash equilibrium (Tirole, 1988). After 1990, studies on empirical industrial organization by using economic theory and empirical econometric modeling of complex caused the changes in technology, merger analysis, entry-exit and the identification of market forces (Bresnahan, 1989; Bresnahan and Reiss, 1991). Barney and Hesterly (1999) suggested that, along SCP theory of resource-based theory of the firm was there placement of the transaction cost theory and agency theory. Problems in an industry not only why a company exists in an industry but also why in the same industry of a company's performance is different with other companies. E.S. Mason and Joe Bain according Shepherd (1972) tried

to answer these questions by developing a theory of SCP. Just what is developed by both of them have different goals with the development of SCP theory at this point. At first, the SCP theory is used to help the government reduce the danger of companies less competitive. The SCP theory at this point is useful as a strategic management company.

The studies of the relation SCP in the financial sector, especially insurance are still a few but experthave done studies on the implementation of SCP in banking industries. They tested hypothesis about how structure influenced performance. A large number of studies have found no evidence to support the hypothesis that the concentration of the market is able to improve the performance of banks (Edwards, 1964; Phillips, 1967; Brucker, 1970; Vernon, 1971; Evanoff and Fortier, 1988; Molyneux and Thornton, 1992; Lloyd-Williams *et al.*, 1994; Molyneux and Forbes, 1992). However, contrary to other studies (Smirlock, 1985; Miller *et al.*, 1993) even reject the hypothesis that the market concentration has a positive impact on the bank,s performance. Similarly in the Indian context, the study by Bhattacharya and Das (2003) Varma and Sainir (2010) found no evidence for this hypothesis. Differences in study results are understandable because of differences in the use of the methodology, data and assumptions relating to the size of the market structure.

This study aimed to analyze the relationship between structure, conduct and performance of the insurance industry in Indonesia as well as re-examining the hypothesis of SCP (structure, conduct and performance) developed by Bain (1951). This study is expected to strengthen earlier theories and eventually used as a basis for policy making development of the Takaful industry.

MATAERIALS AND METHODS

This study used a descriptive study of the relationship between the Structure, Conduct and Performance developed by Bain (1951) and Machmud *et al.* (2010). The third paradigm of these variables can be described in Fig. 1.

The study population is the entire Sharia insurance companies in Indonesia in 2013 with a number of 49 companies. Distribution by type of insurance companies that serve the population in this study can be seen in Table 1.

Data was collected by accessing the financial statements derived from Bank Indonesia, the Financial Services Authority and the 49 companies that became the population of the sharia insurance companies. The data has been collected and analyzed using concentration ratio, ratio of advertising costs to total sales and calculating the level of profitability. The hypothesis of this study is as follow:
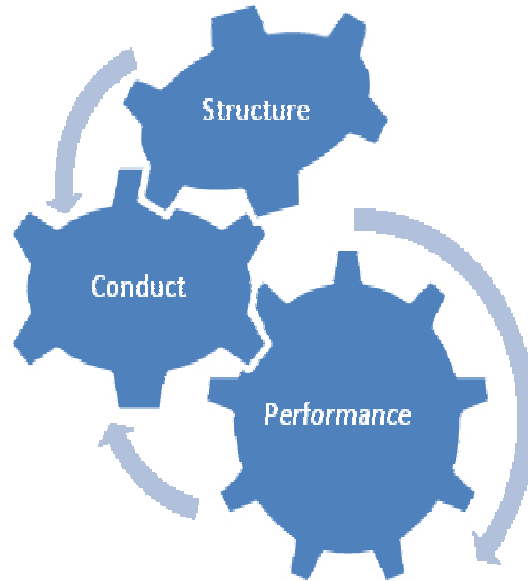

Fig. 1: Paradigm of structure, conduct and performance

Table 1: The population of sharia insurance firms in indonesia in the period 2013

Description	Total firm
Sharia life Insurance company	3
Life insurance company which has sharia unit	2
Sharia losses insurance companies sharia	17
Losses insurance company with sharia unit	24
Reinsurance companies with sharia unit	3
Total	49

- Industry structure influences the conduct of Sharia Insurance Industry in Indonesia
- Industry Structure influences the performance of Sharia Insurance Industry in Indonesia
- Industry Conduct influences the performance of Sharia Insurance Industry in Indonesia
- Industry Structure and conduct influences the performance of Sharia Insurance Industry in Indonesia

RESULTS AND DISCUSSION

Results: To analyze and find out about the industrial structure of sharia in Indonesia, the concentration ratio of the four largest companies in the industry is used. The resultz based on the research areshown in Table 1 the footprint in Table 2 and Fig. 2.

The industrial structure of sharia in Indonesia can be known through the development of the number of companies included in the industry. The company's development provides an overview of entry barriers (barrier to entry). Based on the research results, entry
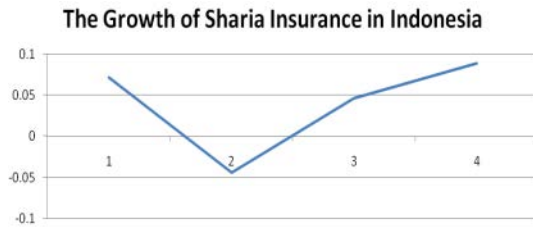
Fig. 2: The cost of advertency of the salesratio of Sharia Insurance Industry in Indonesia in 2013
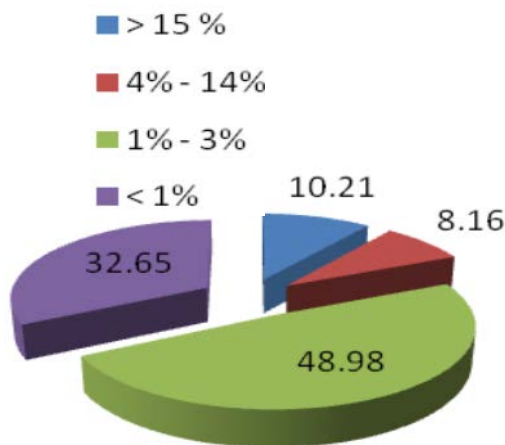

Fig. 3: The perfomance of Sharia Insurance Industry in Indonesia in 2013

Table 2: Structure of sharia insurance industry inindonesia, 2013 based asset

Description	Firm total	Concentration ratio	Criteria
Sharia life insurance company	3	1.00	Monopoly
Life insurance company which has sharia unit	2	1.00	Monopoly
Sharia losses insurance companies	17	0.50	Thigh Oligopoly
Losses insurance company with sharia unit	24	0.47	Tight Oligopoly
Reinsurance companies with sharia unit	3	1.00	Monopoly
Total	49	0.42	That Oligopoly

barriers Sharia insurance industry in Indonesia in the period 2009-2013 can be seen in Fig. 2. To know and analyze the conduct of Sharia insurance industry in Indonesia marketing costs to sales ratio is used. The results based on the research is shown Fig. 3.

The performance sharia insurance industry in Indonesia is measured by the level of profitability through the development of ROA and ROE. Besides, it can be seen also by the contribution of gross, Claims investments and
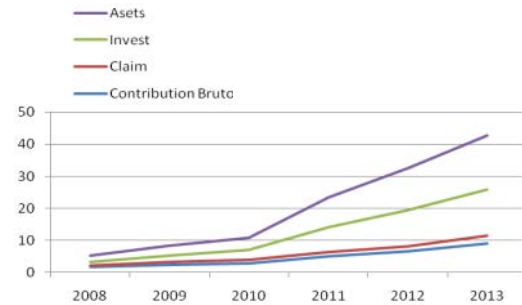

Fig. 4: The perfomance of Sharia Insurance Industry in Indonesia in 2013

sset management. Based on the research results as shown in Fig. 4 and Fig. 5. To know and analyze the corelations structure, conduct and performance of Sharia insurance industry in Indonesia linier regression is used. The results based on the research is shown Fig. 5.

Based on the results of research I that has beeconducted, it appears that the structure of the Sharia insurance industry in Indonesia is categorized as oligopoly structure. However if we look at the structure of the insurance industry based on the type of business groups, it appears that 60 % of them are included in the structure of Monopoly and the remaining of 40 % are in the structure of oligopoly. Conduct is the company's behavior in pricing, production levels, product, advertising and behavior towards competitors (collusion/cartels). Judging from the behavior of Sharia insurance industry in Indonesia. It is still dominated by large companies. Only 10.21% of the insurance companies that issued advertence costs >15%, the remaining below 15% but these were some companies issuing 32, 15% or even below 1% of advertising expenditure. This condition can be understood because in oligopoly and monopoly structure promotion is not required.

An examination of the financial performance of the sharia insurance and reinsurance industry in Indonesia, all the main indicators of growth of insurance industry and Sharia reinsurance showed a positive trend improvement. The growth of average gross contribution reached 42.08%, still higher than the average annual growth of claims from 2008-2013 which was 39.83%. While the investments and average assets grew by 68.22 and 62.09% per year. The increasing trend of growth in gross contributions occur because there is an increase in the per capita income of Indonesian people and also the growing awareness among of the Indonesian people importance of insurance for protecting them from all types of risk in a manner that is consistent with the principle of sharia.
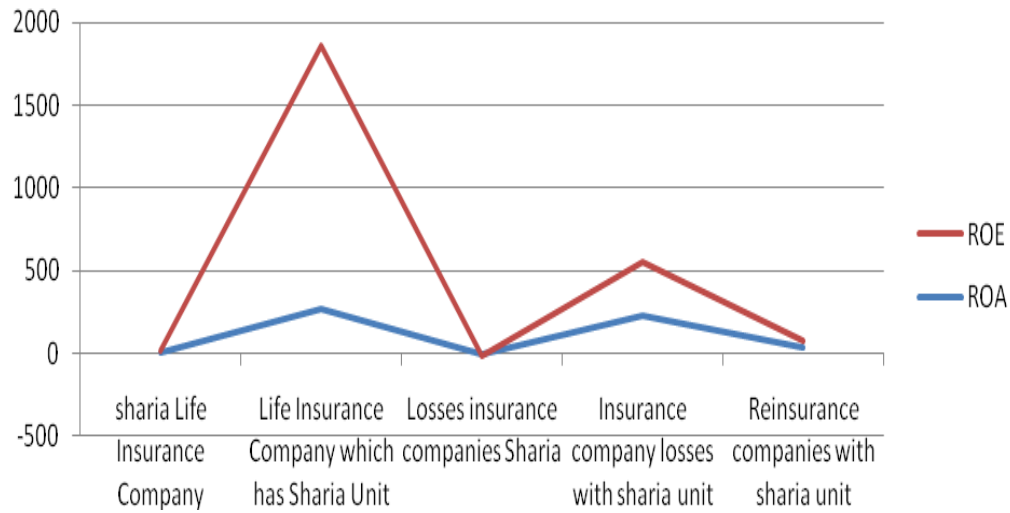
Fig. 5: The perfomance (ROA and ROE) of Sharia Insurance Industry in Indonesia in 2013

$$A/S_{Ina} = 3,930 + 0,178\ CR4$$
$$R = 0,699$$
$$R2 = 0,489$$
$$T\ hit = 2,768$$
$$F\ hit = 7,662$$

$$Performance = 0,946 + 0,475\ CR4$$
$$R = 0,946$$
$$R2 = 0,895$$
$$T\ hit = 8,244$$
$$F\ hit = 67,968$$

$$Performance = 0,086 + 0,358\ A/S$$
$$R = 0,708$$
$$R2 = 0,502$$
$$T\ hit = 2,837$$

$$Performace = 0,875 + 0,443CR4 + 0,180\ A/S$$
$$R = 0,948$$
$$R2 = 0,899$$
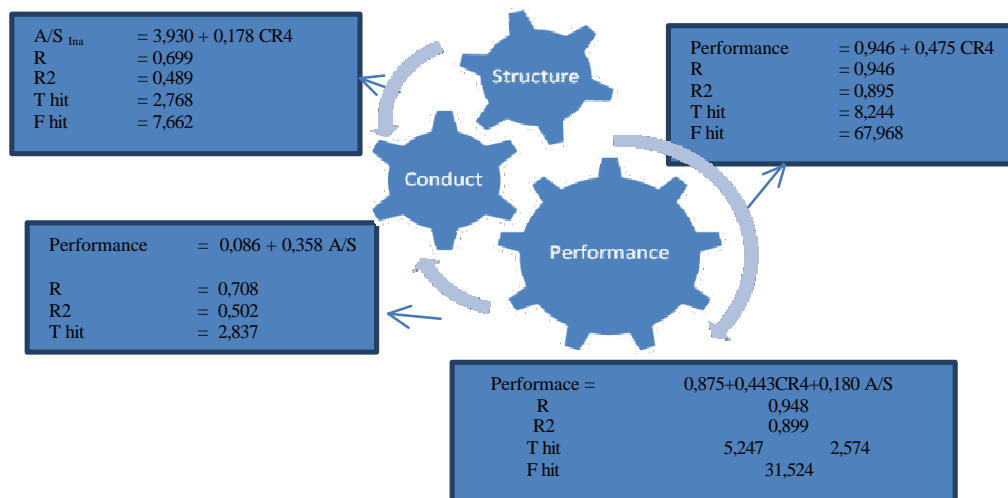$$T\ hit = 5,247 \quad 2,574$$
$$F\ hit = 31,524$$

Fig. 6: The relation of SCP of Sharia Insurance Industry in Indonesia in 2013

Based on the equation in Fig. 6 it appears that regression coefficient has a positive slope. This means that the industrial structure positively influences theconduct of Sharia insurance industry in Indonesia. Every 1% increase in the concentration ratio leads to an increase in marketing costs (advertisement)up to 0.358%. In Further implication, it means the higher the ratio is the greater the concentration of the industry in order to promote increased sales is. In relation to the hypothesis (1) the result of t-statistic values for these variables in the equation OLS integration is 2.768 t-table values is 2,262. Thus, these results indicate that the null hypothesis can be accepted. This supports the results of previous studies.

Equations in Fig. 6 shows regression coefficient whichhas a positive slope. This means that the structure is a positive effect on the Performance of Sharia insurance industry in Indonesia. Every 1% increase in the ratio of the concentration, it will cause the profit up to 0.475%. Coefficient further implication, it means the higher the ratio the greater the concentration of Sharia insurance industry in Indonesia to make a profit and vice versa. In relation to the Hypothesis (2) the result of the equation in t-statistic values for these variables in the equation OLS integration is 2,837 t-table value (df = 9, α = 5%) is 2,262. Thus these results indicate that the null hypothesis can be accepted. This supports the results of previous studies.

Based on the equation in Fig. 6, it appears regression coefficient has a positive slope. This means that the conduct of the industry positively affect the performance of the Sharia insurance industry in Indonesia. Every 1% increase in the ratio of advertisement expenses to sales, it will because profit up to 0.358% for Indonesia. The correlation coefficient (r) of 0.708 means that the relationship between the conduct of the industry with a performance of industryare included in the strong positive criteria. Further implications, it means the higher the ratio of advertisement for the sale of Sharia insurance products in Indonesia, the greater the industry to make a profit and vice versa. In relation to the hypothesis (3) the results of the equation t-statistic values for these variables in the equation OLS integration is 2,837 t-table value (df = 9, α = 5%) is 2,262. Thus these results indicate that the null hypothesis can be accepted. This supports the results of previous studies.

Based on Fig. 6, it appears that the performance has a positive relationship both in the structure and conduct of the industry. The magnitude of the regression coefficients respectively 0.443 and 0.180 for industry structure and for industry conduct. This means that every 1% change in the concentration ratio assuming advertisement expenses to sales ratio remains, then the industry's performance as measured through the variable profitability in Indonesia will be unchanged at 0.443%. Conversely if the concentration ratio is assumed to remain while the ratio of advertisement expenses to sales unchanged 1%, then it will certainly change in profit of 0.180%. From the calculation appears also that the value of t is >t table. This implies that the partial both industrial structure and industrial conduct affects the performance of the insurance industry in Indonesia. In relation to the hypothesis (4) industry structure and conduct affect the performance of Shariainsurance industry in Indonesia simultaneously

CONCLUSSION

Some of the findings in this study either descriptive or verification shows that this study has provided scientific contribution in the economic development industry, particularly the Sharia insurance industry. This study adds a new repertoire in industrial economics research in the form of descriptive findings regarding the insurance industry in Indonesia in terms of structure, conduct and performance that has never been studied by previous researchers. In addition, this study established earlier theory that addresses structural variables in the structure, behavior and performance of the industry ever conducted by previous researchers. A decrease in the concentration of industry influence on behavior which in turn affect the performance of the industry. Thus this study strengthen the hypothesis Bain.

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