

The Effect of Diversification on Firm Performance: The Role of Family Ownership

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Abstract—This study examines the effect of diversification on firm performance and also the moderating role of family ownership. We use two measures of firm performance: excess value and return-on-assets. Our samples are listed firms Indonesia Stock Exchange from 2011 to 2015 with total observations are 347 firm-years and 815 firm-years for excess value and return on assets test, respectively. We analyzed the data using panel data regression. The results show that geographic and industry diversification hurt the firm performance measured using excess value, whereas only industry diversification has an adverse effect on the performance of firms based on return on assets. Besides, family ownership does not have any moderating role on the effect of geographic diversification on performance, but it strengthens the adverse effect of industry diversification on the performance.

Keywords—Diversification, firm performance, family ownership

I. INTRODUCTION

A firm is an entity where factors of production are located and have objective to maximize shareholders wealth, in which to achieve this objective is depend on the firm performance. Shareholders want the firm to have a high performance so that their wealth can be maximized. [1] suggest that one of the ways to improve corporate performance through diversification strategy. [2] explained that the purpose of diversification is to increase substantial profit so that it could increase the welfare of shareholders. Diversification is expected to generate a positive effect on firm performance. The diversification strategy itself can be distinguished into an industry diversification where the firm conducts business activities in different industry lines and a geographical diversification where the firm conducts business activities in different economic environments.

[3] argue that diversification could give both positive and negative effects on firm performance. The positive effect of diversification is caused by the existence of operation efficiency, larger debt capacity, and lower taxes while the adverse effect of diversification is due to the potential losses incurred from the use of disaggregated resources, cross-subsidies to poor performing segments, and incentive differences between central managers and division managers.

[4] and [5] showed that the family was the controlling shareholder for most firms in developing countries in Asia. [6] argued that family-established and family-owned firms had tendencies to minimize corporate risks to ensure sustainability and to maintain corporate reputation. The

presence of family supervision to a firm for minimizing the risks faced and the influence of family ownership on the improvement of firm performance, indicate that the family has the effect of weakening the negative effect or to strengthen the positive effect of diversification on firm performance.

Based on the above explanation, this study aims to examine the effect of diversification strategy toward corporate performance and the moderating role of family ownership on the association between diversification strategy and firm performance. Our study differs with previous research in several veins. First, the diversification variable in [7] only use geographic diversification, but in our study, we examine both geographic diversification and industry diversification. Second, we examine family ownership as a moderating variable, which is highly relevant as most firms in Indonesia still controlled by the family, whereas Salama and Putnam (2013) examine corporate governance.

II. LITERATURE REVIEW

In carrying out their role as agents, managers will strive to increase shareholders' wealth by improving corporate performance. Diversification is one of the strategies done by managers to improve firm performance. This is in line with [8] argument that the firm diversification strategy is one of the steps in the expansion of business and market, where the strategy is done by multiplying the number of business segments, either by industry and geographical segments. [9] stated that there are 3 (three) arguments why diversification done by firms, i.e., market forces view, agency view, and resource view.

[3] argued that the diversification strategy might have two effects, namely improving firm performance and decreasing firm performance. This is because if the firm runs more than one different business, there are some potential benefits for the firm, including the efficiency of the firm operations, fewer incentives, larger debt capacity, and lower taxes. While the potential loss is the increase of the use of reserved resources to cope with declining investment value, the cross-subsidization was causing the taking of the resources from a good business segment to a weak business segment, and the unbalancing incentives between headquarters managers and division managers.

Based on agency theory, agents have contracts with principals to improve and maximize principal wealth by improving firm performance. In carrying out their role as

agents, managers have a responsibility to improve the firm performance by using the resources of the firm. In the use of firm resources, managers can use a diversification strategy that aims not only to get the benefit of the firm from one business line only. The diversification strategy carried out by the manager can result in financial outcomes that can affect firm performance and principal wealth. Financial outcome of the diversification strategy can be positive or negative, the positive financial outcome can improve performance and principal wealth, whereas the adverse financial outcome can degrade the performance and principal wealth.

[10] suggest that corporate governance is an essential element to mitigate the adverse effect of agency problems. The implementation of corporate governance is affected by controlling owners, and in Indonesia, most firms are still controlled by a family. [4] find that the ordinary shareholding of firms in Asia was held jointly by the family. In line with [4], [5] stated that the majority of firms in developing countries was controlled by dominant families who had unique effects on corporate governance. The evidence of family ownership concentration indicates the relation of personal interest of the controlling family with the firm goals in maximizing profit, which is ultimately related to the agency problem between managers and shareholders. Moreover, family control generates encouragement to pay attention or to prioritize controlling family, so that the family controls the firm strategic policies. Furthermore, as a result of the influence of altruism on the interests of the next generation ([5]) and the view of the family as the founder that the firm was an asset to be handed over to family members or descendants ([11]), the existence of controlling family impact on the decision of the firm, business diversification strategy.

To discharge their role to improve the welfare of shareholders, managers will strive to improve the firm performance that can be done through a diversification strategy. The diversification strategy undertaken by the firm was one way in expanding the business and the market. The strategy mentioned was done by increasing the number of business segments both in industrial and geographic segments ([8]). There were 3 (three) views of diversification according to [9], i.e., first, to reduce market competition by being a dominant player in business; second, as a way for management (agent) to maximise his/her wealth, which is not always in accordance with shareholders (principal) interest, and third, to optimize the excess resources and production capacity owned by the firm.

The diversification strategy by firms may result in positive impacts on the firm performance. In geographic diversification, the existence of firm-specific asset development and the increasing economies of scale in different economic regions can lower production costs. Besides, the firm has more flexible options related to taxation rules and financial constraints, and also the increasing market owned by the firm. In the industry diversification, firms can allocate excess resources to different business lines from existing businesses so that it generates profits for the firm. Besides, the increasing profits can generate a firm's cash flow into a stable condition, so it

made more accessible for firms to obtain a source of financing from debt.

The negative impact on the firm performance can also arise due to the diversification strategy. In geography and industry diversification, the diversification results in increasing size and complexity of the firm so that it generated different incentives between managers in the headquarter and managers in the divisions that caused lower motivation of division managers, and asymmetric information from division office to head office. Moreover, the pressure from central management on the division may results in poor division performance so that cross-subsidies to business lines or business in other regions that have poor performance will decrease the overall performance of the firm.

The existence of agency relationship gives managers the authority to do diversification to act in the shareholders' interests, but with the available authority, it can be possible for managers to apply diversification strategy aimed to maximize their interests. As the managers may act to maximize their interests, the diversification strategy undertaken by the managers do not positively affecting the firm's performance. It can even be possible that diversification strategies done by managers can decrease the firm performance. For example, since managers aim to increase their interests, the investment in the diversification is not based on appropriate measurement in accordance with the purpose of diversification but it is merely to give an impression that the manager succeeds in developing the firm operations, even though the diversification decreases the overall firm performance due to the inefficient allocation of firm resources.

Several studies show that diversification strategy gave an adverse effect on performance, such as [7] who suggest that the agents' authority to diversify strategy allowed agents to use their powers for personal gain that could decrease firm performance.

Based on the results of previous research, it is known that firms performing diversification have lower firms' performance compared to firms with only have one segment ([3]; [2]; [12]; [8]; [7]). It is predicted that there is an adverse effect of diversification on firm performance.

H1a: Geographic diversification has an adverse effect on firm performance.

H1b: Industry diversification has an adverse effect on firm performance.

[13] and [14] show that the ownership structure has an adverse effect on the firm's diversification strategy because of the conflict of interests between managers and shareholders. [4] and [5] stated that in firms in Asia the majority shareholder is family, so the family controlled the firm. [15] also show that the family as founder had motivation for the established firm to be sustainable and to maintain the firm reputation that finally makes the family had a strong incentive to minimize the risks from the negative effects of diversification. For example, when diversification lowers the firm performance due to the existence of cross-subsidies from well-performed business segments to poorly performed business segments, the families will seek to suppress the negative effects of the cross-subsidies by taking over management in poor performed business or by pointing family members as

managers in the unfortunate business segment. The existence of family ownership is predicted to weaken the effect of diversification on firm performance. Hence this research predicts that family ownership weakens the negative effect of diversification on firm performance.

H2a: Family ownership weakens the effect of geographic diversification on firm performance.

H2b: Family ownership weakens the effect of industry diversification on firm performance.

III. METHOD

Population in this study are firms listed on the Indonesia Stock Exchange between 2011 and 2015, and the data are obtained from Datastream Thomson and Reuters and EIKON. For sample selection, the criteria used are the followings:

1. Firms are listed on the Indonesia Stock Exchange (IDX) and have published audited financial reports and annual reports from 2011 to 2015. The year 2011 is selected as a compelling year of financial accounting standard

Following [7], the research model for testing the hypotheses H1a and H1b are as follows:

$$EV_{geo/ind_{i,t}}$$

$$= \alpha + \beta_1 GEOD_{i,t} + \beta_2 INDD_{i,t} + \beta_3 LNSIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 CAPX_{i,t} + \beta_6 PROF_{i,t} + \beta_7 PSAK5_{i,t} + \varepsilon_{i,t}$$

(1)

and

$$ROA_{i,t} = \alpha + \beta_1 GEOD_{i,t} + \beta_2 INDD_{i,t} + \beta_3 LNSIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 CAPX_{i,t} + \beta_6 PSAK5_{i,t} + \varepsilon_{i,t}$$

(2)

Whereas to test H2a and H2b, we used following model:

$$EV_{geo/ind_{i,t}}$$

$$= \alpha + \beta_1 GEOD_{i,t} + \beta_2 INDD_{i,t} + \beta_3 GEOD * FOWN_{i,t} + \beta_4 INDD * FOWN_{i,t} + \beta_5 FOWN_{i,t} + \beta_6 LNSIZE_{i,t} + \beta_7 LEV_{i,t} + \beta_8 CAPX_{i,t} + \beta_9 PROF_{i,t} + \beta_{10} PSAK5_{i,t} + \varepsilon_{i,t}$$

(3)

$$ROA_{i,t}$$

$$= \alpha + \beta_1 GEOD_{i,t} + \beta_2 INDD_{i,t} + \beta_3 GEOD * FOWN_{i,t} + \beta_4 INDD * FOWN_{i,t} + \beta_5 FOWN_{i,t} + \beta_6 LNSIZE_{i,t} + \beta_7 LEV_{i,t} + \beta_8 CAPX_{i,t} + \beta_9 PSAK5_{i,t} + \varepsilon_{i,t}$$

(4)

Excess value (EV) looks at how the market perceived diversified firms compare to non-diversified firms. [8] states that excess value was used as a proxy for corporate performance measurement performed following [3], [2], and [4].

In this method, the impact of business diversification on firm performance is calculated based on the ratio between the imputed value of the diversified firm and the actual market value of the firm. The positive EV value shows that diversified firms have higher corporate performance than non-diversified firms and negative values show lower firm performance. EV calculations are as follows:

$$EV = LN\left(\frac{MCap}{IV_{i,t}}\right)$$

(5)

(Pernyataan Standar Akuntansi Keuangan/PSAK 5 Operating Segment issued on 2009 was active on 1 January 2011, and the latest PSAK 5 issued in 2014 was effective on 1 January 2015.

2. Firms which have total sales above Rp 200 Billion ([3]; [12]; [7])
3. Firms which are not included in financial industry based on Jakarta Stock Industrial Classification (JASICA). The elimination of the financial sectors is due to the financial industries are highly regulated industries so that they have very different characteristics from other industries ([3]).
4. Firms with more than 1% of segment sales from total firms' sales ([3]; [7]; [12]).
5. Firms have at least five single domestic firms in a similar industry to measure excess value (EV).
6. Elimination of outlier related to EV calculation, which is imputed value of more than 4x or less than 1/4 actual value.

MCap: Market capitalization (market value of equity + book value of debt)

$IV_{i,t}$: Total imputed value from all segments

The firm Imputed Value is calculated from the sales of each segment of the firm multiplied by the ratio of median market capitalization to sales for five firms of individual segment firms in one industry. To get imputed value the firm, firstly, the diversified firm types should be classified:

1. A geographically diversified firm is a firm that has only one operating segment and has overseas sales;
2. An industry diversified firm is a firm which has more than one operating segment and has no overseas sales;
3. A single domestic firm is a firm that has only one operating segment and has no sales from abroad.

The next steps are: (a) calculating the actual value of all single domestic firms, diversified geographic and

diversified industries; (b) calculating the median of the actual value ratio to sales from at least five single domestic firms with the same business sector; (c) calculating the imputed value of the firm by summing the multiplication result of each segment's sales against the median ratio of a single domestic firm. The excess value calculation is calculated based on the imputed value from the geographic segment and industry segment so that it results from two excess value, which is the excess value of the geographic segment and the excess value of the industry segment.

Following [7], we also use return on assets (ROA) as a performance measurement:

$$ROA = \frac{\text{OperatingIncome}}{\text{AverageTotalAssets}} \quad (6)$$

Following [2], [16], and [7] in measuring the geographic diversification, we use dummy variable where 1 for firms with more than one geographic business segment and the ratio of overseas sales to total firm sales above 10%, and 0 for otherwise.

Based on [8], to determine the level of diversification is by using Herfindahl index which is calculated from the sum of the squares on the sales of each segment divided by the square of the total sales of the firm:

$$H = \sum_{t=1}^n \text{segsales}^2 / (\sum_{t=1}^n \text{sales})^2 \quad (7)$$

Segsales: a value of sales of each business segment

Sales: a total of the firm's overall sales

If the Herfindahl index value close to 1, sales of the firm are concentrated in one business segment.

Measurement of family ownership based on the firm shareholding structure. Following [17] the definition of family ownership is the ownership of shares by individuals and by a firm, other than the ownership of shares by public firms, state-owned enterprises, and financial institutions.

We also included several control variables. Firm size (LNSIZE) which is measured using the total natural logarithm of the firm's asset ([7]). [3] suggests that firm size shows the number of resources owned by the firm to perform its activities so it is predicted that the firm size will have a positive effect on the firm's performance. Leverage (LEV) is measured using debt-to-assets ([2]; [7]). To execute diversification strategy, firm need financing either through internal funding or external funding through debt issuance. The leverage describes the extent to which firms use debt to finance the acquisition of assets. Thus the greater level of leverage indicates the firm has the necessary funding to sustain its growth, so we predict that leverage has a positive effect on the performance. Another control variable is capital expenditure (CAPX) (total capital expenditure divided by total sales ([7])) that capture the intensity of corporate capital expenditure. Capital expenditure describes the investment decisions made by firms that affect the operational efficiency to generate a profit so that it is expected that capital expenditure has a

positive effect on the firm's performance. Profitability (PROF) (operating profit divided by total sales ([7])) shows the firm's ability to generate profits that ultimately affect the firm's performance, so it can be expected that profitability has a positive effect on firm performance. We also include control variable related to changes in operating segment accounting standard (PSAK5), which is 1 for the year 2015 (the effective year of PSAK 5) and 0 for otherwise. A change in accounting standards on operating segment of within our research period that may affect how the firm identify its segment, hence to control such change we include this indicator variable. In carrying out their role as agents, managers will strive to increase shareholders' wealth by improving corporate performance. Diversification is one of the strategies done by managers to improve firm performance. This is in line with [8] argument that the firm diversification strategy is one of the steps in an expansion of business and market, where the strategy is done by multiplying the number of business segments, either by industry and geographical segments. [9] stated that there are 3 (three) arguments why diversification done by firms, i.e., market forces view, agency view, and resource view.

IV. RESULT AND DISCUSSION

The result of the sample selection is presented in Table 1. As we have two measurements for financial performance and the selection criteria result in different total observations for both measurements, where for ROA we have 815 firm-years, whereas for EV there are 347 firm-years.

Table 2 presents the descriptive statistics of variables. EVGEO and EVIND variables based on table 4.2 show quite similar values, with minimum values less than 0 and maximum values more than 0, which shows that our sample firms have lower as well as higher performance due to diversification. Industry diversification (INDD) shows a mean of 0.736, which means that on average our samples do not concentrate on only one type of segments. Furthermore, the geographic diversification (GEOD) shows that only 34% of the samples have international sales more than 10% of total sales. Family ownership (FOWN) mean is 58.17% which consistent with previous studies that families still control the majority of firms in Indonesia.

Table 3 presents the regression results from model 1. The regression results show the geographic diversification has an adverse effect on the performance based on the Excess value of the geographic segment. The same results for excess value based on industry diversification. The negative effect is consistent with the prediction of hypothesis H1a. These results are consistent with [3], [12], and [7] which found that there was a negative effect of diversification on firm performance. This negative effect indicates that firms do not seem able to utilize the economies of scale to decrease the total costs of the firm ([2]). Besides, the lack of financial market development in Indonesia ([8]) could make it difficult for firms to finance the development of operations in different geographical segments in order to generate profits and improve firm performance.

Table 1. Sample Selection Results

Panel A: Dependent Variable ROA		
No	Criteria	Total
1	Total of observations	2.665
2	Elimination of firms that do not have asset data, sales, market capitalization, operating profit, debt, capital expenditure, stock ownership, and international sales.	(1.385)
3	Elimination of firms with sales < Rp 200 billion	(257)
4	Elimination of firms in financial sectors	(41)
5	Elimination of firms which have no information on business segments	(155)
6	Elimination of firms which have segment sales less than 1% from total sales	(12)
	Total observations	815

Panel B: Dependent Variable EV		
No	Criteria	Total
1	Total observations	815
2	Elimination of firms that do not have the necessary information in EV calculation	(346)
3	Elimination of outliers related to EV calculation, imputed value more than 4x or less than a ¼ actual value	(122)
	Total observations	347

However, there is no significant effect of geographic diversification on ROA, which do not support H1a. Excess value measures diversified firm performance compared to a non-diversified firm. The difference result between EV and ROA shows that diversification may not have an effect of decreasing ROA, however, compared to non-diversified firm the performance of diversified firm do decrease as shown by the decrease in EV. Bottom of Form

In line with the results of research on the effect of geographic diversification on firm performance as described previously, industrial diversification shows the same effect with geographic diversification. The results of this study are in line with H1b hypothesis that suspects the negative influence of industry diversification on firm performance. The influence of industry diversification on EVind shows the same result with the influence on EVgeo that shows the diversification of the industry which has a negative effect on the firm performance. Furthermore, the effect of industrial diversification on ROA shows similar results with the effect of industry diversification on EVgeo and EVind.

For industry diversification, we find that it has a negative effect on excess value and ROA. Thus the results support H1b. The results are consistent with [3], [2], and [12]. The failure of the firm to allocate excess resources [2] might cause the firm to generate excess investment [3] in other business segments, and cross-subsidies between business segments that generated profits to business segments that suffered losses resulting in declining performance due to the diversification. If we compare the results of geographic diversification and industry diversification, the negative effect of diversification is more negative on industry diversification as it also has a negative effect on ROA whereas for geographic diversification there is no significant effect.

We can see that family ownership has no significant moderating role on the association between geographic

diversification and performance (either excess value nor ROA), so H2a are not supported. [6] suggests that founding families motivated to minimize conflict with managers and wants to maximize firm performance. Geographic diversification strategy resulted in the expansion of the organization size by having branches or divisions in different economic regions with the parent firm. The existence of altruism influence is to place family members in the firm and to continue the family legacy in the long-term, so the purpose of geographic diversification is in line with the interests of the shareholders, and it decreases the agency problems in the firm. Thus, the presence of the family as the owner does not affect strengthen the negative effect of diversification strategy on the firm performance.

Difference results are observed for industry diversification. Based on the result of regression, there is evidence of the moderating role of family ownership on the association between industry diversification and performance. Thus H2b is not supported. The negative effect of family ownership means that family ownership strengthens the negative association between industry diversification and performance. The differences in family ownership effects on the effect of geographic diversification and industry diversification on firm performance may be caused by obstacles in the implementation of geographic diversification such as investment complexity ([12]) and the difficulties of having branches in different economic regions made families focused more on industry diversification. [18] find that family firm has better performance than non-family firms if the founding-family is still active (both on the executive or the supervisory board). He suggests that if families are acting only as large shareholders but do not have representatives in the board, then family firm performance is not different from other firms. Our findings that family ownership is not able to weaken the negative association between diversification and performance, may be partly caused by an inactive role of family inboard of commissioners and board of directors.

Next, we perform a sensitivity test to determine whether there is a non-linear effect of industry diversification on firm performance (untabulated). Based on the results of non-linear regression, we find that the industry diversification has a non-linear association with firm performance. In the lower level of diversification, we observed negative association, but in line with the increase of diversification, then, on an individual level, industry diversification have a positive association with performance. If we relate this to the primary results, then the negative result in main findings indicate that the industry diversification by listed firms in Indonesia is still limited in expanding the business lines so that the positive effect of the industry diversification has not yet been seen.

V. CONCLUSION

This study aims to examine the effect of diversification (both geographic and industry) on the firm performance and also the moderating role of family ownership. We find that geographic diversification has a negative effect on firm performance (measured by excess value), but it does not affect roa. Industry diversification has a negative effect on

firm performance (both on excess value and ROA). The inability of the firms in internalizing market imperfection and the failure of firms in utilizing economies of scale on assets that can reduce production costs and the lack of financial markets development in Indonesia are suspected to be a cause of geographic diversification, and industry diversification has a negative effect on the firm performance.

Family ownership has no moderating role in the association between geographic diversification and firm performance. However, we do find that family ownership strengthens a negative effect of industry diversification on the firm performance. The complexity of geographic diversification causes the family to focus more on industrial diversification to increase family interests. The possible explanation is the inactive role of family members on executive and supervisory board.

These results have implications for users of financial statements (such as investors and creditors) that it is crucial to consider firm diversification as it can have a negative effect on performance as well as family ownership due to it strengthen the negative impact of diversification on performance. There are several limitations to this study. We use only one proxy in measuring geographic diversification that is by using firms' proxies with more than one geographical business segments and more than 10% of the overseas sales ratio to total sales based on [12]. Future studies may also use the proxy of geographic diversification percentage based on the calculation of overseas sales to total firm sales is not used. Family ownership measurement is only based indirect ownership, but this has weaknesses that it cannot identify the ultimate ownership of the firms. Hence, the identification of the family may not be all-inclusive. Future studies may consider tracing the ultimate ownership in the determination of family ownership to obtain more accurate family ownership data. Our study also did not identify whether the diversification is related or unrelated diversification, as both may have a different impact on performance.

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