Effects of Corporate Diversification on Firm Excess Value in Malaysia: A Study on MALAYSIAN Listed Companies

Nai-Chiek, AIK*, Peck-Ling, Tee
Faculty of Accountancy and Management, University of Tunku Abdul Rahman.
*email: aiknc@utar.edu.my

Abstract

This paper examines whether corporate diversification will have any effects on firm excess value in Malaysia and whether diversification will enhance the firm value when companies diversify to more segments. The findings reveal that diversification destroys firm excess value in Malaysia during year 2006 to 2008. Furthermore, the higher of a firm's diversification level, the lower firm value it has, suggesting single-segmented firms in Malaysia perform better than multi-segmented firms. The Malaysian firms should therefore invest surplus fund in their core business operations as diversification does not add value to portfolio.

Keywords Corporate diversification, firm excess value, (another three keywords)

INTRODUCTION

Booz, Allen and Hamilton (1985) define diversification as spreading the business into different business segments to achieve improved growth and to reduce overall risk of the company. Akhavein, Berger and Humphrey (1997) and Demsetz and Strahan (1997) found that diversification allowing firms to take on more investment risk for a given level of firm risk, while Winton (1999) argued that diversification may lead firms into new sector in which they might have less expertise and thus may not always reduce the firm risk. Recently, DeLong (2003) suggested that diversification that combines few lines of business with imperfectly correlated earnings can help to reduce firm's earnings volatility which will leads to value creation. Diversifying business into more than one industry allow firms to leverage economies of scale and scope since they provide more efficient operations and profitable lines of business than homogeneous firms. Campa and Kedia (2002) and Maksimovic and Phillips (2002) supported that diversifying into new businesses rather than reinvesting in current businesses might increase higher firm value and can be a wealth-maximising strategy for a firm. Nevertheless, diversification at firm level may be redundant in a perfect capital market as investors can directly derive the gains of such diversification by holding a diversified portfolio. Furthermore,

corporate diversification tends to create agency problem especially when principals (shareholders) are only concern with the investment's systematic risk while agents (managers) concern more about unsystematic risk. The misalignment of interests and goals encourages managers to take actions out of self-interest to minimise source of earnings variance may reduce shareholders' wealth. The documented studies in Malaysia have been conducted predominantly in bank mergers that is 'involuntary' in nature and implemented right after the Asian financial crisis (see, for example, Fauzias & Mohamed, 2003; Mansor & Yap, 2003; Fauzias, 2004; Krishnasamy, Ridzwa & Perumal, 2004; Mahmood & Mohamad, 2004; Fauzias, Rasidah & Mohamed, 2005; Sufian & Ibrahim, 2005; Rasidah, Fauzias, Soo & Aisyah, 2008). Unlike the corporate diversification which is mainly market-driven, involuntary mergers are the result of direct government intervention and hence findings thus far may not be validating evidence of diversification effects. In this view, continuous investigation in the creation of firm value from diversification is critically needed to ultimately create value in the economy. This paper differs from previous studies in that it attempts not only to examine the effect of corporate diversification on firm excess value in Malaysia but also to determine firm excess value with different extent of diversification in Malaysia which has not been documented in previous literature.

This paper is organized as follows. Section 2 provides some arguments on corporate diversification and firm value. Section 3 describes the data and methodology. Section 4 contains summary of the results and discussion, and Section 5 concludes.

LITERATURE REVIEW

Corporate diversification is widely alleged to be inefficient as it runs against one of the oldest ideas in economics, that specialisation is productive. A popular explanation for its prevalence is that firms are plagued with imperfection in firm governance (agency problem) that allow managers to enter new businesses (from which they privately benefit) at the expense of shareholders (Matsusaka, 2001). This could be done by enhancing their salary and prestige, to diversify personal risk or secure their job through empire-building, at the expense of shareholders. Incorporating such issues, the conflict-of-interest hypothesis (Jensen & Meckling, 1976; Jensen, 1986) predicts negative (or at least non-positive) returns that stem from managers engaging in diversification that enhance welfare of the management. Morck, Shleifer and Vishny (1990) and Madura and Wiant (1994) found that diversifications aim to pursue personal objectives rather than to maximise firm value lead to overinvestment that is detrimental to the shareholders, while Berger and Ofek (1995) found that corporate diversification increases the use of discretionary resources in value decreasing investments and allows poor segments to drain resources from better-performing segments that are related to lower firm value (see also Lamont & Polk, 2002; Martin & Sayrak, 2003).

On the contrary, benefits of diversification from an efficiency perspective include economies of scale and scope, synergistic gains, higher debt capacity and tax shield from interest. Lewellen (1971) suggested that efficiency and synergistic benefits from diversification should arise mostly in intra-industry, and Rumelt (1974) supported the view that related diversification affects value more positively than unrelated

diversification because sharing of skills and resources in related markets. Lewellen (1971) also suggested that unrelated diversification reduces default risks and increase debt capacity due to the imperfectly correlated earnings and cash flow of various divisions in a diversified firm. The higher debt capacity leads to more interest tax shields and hence higher firm value. Many studies (for example, Klein, 2001; Campa & Kedia, 2002; Villalonga, 2004; Lyandres, 2007) suggest that diversification is positively related to firm value, the evidence is actually not overwhelming. While diversification benefits and hence maximisation of shareholders' wealth have been extensively used to justify diversification activities, the predominant part of existing research is still unable to provide conclusive evidence that expected benefits would indeed be realised and create excess value for the diversifying firms in the end. The dominance of industry-related diversification in the recent 1990s and 2000s merger waves suggests a need to further research on the market-driven diversifications in tandem with the direction of merger program undertaken by the Malaysian banking industry since two decades ago.

DATA AND METHODOLOGY

The sample period 2006 to 2008 was selected to accommodate the latest amendment on FRS 127 – Consolidated and Separate Financial Statements 2006. The major change in FRS 127 is the amended standard requires an entity to present minority interests in the consolidated balance sheet within equity, separately from the parent shareholders' equity which is dissimilar with FRS 127 in year 2004 which precluded presentation of minority interests within liabilities. The sample is drawn from all companies listed in Main Board Bursa Malaysia subject to the following selection criteria,

1. Must be a listed company prior to year 2006.
2. No changes in financial year end during 2006 – 2008.
3. Must not be PN4 and PN17 companies (note: companies will be classified as PN4 and PN17 companies when the external auditors have expressed adverse or disclaimer opinion on their latest audited accounts, facing inability to provide a solvency declaration through Practice Note 1/2001 or due to the suspension or ceased of all or a major part of its operations).
4. Must not be investment holding companies, real estate investment holding companies and financial institutions (due to their nature of business or operation is significantly different from other industries).
5. Must have complete annual reports during the sample period.
6. Sample size of each industry must be larger than 30 companies (to avoid sampling bias).

These selection criteria resulted in a final sample of 603 companies segregated into 7 industries. Details of the relationship between the initial and final sample are provided in Table 1.

Table 1 Selection criteria and final sample included in this study

Total public listed firms in main board	782
(i) Companies listed after year 2006	(30)
(ii) Change of financial accounting period	(19)
(iii) PN4 and PN17 companies	(28)
(iv) Investment holding and financial institutions	(61)
(v) Incomplete annual reports	(8)
(vi) Rejected industries: Mining, Retail trade, Public administration (sample size less than 30)	(33)
Final sample	603

Financial variables such as net sales, earnings before interest and tax (EBIT), book value of total assets, total debt for each sample firm are obtained from the companies' annual reports. Market share price is collected from Datastream database. This study further classify the selected firms into respective industries and determine the number of diversified segments in firms according to the 2-digit SIC codes. To capture the relatedness, Fan and Lang (2000) suggest that if two industries do not share the same two-, three- or four-digit SIC code, they are classified as unrelated and vice versa. In this study, if a firm's segments share the same 2-digit SIC codes, this firm will be classified as single-segmented firm; otherwise, the firm will be classified as multi-segmented firm.

Following Berger and Ofek (1995), the excess value for each sample firm is provided by the actual market value of the firm (measured as market value of equity plus book value of debt) minus total imputed value of that firm's industrial segments measured as stand-alone entities. For a single-segmented firm, the imputed value for that one segment is equivalent to the imputed value of the firm. As such, single-segmented firms within a particular industry are used as benchmark to compute an imputed value measure of the same industrial segment for a multi-segmented firm. The imputed value of each segment of a multi-segmented firm in this study is computed by multiplying the median multiple of total capital to accounting item (assets, sales, or EBIT) of all single-segmented firms in the same industry for that particular year with that segment's level of accounting item (assets, sales, or EBIT). Besides, accounting items such as segment's sales, earnings and asset are used to calculate the sales multiplier (SM), earnings multiplier (EM) and asset multiplier (AM) in order to obtain imputed values and subsequently firm's excess value. The sum of the imputed values of a company's segments estimates the value of the firm if all of its segments are operated as stand-alone businesses. Procedures to compute excess value of a firm is shown by:

$$\text{IMP} = \Sigma\, AI_j \times Ind_j(V/AI)_{median} \qquad I = 1, 2, \ldots \ldots, n \qquad \text{(Eq-1)}$$

$$\text{EXVAL} = \ln V - \ln IMP = \ln (V/IMP) \qquad \text{(Eq-2)}$$

where IMP is total imputed value of all industrial segments of a firm as stand-alone business entities, AI_j is segment j's value of the accounting item for each multiplier approach, $Ind_j(V/AI)_{median}$ is median total capital to accounting item multiple for single-segmented firms in segment j, EXVAL is firm's excess value, V is firm's total capital and n is total number of segments that a firm diversifies into.

FINDINGS

The results in Table 2 show a significant difference between the median of firm excess value in single-segmented and multi-segmented firms over the years except for sales multiplier approach. The differences were only significant in year 2006 and 2007 at -.3650 and -0.2855. Besides, 3 multiplier approaches consistently show that diversification leads to a decrease in firm value. Sales multiplier approach shows an improving trend whereby it improved from -0.3650 in year 2006 to -0.2419 in year 2008. The firm excess value in EBIT and Assets multiplier approach slightly fluctuated over the years at the range of -0.3331 to -0.1517; and -0.2431 to -0.1592 respectively.

Table 2 Median excess values between single- and multi-segmented firms under different approaches

	Sales Multiplier Approach (Median Difference)			EBIT Multiplier Approach (Median Difference)			Assets Multiplier Approach (Median Difference)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
Overall	-.3650*	-.2855*	-.2419	-.3331*	-.1517*	-.2127*	-.1764*	-.2431*	-.1592*
Construction	-.7758	-1.2302*	-.8196*	-.7492	-.2041	-.5874	-.1865	-.5193	-.6319
Transportation	.6507	.0903	.6819	-.2275	.2787	-.2275	-.0725	-.0210	-.2604*
Wholesale	-.7164*	-.1906	-.0168	-3.0144	-.0698	-.3524*	-.4721	.0529	-.2341
Manufacturing	-.3044*	-.1896*	-.2394	-.2953*	-.2881*	-.1311	-.2331*	-.2340	-.0778
Agriculture	-.0563	-.0158	-.1377	.1485	-.1161	-.1563	.0831*	-.0731	.0035
Finance	-.2667	-.3305	.2042	-.1684	.1543	.1745	-.0384	-.1955	.0412
Services	-.0298	.0433	.1048	.0680	-.2197	-.1365	-.4408*	-.4321*	-1.2844*

* Significant at the 5% level, using a Mann-Whitney test.

The differences in median of firm excess value in single-segmented firms and multi-segmented firms of manufacturing industry were significant in year 2006 and 2007 under the 3 multiplier approaches. Similar to overall samples, diversification in manufacturing industry decreases firm value. The negative impact of diversification on firm excess value was gradually reduced over the years in EBIT and Assets multiplier approach. As for sales multiplier approach, the difference in median of firm excess value shifted from -0.3044 to -0.1896 in year 2007, and get worsen in year 2008 at -0.2394.

Wholesales industry shows a significant difference in the median of firm excess value in year 2006 under Sales and EBIT multiplier approach, while the significant difference in year 2008 was only occurred under EBIT multiplier approach. The firm value in year 2006 was momentously decreased due to diversification as sales multiplier approach was at -3.0144. However, the terrible situation recovered drastically in year

2007 where it increased to -0.0698 and slightly decreased to -0.3524 in year 2008. Based on results of Assets multiplier approach, firm values in wholesales industry were not affected by diversification.

As for construction, transportation, agriculture and finance industries, the three multiplier approaches did not indicate any significant trend in the difference in firm excess value when firm diversified. For construction industry, Sales multiplier approach is the only approach which shows a significant difference in year 2006 and 2007. In contrast, only Asset multiplier approach indicated the significant difference in agriculture industry in year 2006 whereby diversification increased assets excess value. Consistent results were designated by all multiplier approaches which concluded that firm excess value in finance industry did not vary due to diversification. Finally, firms in service industry were proven that the assets excess value will be reduced significantly if firms diversified. The trend of changes in assets excess value were -0.4408, -0.4321, and -0.2844 over the years.

Further Kruskal-Wallis results for all multiplier approaches in Table 3(a), 3(b) and 3(c) show that the extent of diversification significantly decreases the firm excess value. For instance, the mean rank of single-segmented firms under EBIT multiplier approach was 348.73 and reduced to 281.66 when firm diversified into two segments, and the lowest mean rank of 263.32 was scored when firm has 3 or more diversified segments. The trend of changes in mean rank of the grouping variables over the sample period was generally stable and no drastic changes in all industries.

Table 3(a) The extent of diversification under Sales multiplier approach

		Overall	Construction	Transportation	Wholesale	Manufacturing	Agriculture	Finance	Services
Year 2006									
Mean Rank	1 segment	334.39*	36.00	23.95	29.00*	171.74*	15.90	36.39	20.38
	2 segments	289.90*	31.63	25.50	24.55*	144.00*	17.00	29.43	17.00
	> 3 segments	273.49*	26.70	26.00	16.72*	134.01*	18.10	39.74	20.83
Year 2007									
Mean Rank	1 segment	329.73*	40.60	24.67	24.78	164.74	16.00	37.50	20.39
	2 segments	291.46*	29.87	26.53	26.27	142.14	16.36	32.17	20.86
	> 3 segments	276.93*	25.97	23.77	18.75	147.28	18.80	38.00	19.07
Year 2008									
Mean Rank	1 segment	316.26	42.90*	24.57	24.37	160.72	15.11	31.56	20.22
	2 segments	297.65	26.94*	26.73	24.22	144.39	18.00	38.00	20.00
	> 3 segments	288.52	26.58*	23.69	20.82	152.30	17.46	36.82	19.69

* Significant at the 5% level based on Kruskal-Wallis.

Table 3(b) The extent of diversification under EBIT multiplier approach

		Overall	Construction	Transportation	Wholesale	Manufacturing	Agriculture	Finance	Services
Year 2006									
Mean Rank	1 segment	348.73*	34.67	28.90*	37.25*	173.22*	14.40	44.81	19.62
	2 segments	281.66*	34.06	17.44*	17.36*	151.15*	17.23	30.14	17.00
	> 3 segments	263.32*	25.88	28.31*	13.78*	123.70*	19.30	35.47	22.17
Year 2007									
Mean Rank	1 segment	322.88*	31.40	27.62	25.22	173.15*	15.56	36.56	18.50
	2 segments	296.89*	31.53	24.27	24.55	142.18*	17.36	37.30	17.71
	> 3 segments	280.85*	28.00	21.62	19.44	131.68*	17.80	34.78	20.07
Year 2008									
Mean Rank	1 segment	327.81*	38.20	29.10	27.89	164.30	16.44	35.38	23.56
	2 segments	299.69*	24.06	24.60	20.22	149.09	19.27	43.32	18.88
	>3 segments	273.42*	29.68	18.85	19.00	142.12	15.46	31.42	15.77

* Significant at the 5% level based on Kruskal-Wallis.

Table 3(c) The extent of diversification under Assets multiplier approach

		Overall	Construction	Transportation	Wholesale	Manufacturing	Agriculture	Finance	Services
Year 2006									
Mean Rank	1 segment	340.50*	38.44	27.15	16.94	170.46*	16.70	43.81	23.76*
	2 segments	296.74*	32.75	25.19	25.18	147.73*	17.08	35.86	11.00*
	> 3 segments	260.38*	25.48	21.46	18.17	132.41*	17.20	32.41	17.92*
Year 2007									
Mean Rank	1 segment	340.71*	38.30	26.76	23.22	170.00*	16.78	44.56	24.28
	2 segments	290.87*	25.53	25.33	28.00	148.51*	15.50	34.65	12.43
	> 3 segments	264.12*	28.64	21.77	19.31	131.49*	19.30	32.69	18.29
Year 2008									
Mean Rank	1 segment	327.37*	38.70*	27.00	25.00	160.23	16.17	36.88	24.39
	2 segments	301.27*	21.76*	25.67	23.00	156.95	17.73	42.82	16.13
	> 3 segments	272.58*	30.77*	21.00	29.59	142.50	16.90	31.03	16.31

* Significant at the 5% level based on Kruskal-Wallis

In manufacturing industry, the firm excess value significantly decrease when firm expands its diversified segments. Sales multiplier approach showed a significant difference in year 2006, while EBIT and Assets multiplier approaches indicated the same results in year 2006 and 2007. Approximately, the mean rank of sales, EBIT and assets excess value will decrease for 30 points when firm invests in additional segments. In year 2008, firms in construction industry experienced a significant different in sales and assets excess value when firms extended their diversification. However, EBIT multiplier approach was inconsistent with the other two multipliers as its indication was the extent of diversification does not have significant impact on firm excess value.

As for transportation industry, there was no significant difference in firm excess value among firms from different extent of diversification over the years, except for the result of EBIT multiplier approach. In contrast, EBIT multiplier approach showed a significant difference in year 2006 where single-segmented firm mean rank was 28.9, 2 segmented firm was 17.44 and the mean rank rebounded to 28.31 when firm diversified in 3 segments and above. In year 2006, firms in wholesale industry were significantly affected by the extent of diversification under sales and EBIT approach. The results showed that the more wholesale firms diversified, the lesser excess value they comprised. Service industry also showed a significant difference in firm excess value when firm further diversified in year 2006 under assets multiplier approach (1 segment: 23.76; 2 segments: 11.00; 3 segments and above: 17.92).

Lastly, similar results were shown under 3 multiplier approaches that agriculture, finance and service industries were not significantly affected by the extent of diversification over the years.

CONCLUSION

This study concludes that there is a significant difference in firm excess value between single-segmented firms and multi-segmented firms in Malaysia. Although majority industries show that the difference in excess value between single-segmented firms and multi-segmented firms is not significant, except for manufacturing industry which showed a consistent result with the overall sample. This may due to the percentage of samples in manufacturing industry in overall sample is more than 51 percent and hence the effect of other minor industries in overall sample may not be statistically robust. The finding is consistent with Markides and Williamson (1994), Berger and Ofek (1995), and Lane, Cannella and Lubatkin (1998) which found that diversification destroys firm value due to misallocation of resources and agency conflict. Further finding in this study is consistent with Rajan, Servaes and Zingales (2000) which indicate that the extent of diversification has significant differences in excess value among firms with different extent of diversification. This study concludes that the more segments the firm in Malaysia diversifies, the lower the firm value it has. In other words, single-segmented firms in Malaysia perform better than multi-segmented firms as diversification does not add value to the Malaysian firms. This study therefore suggests the Malaysian firms to invest surplus fund in their core business operations and better for Malaysian investors to invest in portfolio consists of single-segmented firms.

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