

## **Effect of operating segments to the firm value of diversified listed companies in the Philippines**

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### **ABSTRACT**

A growing number of studies produced different result on whether diversification can create or destroy value. The objective of this study is to determine if the operating segments can predict the firm value of the publicly-listed diversified companies. Tobin's Q was used as a proxy of firm value. This study used regression analysis to evaluate if number of operating segments and type of business engaged can affect the Tobin's Q of diversified firms. Using 86 diversified listed companies the study shows that majority of the diversified firms have Tobin's Q lesser than one. Diversified firms without real estate and banking in their segments have better firm value than those who have. The value that was created by diversification will depend on what type of operating segment the company engaged and not on the number of segments they operate.

**Keywords:** *Diversified Firm, Operating Segments, Philippines.*

### **INTRODUCTION**

A growing number of studies in the recent years had been conducted on the corporate diversification globally. Because companies' diversification plays an important role in many emerging markets (Kim, Hoskisson, Tihanya and Hong, 2004) many researchers have been discussing the costs and benefits of diversifying a company (Hadlock, Reyngtaert and Thomas, 2001; Lins and Servaes, 2002). One example was, Ou-Yang, (2012) who determined the effect of corporate diversification to the firm performance and likewise, Houston and Naranjo (2003) do the same by using firm value as the criterion.

Several studies had shown different motivation and benefits of firm diversification. Firms were motivated to diversify in order to reduce competition, idle capacity, and employment risk (Dorsey, 2006). In addition, benefits from corporate diversification include more financial flexibility,

resources sharing, market power advantage (Goerge, 2007). It also creates value to the firm (Gomes and Livdan, 2004).

Considering that diversified companies' economic performance is a combination of the performance of individual operating segments (Benjamin, Muthaiya, Marathamutu and Mauruguiah, 2010). The more operating segments the companies have, the more diversified they are. These segments might have contribution to the value of the firm. Efficient Internal Market model suggest that diversification can create value and predicted that diversified companies should provide funds to those segments that can provide them good opportunity (Rajan, R. Servaes, H. and Zingales, L. 2000). However, basic finance theory also suggested that diversification can make company "jack-of-all trade, master of none" and therefore it destroys value (Salama, 2008). These conflicting views create needs for more studies on this issue.

On the other hand, different studies were also conducted to determine the factors affecting the corporate firm value. For example, Gherghina (2014) studied the relationship between corporate governance and firm value. In addition, marketers are now shifting to search on the effect of marketing on the firm value (O'Sullivan & McCallig, 2012). This is an indicator that study on firm value is relevant in all aspect of business.

Furthermore, firm value is also widely investigated in various business literatures. Huang, Shih, Huang and Liu (2006) asserted that one of the objectives of the firms is to promote its real economic value. That is why various scholars used a different measurements of firm value like Earning Capitalization Model, Market Value Added, Economic Value Added, Market Value of year-end stocks (Huang, Shih, Huang and Liu, 2006), Return on Asset, Earnings Per Share (Gherghina, 2014) and Tobin's Q.

In this study, Tobin's Q was used as a proxy of the firm value of the diversified firms. Tobin's Q is define as the ratio of firm stock market value and the firm's resources replacement cost (Sahay and Pillai, 2009). Previous studies showed that it able to predict even the worst equity downfall in past decades makes it as the best predictor of market correction (Pett, 2013). In fact majority of the investment variability can be explained by Tobin's Q (Cooper and Ejarque, 2003). Instead of searching factors that can be explained by the Q, this study will look for predictors of Tobin's Q. This study determined if the operating segments can affect the firm value of the publicly-listed diversified companies.

## METHODOLOGY

This study used quantitative causal design to evaluate what will predict the firm value of diversified listed companies in the Philippines. The data for the study were obtained from the diversified publicly-listed companies in the Philippines with 2010-2013 annual financial reports. These companies were organized according to their economic sector or industry. There were a total of 86 firms chosen for this study. The annual reports of the selected firms were downloaded for the period 2010 – 2013. It employed purposive sampling because the respondents of the research were limited to the diversified listed companies in the Philippines.

### Procedure

Annual reports of diversified companies were downloaded from the Philippine Stock Exchange (PSE) website. After defining what aspects of the content to investigate, the independent variable which is the number of operating segments and the industry of the operating segments was determined.

The number of operating segments shows the level of diversification of the firm. The higher the number the more they are diversified.

The industry was coded as follows:

- 1 – Real Estate Business
- 2 – Banking and Financial Institution
- 3 – With Real Estate and Banking Institution
- 4 – Without Real Estate and Banking Institution

The dependent variable is the Tobin's Q as a proxy for the firm value. To get the Tobin's Q of the firm requires more time and cost. To solve this limitation this study computed the Approximate Q formula as suggested by Pruitt and Chung (1994) in lieu of the Tobin's Q. In their study, they found out that there is no significant difference between the Tobin's Q and the Approximate Q. The following formula used in this study was:

$$\text{Approximate Q} = (\text{MVE} + \text{PS} + \text{DEBT})/\text{TA}$$

Where: MVE = Common share x market price

PS = Liquidating value of preferred share

DEBT = (Short-term debt – short term asset) + Long term  
Debt

TA = Book value of the total asset

The Q indicates if the change of the value of the company resources is proportional to the change in the market value of companies' shares of stocks. The ideal is that Q should be equal or closer to one. Firm that has Q that is greater than one is said to be overvalued firm because it is more expensive to buy the firm stocks than to the replacement value of firm's assets. To compute what predicts the firm value, multiple regression analysis was used with the following formula.

$$\text{Approximate } Q = \beta_0 + \beta_1 (\text{No. Of OS}) + \beta_2 (\text{Industry}) + \varepsilon$$

## RESULTS AND DISCUSSION

### Operating Segments

The data show in Table 1.1 is the summary of the number of operating segment per firms. It shows that the majority of the diversified companies is preferred to have few segments to operate. Other studies show the same result. Majority of the firm in India (George, 2007) and United States of America (Otero-Serrano, 2004) has 2 to 4 operating segments.

Table 1.1 Number of operating segments per publicly listed companies

Number of Operating Segments	f	%
2	22	25.6
3	25	29.1
4	20	23.3
5	12	14.0
6	3	3.5
7	2	2.3
8	1	1.2
11	1	1.2
Total	86	100
Average	3.67	

The result can be explained by the following reasons. First, diversification can increase the information asymmetry that can reduce firm value (Kim, 2003). Second, diversification can negatively affect the firm performance (Chiao and Ho, 2009). Lastly, too much diversification can destroy value in contrast with the efficient internal market model.

Table 1.2 presents the distribution of what type of operating segments engaged by the diversified firms. The result shows that the majority of the firms do not have real estate nor banking and other financial institution as their operating segments. But still, real estate business is one of most popular operating segments among diversified companies. Salazar (2013) emphasized that real estate business in the Philippines has a brighter prospect in the succeeding year.

Table 1.2 Distribution of type of business of Public Listed Firm

Firm	f	%
With Real Estate (RE)	29	34
With Financial Institution (FI)	12	14
With RE and FI	8	9
Without RE and FI	37	43
Total	86	100

### **Firm Value**

Shown in Table 2.1 is the Tobin's Q of the diversified companies for the year 2010 to 2012. The smallest Q for the 3 year period is consistently 0.01 and the biggest Q is 7.61, 9.38 and 10.66 for the year 2010, 2011 and 2012 respectively. The overall mean was observed to be also consistent for 3 years with a slight increase in the 3<sup>rd</sup> year. By looking at the total mean, diversified companies' firm value seems to be good since it is higher than 1. This means that the resources of the company were undervalued since it is lesser than the market value of the shares of stock.

Table 2.1 Firm Value using Tobin's Q per year

Year	Min	Max	Mean	Std. Deviation
2010	0.01	7.61	1.24	1.45
2011	0.01	9.38	1.24	1.56
2012	0.01	10.66	1.30	1.63

The above results show that diversification may create value to the firm as predicted by the efficient internal market model. However, at closer look in Table 2.2, it shows that the majority of the companies have overvalued resources. Though the overall mean shows overvalued result, however, the details showed a different story. This may show that diversifying a firm is not a good idea since it cannot create additional value as what Salama (2008) found out.

Table 2.2 Firm Value of the Diversified Firms

Tobin's Q	2010	2011	2012
Greater than or equal to 1	27	27	30
Less than 1	59	59	56

Furthermore, as shown in Table 2.3 is the Tobin's Q of the diversified firms when segregated according to what type of business they include in their segments. It reveals that those firms that have no real estate and financial institution in their operating segments have a better Q than those who have. The results reveal that those companies with real estate or financial services and banking as part of their segment tend to have lower firm value than those who don't. Investors may lose their trust with the real estate sector due to the controversies in this sector in 2010.

Table 2.3 Firm Value using Tobin's Q per type of business

Firms	2010	2011	2012
With Real Estate (RE)	0.77	0.71	0.81
With Financial Institution (FI)	0.67	0.66	0.7
With RE and FI	0.75	0.71	0.79
Without RE and FI	1.9	1.96	1.99

In October 2010, a number of estafa cases filed against Delfin Lee and Globe Asiatique officials in their involvement in the questionable Php6 Billion Pag-Ibig fund loan (Reformina, 2014). This controversy may have effect on the confidence of the investors in the real estate business sector in which the market value of stocks of this sector can also be affected. In this context, the firm value is also affected since the Tobin's Q is a stock driven formula.

Likewise, the financial institution sector may still affected from the financial crisis during these years. When the Lehman Brothers collapse in 2008, the investors withdrawn their investments to reduce their exposure to the region with higher investment risk including Asia. As a result, Asian market fell including the Philippines with a 21% decline in the market value of the stocks (Guinigundo, n.d.) this is not a valid reference, you may delete this or look for other ideas to support this claim.

#### **Effect of operating segments in the firm value**

The multiple regression estimates found in Table 3 revealed that of the two factors assumed to influence value of the firm using the Tobin's Q. However, only industry of the business able to statistically affect the firm value using the Tobin's Q. The r-squared shows that a range of 12 percent to 15 percent of the Tobin's Q can be explained by the industry and a number of operating segment. The remaining percentage can be explained by other variables.

Table 3 Estimates of Tobin's Q using Ordinary Least Squares

Variables	Model 1	Model 2	Model 3
	Tobin Q <sub>2010</sub>	Tobin Q <sub>2011</sub>	Tobin Q <sub>2012</sub>
Constant	0.63	0.64	0.66
	0.51	0.55	0.58
Number of OS	-0.97	-0.13	-0.1
	0.96	0.10	0.12
Industry	0.37***	0.40***	0.38***
	0.11	0.12	0.13
R-squared	0.13	0.15	0.12
Adjusted R-squared	0.11	0.13	0.09

The result rejects the concepts that diversification has an effect to the value of the firm as what Gomes et al. (2004) and efficient internal market model propose. The number of segments has nothing to do with increase or decrease of the firm value. Instead, the industry of the operating segment was able to predict the firm value of the firm. This indicates that investor has shifted their confidence on the industry other than real estate and financial institution sector.

## CONCLUSION

One of the objectives of a firm is to create value. Management as creator of value must do his job to add value to their investors. Knowing the value of the firm and the factors that affects it is a good tool for the investors in their investment decision. The results of this study might be a good reference for both investors and managers in their decision process. Investing overvalued or undervalued firm might not be a good decision. Lastly, since diversification has nothing to do with the value of the firm, managers should focus on what segments the firm will engage instead of adding more segments.

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