

Chapter 4

Empirical results and hypotheses testing

This chapter presents empirical results of statistical analysis for the hypotheses developed in Chapter 2. It begins with the final sample size for analysis in Section 4.1 and the results from descriptive analysis in Section 4.2. This is followed by reports on the results of the ordinary least squares regression analysis in Section 4.3. This section also includes an assumption for statistical tests. Finally, the results of the hypotheses testing are discussed in Section 4.4.

4.1 The final sample size for analysis

As discussed in Chapter 3 (Section 3.1), 389 non-financial companies listed on the Stock Exchange of Thailand (SET) are determined to be the sample of the study. The data from these companies are collected for the period 2005 – 2007. After considering any missing data, the final sample firms that have a complete data on the variables consist of 220 non - financial companies, belonging to 7 industries which include agro & food industry (29), consumer products (19), industrials (42), property & construction (42), resources (14), services (52), and technology (22). The details of the sample classified by the industry type are described in Table 4.1. This figure (220 companies) represents 56% of the 389 non-financial listed companies on the Stock Exchange of Thailand during the period 2005 – 2007. The study rechecks the sample size for analysis and finds that based on the assumptions of multiple regression analysis, the number of sample firms for eight independent variables (including one control variable) in the multiple regression model should be 114 firms (Tabachnick and Fidell 2001; Field 2005). Thus, the final sample firms of the study, 220 companies are still sufficient for testing the proposed research model.

Table 4.1: Sample firms as classified by industry type

| Industry | No. of firms | Firms missing data | sample firms | Percent |
|----------------------------|--------------|--------------------|--------------|-------------|
| 1. Agro & food industry | 44 | 15 | 29 | 13% |
| 2. Consumer products | 41 | 22 | 19 | 9% |
| 3. Industrials | 69 | 27 | 42 | 19% |
| 4. Property & construction | 89 | 47 | 42 | 19% |
| 5. Resources | 24 | 10 | 14 | 6% |
| 6. Services | 85 | 33 | 52 | 24% |
| 7. Technology | <u>37</u> | <u>15</u> | <u>22</u> | <u>10%</u> |
| Total | 389 | 169 | 220 | 100% |

4.2 Descriptive results

4.2.1 The dependent variable

According to Table 4.2 which shows minimum, maximum, mean book and market values, and standard deviation of total debt ratio of total sample firms (220 companies), it can be seen that mean book value (38.66%) and mean market value (34.21%) of total debt ratio are not much different. Also, maximum book and market values and standard deviation of total debt ratio are nearly at the same range except minimum book and market values. The minimum of book and market values is around 0.25% - 1.57 %, their maximum is during 84% - 88% and their standard deviation is 19% approximately.

Table 4.2: Minimum, maximum, mean and standard deviation of book and market values of total debt ratio of total sample firms (220 companies)

| Items | N | Minimum | Maximum | Mean | Std. Deviation |
|-------------------------|-----|---------|---------|-------|----------------|
| Debt ratio-book value | 220 | .25 | 87.54 | 38.66 | 19.08 |
| Debt ratio-market value | 220 | 1.57 | 84.65 | 34.21 | 19.76 |

In Figure 4.1 and Table 4.3, the study classifies a non - financial company's total debt ratio into each industry type following industry classification by the Stock exchange of Thailand (SET) and finds that mean value of firms in all industry types (see

figure 4.1) is less than 50%. This means that on average, sample firms in the study have low total debt ratio. However, minimum and maximum values in each industry type (see Table 4.3) show that although the majority of firms use less debt financing for their business operations, some of them have high total debt ratio. It can be seen that there is the maximum value of total debt ratio (over 50%) being in all industry types and the value of total debt ratio over 65% is found in 4 industry types – Agro & food, industrials, property, services and technology. The highest book value (87.54%) is in services industry and the highest market value (84.65%) is in agro & food industry. Additionally, its minimum value (less than 20%) is in all industry types as well and the lowest value (only .25%) is in services industry.

Figure 4.1: Mean book and market values of total debt ratio of sample firms in each industry

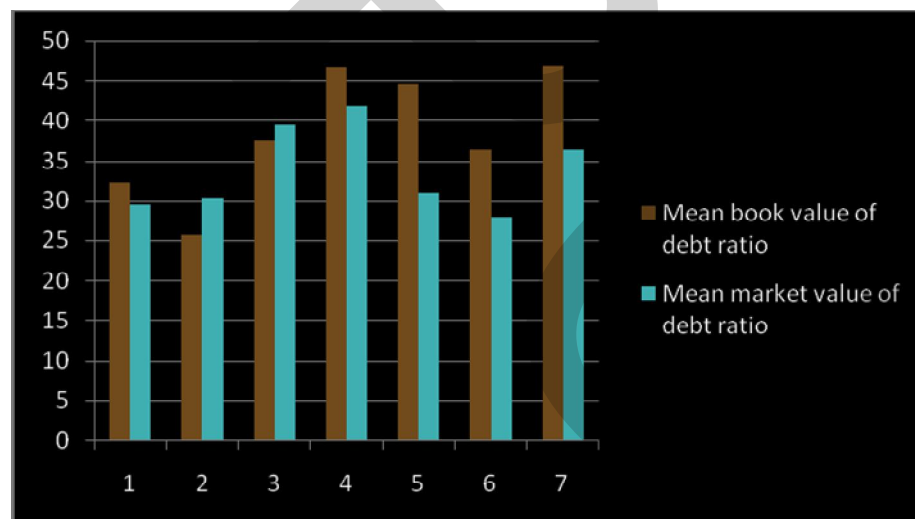


Table 4.3: Minimum, maximum, mean and standard deviation of book and market values of total debt ratio of sample firms in each industry

| Items in each industry | N | Minimum | Maximum | Mean | Std. Deviation |
|-----------------------------|----|---------|---------|-------|----------------|
| 1. Agro & food | | | | | |
| Debt ratio –book value | 29 | 6.07 | 77.76 | 32.26 | 20.58 |
| Debt ratio – market value | 29 | 3.27 | 84.65 | 29.51 | 22.44 |
| 2. Consumer products | | | | | |
| Debt ratio –book value | 19 | 8.38 | 48.67 | 25.60 | 12.80 |
| Debt ratio – market value | 19 | 7.53 | 63.79 | 30.23 | 19.51 |
| 3. Industrials | | | | | |
| Debt ratio –book value | 42 | 6.38 | 71.30 | 37.58 | 16.18 |
| Debt ratio – market value | 42 | 6.45 | 75.12 | 39.49 | 18.08 |
| 4. Property | | | | | |
| Debt ratio –book value | 42 | 4.88 | 70.15 | 46.60 | 16.19 |
| Debt ratio – market value | 42 | 5.56 | 78.69 | 41.88 | 18.59 |
| 5. Resources | | | | | |
| Debt ratio –book value | 14 | 17.19 | 61.55 | 44.55 | 14.31 |
| Debt ratio – market value | 14 | 10.46 | 60.17 | 30.86 | 15.50 |
| 6. Services | | | | | |
| Debt ratio –book value | 52 | .25 | 87.54 | 36.43 | 21.68 |
| Debt ratio – market value | 52 | 1.57 | 76.14 | 27.85 | 19.24 |
| 7. Technology | | | | | |
| Debt ratio –book value | 22 | 4.54 | 73.26 | 46.75 | 18.93 |
| Debt ratio – market value | 22 | 1.62 | 74.29 | 36.31 | 19.61 |

4.2.2 Independent variables

As specified in Chapter 3 (Section 3.2.2), the independent variables of the study are specific firm characteristics. They include firm size, liquidity, fixed assets, profitability, financial risk, dividend policy and firm growth. Their details are described as follows.

4.2.2.1 Firm size

Table 4.4 presents minimum, maximum and mean values including standard deviation of sample firms' size in all and each industry. According to the descriptive results in Panel A of Table 4.4, sizes of sample firms are large. The mean value of total sample firms' size is 18,621.52 million baht. The figures in Panel B of table 4.4 shows that the company having the maximum size (892,351.46 million baht) is in resources industry and the company having the minimum size (358.47 million baht) is in agro & food industry. Figure 4.2 also presents mean size of sample firms in each industry. It discloses that on average, firm size in resources industry are the largest size (115,151.06 million baht) followed by firm size in services (16,518.72 million baht), property (14,647.35 million baht) and technology (12,253.51 million baht), respectively and the smallest mean size is in consumer products (4,333.13 million baht). This can be concluded that companies in resources industry are large in size.

Table 4.4: Minimum, maximum and mean values including standard deviation of size of sample firms in all and each industry

Panel A: Minimum, maximum and mean values including standard deviation of size of sample firms in all industry

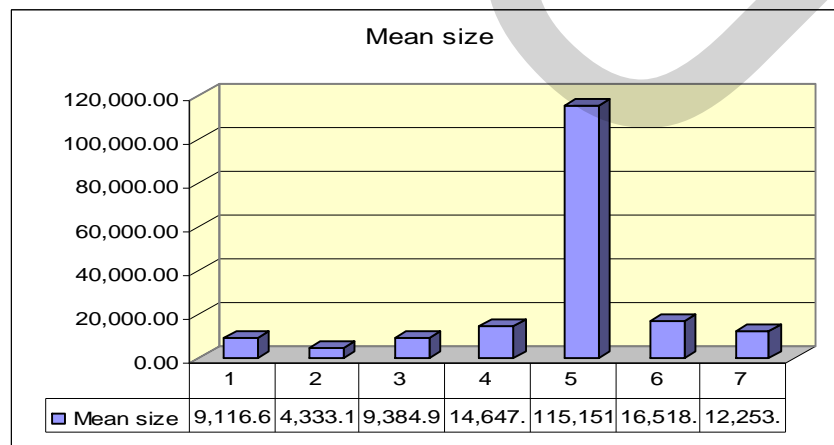
| Items | N | Minimum | Maximum | Mean | Std. Deviation |
|-------|-----|---------|------------|-----------|----------------|
| Size | 220 | 358.47 | 892,351.46 | 18,621.52 | 68,926.82 |

Table 4.4: (continued)

Panel B: Minimum, maximum and mean values including standard deviation of size of sample firms in each industry

| Items in each industry | N | Minimum | Maximum | Mean | Std. Deviation |
|---------------------------|----|----------|------------|------------|----------------|
| 1. Agro & food | 29 | 358.47 | 102,545.71 | 9,116.68 | 19,428.55 |
| 2. Consumer products | 19 | 470.06 | 20,041.19 | 4,333.13 | 4,802.86 |
| 3. Industrials | 42 | 532.51 | 133,513.54 | 9,384.96 | 21,658.01 |
| 4. Property | 42 | 820.95 | 248,256.03 | 14,647.35 | 38,041.97 |
| 5. Resources | 14 | 2,531.94 | 892,351.46 | 115,151.06 | 231,530.77 |
| 6. Services | 52 | 378.47 | 280,275.32 | 16,518.70 | 43,205.14 |
| 7. Technology | 22 | 703.28 | 128,941.65 | 12,253.51 | 28,024.84 |

Figure 4.2: Mean size of sample firms in each industry



Note: Firm size is measured by the book value of total assets in million baht.

4.2.2.2 Liquidity

Table 4.5 presents minimum, maximum and mean values including standard deviation of sample firms' liquidity in all and each industry. According to the descriptive results in Panel A of Table 4.5, the mean value of total sample firms' liquidity as measured by the current ratio is 2.59 times, the maximum value is 34.63 times and the minimum value is .08 times. Panel B of table 4.5 points that the maximum value (34.63) and the minimum value (.08) are in the same industry (service industry) and the mean value of liquidity in each industry is rather high (more than 2.00 times). As well as Panel B of table 4.5, Figure 4.3 shows that the higher mean value of liquidity (more than 2.5 times) is in agro & food (3.07), followed by its mean value in consumer products (2.96 times), property (2.71 times) and service (2.68). This indicates that companies with high liquidity in this study have the ability to pay their current obligations in time and when they become due.

Table 4.5: Minimum, maximum and mean values including standard deviation of liquidity of sample firms in all and each industry

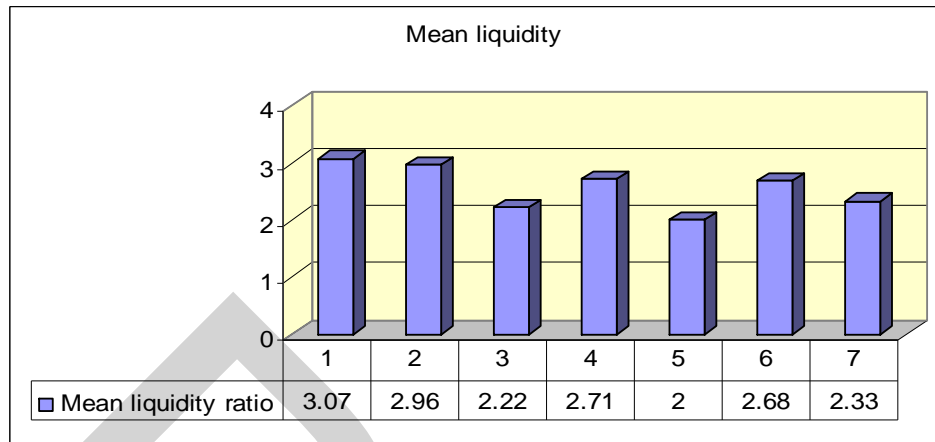
Panel A: Minimum, maximum and mean values including standard deviation of liquidity of sample firms in all industry

| Items | N | Minimum | Maximum | Mean | Std. Deviation |
|-----------|-----|---------|---------|------|----------------|
| Liquidity | 220 | .08 | 34.63 | 2.59 | 3.18 |

Panel B: Minimum, maximum and mean values including standard deviation of liquidity of sample firms in each industry

| Items in each industry | N | Minimum | Maximum | Mean | Std. Deviation |
|---------------------------|----|---------|---------|------|----------------|
| 1. Agro & food | 29 | .64 | 15.31 | 3.07 | 3.20 |
| 2. Consumer products | 19 | .86 | 6.37 | 2.96 | 1.53 |
| 3. Industrials | 42 | .85 | 9.51 | 2.22 | 1.81 |
| 4. Property | 42 | .52 | 11.14 | 2.71 | 2.38 |
| 5. Resources | 14 | 1.09 | 4.22 | 2.00 | .96 |
| 6. Services | 52 | .08 | 34.63 | 2.68 | 5.08 |
| 7. Technology | 22 | .73 | 14.29 | 2.33 | 2.81 |

Figure 4.3: Mean liquidity of sample firms in each industry



Note: Liquidity is measured by the current ratio.

4.2.2.3 Fixed assets

Table 4.6 presents minimum, maximum and mean values including standard deviation of the percentage of fixed assets to total assets of sample firms in all and each industry. The descriptive results in Panel A of Table 4.6 show that the mean value of fixed assets of total sample firms is 50.73% but its maximum value is very high (99.16%). However, there is still the company that has the low percentage of fixed assets. It can be seen that the lowest value is only 2.48%. In addition, Panel B of table 4.6 indicates that the mean value of fixed assets of companies in each industry is during 30% - 67%. Panel B of table 4.6 and Figure 4.4 also explain that there are three industries that have the mean value of the proportion of fixed assets more than 50% - services (66.02%), resources (60.81%) and agro & food (54.83%) and there are three industries that have the mean value of the proportion of fixed assets less than 50% but more than 40% - industrials (47.65%), consumer products (46.11%) and property (41.47%). It is surprising that companies in technologies have the mean value of the proportion of fixed assets is the lowest (only 30.35%). This means that some companies in technologies which have low values of fixed assets may choose more debt financing to avoid the information asymmetric problem when they need external funds (Frank and Goyal, 2004; Mazur, 2007).

Table 4.6: Minimum, maximum and mean values including standard deviation of the percentage of fixed assets of sample firms in all and each industry

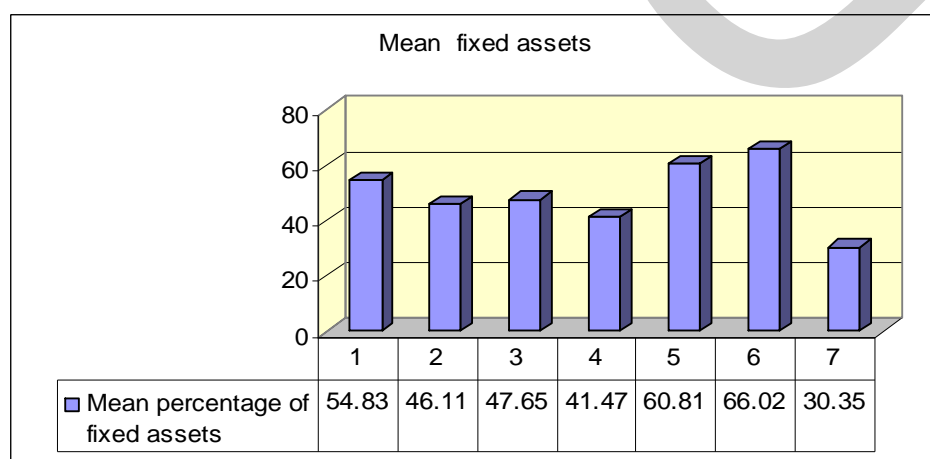
Panel A: Minimum, maximum and mean values including standard deviation of the percentage of fixed assets of sample firms in all industry

| Items | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------|-----|---------|---------|-------|----------------|
| Fixed assets | 220 | 2.48 | 99.16 | 50.73 | 22.86 |

Panel B: Minimum, maximum and mean values including standard deviation of the percentage of fixed assets of sample firms in each industry

| Items in each industry | N | Minimum | Maximum | Mean | Std. Deviation |
|---------------------------|----|---------|---------|-------|----------------|
| 1. Agro & food | 29 | 24.18 | 99.16 | 54.83 | 21.08 |
| 2. Consumer products | 19 | 5.80 | 71.18 | 46.11 | 17.30 |
| 3. Industrials | 42 | 14.17 | 74.60 | 47.65 | 16.91 |
| 4. Property | 42 | 2.48 | 93.93 | 41.47 | 25.92 |
| 5. Resources | 14 | 30.84 | 83.65 | 60.81 | 15.49 |
| 6. Services | 52 | 16.22 | 98.33 | 66.02 | 19.64 |
| 7. Technology | 22 | 2.97 | 84.03 | 30.35 | 18.26 |

Figure 4.4: Mean fixed assets of sample firms in each industry



Note: Fixed assets are measured by the percentage of fixed assets to total assets.

4.2.2.4 Profitability

Table 4.7 presents minimum, maximum and mean values including standard deviation of sample firms' profitability in all and each industry type. The descriptive results in Panel A of Table 4.7 show that the mean value of total sample firms' profitability as measured by the return on assets (ROA) ratio is 11.75%. Although the maximum value of profitability rises to 42.72%, its minimum value is only 0.23%. Panel B of table 4.7 points out that the mean values of profitability of firms in each industry are during 9% - 15% and the maximum (42.72%) and minimum (0.23%) values are in the same industry (service industry). Figure 4.5 also expresses that the mean values of company profitability in three industries – resources (15.19%), agro & food (13.20%) and services (12.98%) are more than the mean value of profitability of total sample firms (11.75%) whereas its mean values of companies in industrials (10.98%), property (9.78%), consumer products (8.94%) are less than its mean value of total sample firms (11.75%). This means that the abilities of sample companies to generate profits are mixed – Some companies have high profits and others have low profits. Nevertheless, there are not any companies having negative profits found in this study.

Table 4.7: Minimum, maximum and mean values including standard deviation of profitability of sample firms in all and each industry type

Panel A: Minimum, maximum and mean values including standard deviation of profitability of sample firms in all industry

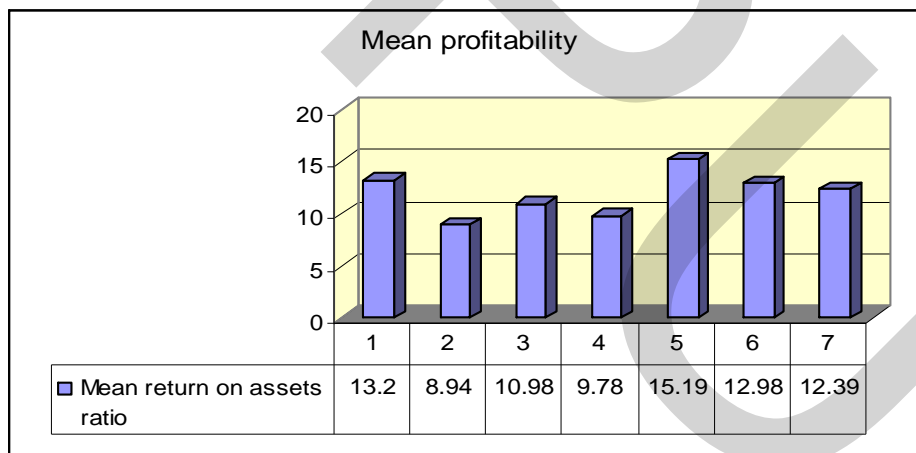
| Items | N | Minimum | Maximum | Mean | Std. Deviation |
|---------------|-----|---------|---------|-------|----------------|
| Profitability | 220 | .23 | 42.72 | 11.75 | 7.10 |

Table 4.7: (continued)

Panel B: Minimum, maximum and mean values including standard deviation of profitability of sample firms in each industry

| Items in each industry type | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------------------|----|---------|---------|-------|----------------|
| 1. Agro & food | 29 | 1.35 | 34.93 | 13.20 | 8.73 |
| 2. Consumer products | 19 | .74 | 17.55 | 8.94 | 4.86 |
| 3. Industrials | 42 | .79 | 24.37 | 10.98 | 5.83 |
| 4. Property | 42 | 1.83 | 28.36 | 9.78 | 6.22 |
| 5. Resources | 14 | 5.60 | 30.06 | 15.19 | 6.52 |
| 6. Services | 52 | .23 | 42.72 | 12.98 | 8.57 |
| 7. Technology | 22 | 4.66 | 27.47 | 12.39 | 5.14 |

Figure 4.5: Mean profitability of sample firms in each industry



Note: Profitability is measured by the return on assets (ROA) ratio.

4.2.2.5 Financial risk

Table 4.8 presents minimum, maximum and mean values including standard deviation of sample firms' financial risk in all and each industry type. The descriptive results in Panel A of Table 4.8 show that in overview, its maximum value (999,999.90

times) and mean value (66,729.94 times) as measured by the interest coverage ratio are very high but its minimum value is only 0.20 times. Panel B of table 4.8 and Figure 4.6 also show that in each industry type, its mean values are very high (17.82 times – 139,006.26 times). This shows that most of sample companies in various industries in the study have high interest coverage ratio which mean that they have high abilities to pay interest on outstanding debts. However, it can be seen in Panel B of table 4.8 that there are still some companies in two industries (resources and services) having interest coverage ratio below 1 times (0.41 times and 0.20 times, respectively) which means that they have high risk for debt financing.

Table 4.8: Minimum, maximum and mean values including standard deviation of financial risk of sample firms in all and each industry type

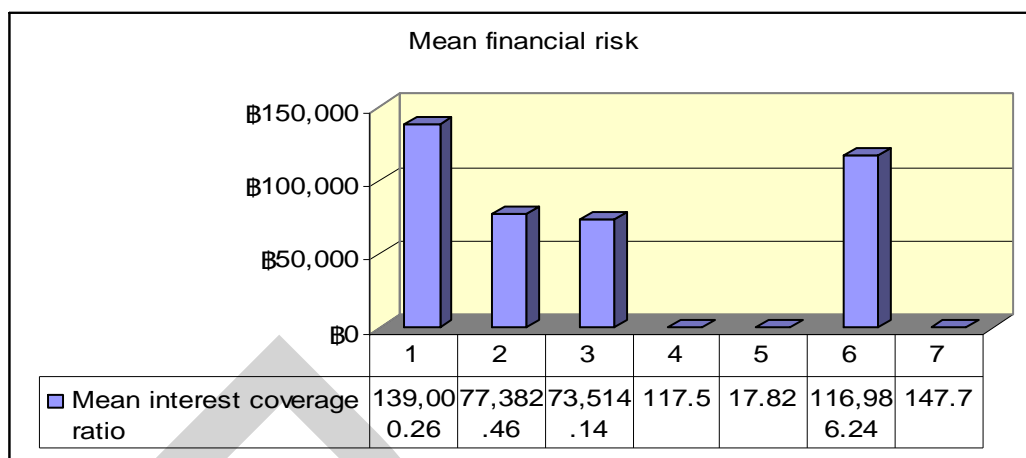
Panel A: Minimum, maximum and mean values including standard deviation of financial risk of sample firms in all industry

| Items | N | Minimum | Maximum | Mean | Std. Deviation |
|----------------|-----|---------|------------|-----------|----------------|
| Financial risk | 220 | .20 | 999,999.90 | 66,729.94 | 244,808.80 |

Panel B: Minimum, maximum and mean values including standard deviation of financial risk of sample firms in each industry

| Items in each industry type | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------------------|----|---------|------------|------------|----------------|
| 1. Agro & food | 29 | 1.33 | 999,999.99 | 139,000.26 | 350510.74 |
| 2. Consumer products | 19 | 3.85 | 999,999.99 | 77,382.46 | 234,019.89 |
| 3. Industrials | 42 | 1.37 | 999,999.99 | 73,514.14 | 260,179.04 |
| 4. Property | 42 | 1.23 | 1,979.17 | 117.52 | 362.99 |
| 5. Resources | 14 | .41 | 78.13 | 17.82 | 24.26 |
| 6. Services | 52 | .20 | 999,999.99 | 116,986.24 | 322,084.29 |
| 7. Technology | 22 | 3.19 | 1,155.70 | 147.66 | 337.33 |

Figure 4.6: Mean financial risk of sample firms in each industry



Note: Financial risk is measured by the interest coverage ratio.

4.2.2.6 Dividend policy

Table 4.9 presents minimum, maximum and mean values including standard deviation of sample firms' dividend policy in all and each industry type. The descriptive results in Panel A of Table 4.9 show that in all industry, the maximum, mean and minimum values of dividend policy as measured by the dividend payout ratio are 20.41%, 5.50% and 0.11%, respectively. Panel B of table 4.9 and Figure 4.7 document that the mean values of dividend policy in each industry are during 4.26% - 6.46%. The lowest mean value (4.26%) is in service industry and the highest mean value (6.46%) is in technology industry. Panel B of table 4.9 also discloses that the first three ranks of maximum payout ratio are in technology (20.41%), property (16.67%) and industrials (14.12%) whereas the last three ranks of minimum payout ratio are in agro & food (0.11%), services (0.44%) and property (0.90%). It can be seen that the dividend payout ratios of sample companies are mixed between low and high ratios.

Table 4.9: Minimum, maximum and mean values including standard deviation of dividend policy of sample firms in all and each industry type

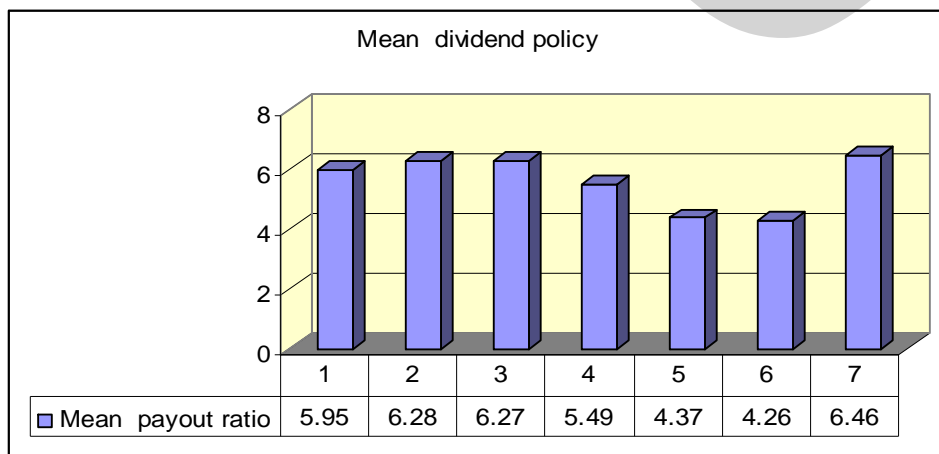
Panel A: Minimum, maximum and mean values including standard deviation of dividend policy of sample firms in all industry

| Items | N | Minimum | Maximum | Mean | Std. Deviation |
|-----------------|-----|---------|---------|------|----------------|
| Dividend policy | 220 | .11 | 20.41 | 5.50 | 3.31 |

Panel B: Minimum, maximum and mean values including standard deviation of dividend policy of sample firms in each industry

| Items in each industry type | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------------------|----|---------|---------|------|----------------|
| 1. Agro & food | 29 | .11 | 13.27 | 5.95 | 3.21 |
| 2. Consumer products | 19 | 2.00 | 10.17 | 6.28 | 2.48 |
| 3. Industrials | 42 | 1.53 | 14.12 | 6.27 | 3.41 |
| 4. Property | 42 | .90 | 16.67 | 5.49 | 3.38 |
| 5. Resources | 14 | 1.21 | 13.87 | 4.37 | 3.39 |
| 6. Services | 52 | .44 | 9.01 | 4.26 | 2.09 |
| 7. Technology | 22 | .83 | 20.41 | 6.46 | 4.97 |

Figure 4.7: Mean dividend policy of sample firms in each industry



Note: Dividend policy is measured by the payout ratio.

4.2.2.7 Firm growth

Table 4.10 presents minimum, maximum and mean values including standard deviation of sample firms' firm growth in all and each industry type. The descriptive results in Panel A of Table 4.10 show that in all industry, the maximum, mean and minimum values of firm growth as measured by the growth rate of earnings after taxes (EAT) are 3,332.94%, 52.27% and -114.96%, respectively. It can be seen that there are difference in growth rates of sample companies - some companies are positively growing but others are negatively growing. Panel B of table 4.10 and figure 4.8 express that the company mean value in each industry is a positive growth ratio (around 13.63% - 91.01%) except the mean value of companies in consumer products shows a negative growth ratio (-14.66%). Additionally, when look at the minimum value, companies in each industry have a high number of negative ratios (-65.27% - -114.96%). It can be seen that the first three ranks of maximum growth ratio are in property (3,332.94%), industrials (2,907.85%) and agro & food (2,346.40%) and the last three ranks of minimum growth rate are in consumer products (-114.96%), industrials (-98.26%) and agro & food (-81.38%). This can be concluded that firm growth of sample companies are mixed between negative and positive ratios.

Table 4.10: Minimum, maximum and mean values including standard deviation of firm growth of sample firms in all and each industry type

Panel A: Minimum, maximum and mean values including standard deviation of firm growth of sample firms in all industry

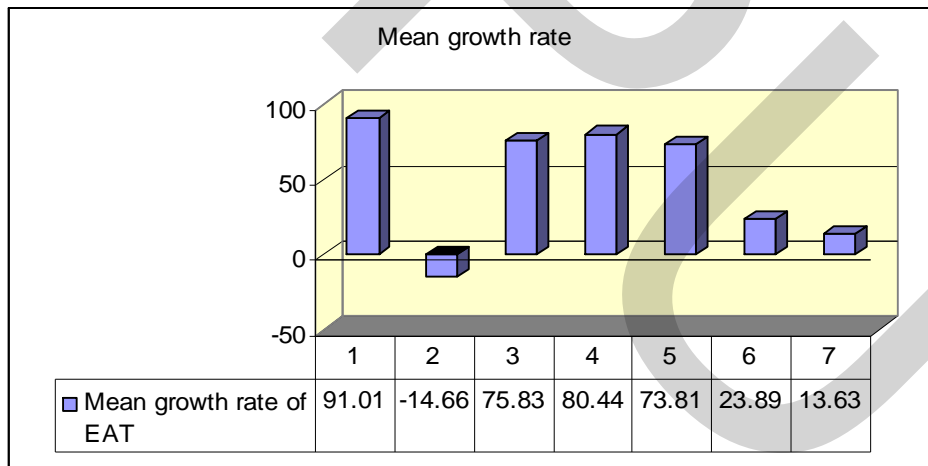
| Items | N | Minimum | Maximum | Mean | Std. Deviation |
|-------------|-----|---------|----------|-------|----------------|
| Growth rate | 220 | -114.96 | 3,332.94 | 52.27 | 346.30 |

Table 4.10: (continued)

Panel B: Minimum, maximum and mean values including standard deviation of
firm growth of sample firms in each industry

| Items in each industry type | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------------------|----|---------|----------|--------|----------------|
| 1. Agro & food | 29 | -81.38 | 2,346.40 | 91.01 | 438.57 |
| 2. Consumer products | 19 | -114.96 | 116.43 | -14.66 | 50.91 |
| 3. Industrials | 42 | -98.26 | 2,907.85 | 75.83 | 451.20 |
| 4. Property | 42 | -86.02 | 3,332.94 | 80.44 | 517.79 |
| 5. Resources | 14 | -65.27 | 802.04 | 73.81 | 215.74 |
| 6. Services | 52 | -89.66 | 412.88 | 23.89 | 98.12 |
| 7. Technology | 22 | -71.17 | 262.64 | 13.63 | 78.56 |

Figure 4.8: Mean firm growth of sample firms in each industry



Note: Firm growth is measured by the growth rate of earnings after taxes (EAT).

In addition, the study examines a number of companies with criteria of each independent variable in Table 4.11 and finds that the following results of variables in the sample.

First – firm size, there are 183 companies (83.20%) having firm size below mean (18,621.52 million baht) and only 16 companies (16.80%) have firm size above mean.

Second - liquidity, 185 companies (84.10%) have appropriate liquidity ratios (more than 1) whereas 35 companies (15.90%) have low liquidity ratios (less than 1).

Third – fixed assets, 114 companies (51.80%) have high percentage of fixed assets to total assets (more than 50%) and 106 companies (48.20%) have low percentage of fixed assets to total assets (less than 50%).

Fourth - profitability, 92 companies (41.82%) have return on assets ratios more than mean value (11.75%) and 128 companies (58.18%) have return on assets ratios less than mean value.

Fifth – financial risk, 218 companies (99.10%) have low financial risk (the interest coverage ratio more than 1) and only 2 companies (0.90%) have high financial risk (the interest coverage ratio less than 1).

Sixth – dividend policy, 94 companies (42.73%) pay dividends in a high ratio (more than mean ratio, 5.50%) and 126 companies (57.27%) pay dividends in a ratio less than a mean ratio.

Seventh – growth rate, 112 companies (50.91%) have positive growth rates and 108 companies (49.09%) have negative growth rates.

Table 4.11: A number of companies with criteria of each variable

| Variables | Companies with criteria of each variable | | Total |
|------------------------|--|-----------------------------------|------------|
| Specific firm factors: | | | |
| | <u>Value below mean</u> | <u>Value above mean</u> | |
| 1. Firm size | 183 (83.20%) | 37 (16.80%) | 220 (100%) |
| | <u>Ratio less than 1</u> | <u>Ratio more than 1</u> | |
| 2. Liquidity | 35 (15.90%) | 185 (84.1%) | 220 (100%) |
| | <u>Ratio less than 50%</u> | <u>Ratio more than 50%</u> | |
| 3. Fixed assets | 106 (48.20%) | 114 (51.80%) | 220 (100%) |
| | <u>Ratio less than mean ratio</u> | <u>Ratio more than mean ratio</u> | |
| 4. Profitability | 128 (58.18%) | 92 (41.82%) | 220 (100%) |
| | <u>Ratio less than 1</u> | <u>Ratio more than 1</u> | |
| 5. Financial risk | 2 (0.90%) | 218 (99.10%) | 220 (100%) |
| | <u>Ratio less than mean ratio</u> | <u>Ratio more than mean ratio</u> | |
| 6. Dividend policy | 126 (57.27%) | 94 (42.73%) | 220 (100%) |
| | <u>Negative growth rate</u> | <u>Positive growth rate</u> | |
| 7. Growth rate | 108 (49.09%) | 112 (50.91%) | 220 (100%) |

4.2.3 The control variable

Following Section 3.2.3 in chapter 3, the study uses the book value of total debt ratio as a dummy variable (1,0) that equals one if firms have the percentage of the total debt ratio greater than 50%, and zero if firms have the percentage of the total debt ratio less than 50%. The results in Table 4.12 show that in total (220 companies), a number of companies that have book value of total debt ratio less than 50% are 150 (68.18%) and a number of companies that have book value of total debt ratio more than 50% are 70 (31.82%). When separating into each industry, the results document that in all

industry, there are more companies with total debt ratio less than 50% than companies with total debt ratio more than 50%. In agro & food (29 companies), 19 companies have total debt ratio less than 50% and 10 companies have total debt ratio more than 50%. In consumer products (19 companies, all companies have total debt ratio less than 50%. In industrials (42 companies), 33 companies have total debt ratio less than 50% and 9 companies have total debt ratio more than 50%. In property (42 companies), 22 companies have total debt ratio less than 50% and 20 companies have total debt ratio more than 50%. In resources (14 companies), 8 companies have total debt ratio less than 50% and 6 companies have total debt ratio more than 50%. In services (52 companies), 37 companies have total debt ratio less than 50% and 15 companies have total debt ratio more than 50%. Lastly, in technology (22 companies), 12 companies have total debt ratio less than 50% and 10 companies have total debt ratio more than 50%. This can be concluded that more than 50% of listed companies in the sample have low percentage of total debt ratio.

Table 4.12: Numbers of companies in each industry having total debt ratio in book value less and more than 50%

| Industry type | Total number of companies | Book value of Debt ratio | |
|------------------|---------------------------|--------------------------|---------------|
| | | Less than 50% | More than 50% |
| Agro & food | 29 | 19 | 10 |
| Consumer product | 19 | 19 | 0 |
| Industrials | 42 | 33 | 9 |
| Property | 42 | 22 | 20 |
| Resources | 14 | 8 | 6 |
| Services | 52 | 37 | 15 |
| Technology | 22 | 12 | 10 |
| Total | 220(100%) | 150 (68.18%) | 70 (31.82%) |

4.3 The results of the ordinary least squares regression analysis

4.3.1 Assumption for statistical tests

The following section describes the main assumptions of multiple regression before analysis.

4.3.1.1 Normal distribution

To check the distribution of continuous variables (Coakes, 2005), mean, median, standard deviations and skewness of each variable are computed. As can be seen in Table 4.13, large difference between the mean and median of these continuous variables suggests that they were not normally distributed.

Table 4.13: Descriptive statistics of continuously independent variables before transformation

| | N | | Mean | Median | Std. Deviation | Skewness | Kurtosis |
|-------|-------|---------|------------|-----------|----------------|----------|----------|
| | Valid | Missing | | | | | |
| SIZE | 220 | 0 | 18621.5285 | 3660.2350 | 68926.82057 | 9.995 | 120.072 |
| LIQD | 220 | 0 | 2.5991 | 1.7250 | 3.18170 | 5.742 | 48.696 |
| FASST | 220 | 0 | 50.7385 | 50.8800 | 22.86993 | -.010 | -.721 |
| PROF | 220 | 0 | 11.7539 | 10.0100 | 7.10615 | 1.110 | 1.642 |
| FRSK | 220 | 0 | 66729.9438 | 13.6950 | 244808.80420 | 3.558 | 10.842 |
| DIV | 220 | 0 | 5.5069 | 4.8800 | 3.31189 | 1.412 | 3.274 |
| GROW | 220 | 0 | 52.2757 | .4050 | 346.30752 | 7.892 | 65.609 |

Where:

SIZE = The natural logarithm of the book value of total assets

LIQD = The natural logarithm of the book value of current assets divided by the book value of current liabilities

FASST = The natural logarithm of net fixed assets divided by the book value of total assets

PROF = The natural logarithm of earnings after taxes divided by the book value of total assets

FRSK = The natural logarithm of earnings before interest and taxes divided by Interest expenses

DIVD = The natural logarithm of dividend payments divided by earnings after taxes

GROW = The natural logarithm of (Earnings after taxes at t – Earnings after taxes at t-1) divided by earnings after taxes at t

To correct this problem, each independent variable is transformed to be its natural logarithm. As a result of the transformation in Table 4.14, the mean and median of variables are closer and the values of standard deviation and skewness and Kurtosis are reduced. Although there are still some minor deviations from normality, most researchers argue that if the data are not extremely non-normally distributed, the issue is not serious (Coakes 2005; Norusis 2000).

Table 4.14: Descriptive statistics of continuously independent variables after transformation

| | N | | Mean | Median | Std. Deviation | Skewness | Kurtosis |
|--------|-------|---------|--------|--------|----------------|----------|----------|
| | Valid | Missing | | | | | |
| LSIZE | 220 | 0 | 8.4278 | 8.2052 | 1.44800 | .760 | .500 |
| LLIQD | 220 | 0 | .6102 | .5452 | .78319 | .230 | 1.756 |
| LFASST | 220 | 0 | 3.7763 | 3.9295 | .64045 | -1.741 | 4.091 |
| LPROF | 220 | 0 | 2.2561 | 2.3034 | .72073 | -1.242 | 3.634 |
| LFRSK | 220 | 0 | 3.9930 | 2.6168 | 3.56940 | 1.536 | 1.602 |
| LDIV | 220 | 0 | 1.5116 | 1.5851 | .68868 | -1.198 | 3.827 |
| LGROW | 220 | 0 | 4.7869 | 4.7909 | .67208 | .945 | 8.461 |

For the dependent variable, the descriptive statistics in Table 4.15 indicates that the mean and median of both book and market values of total debt ratio are close. This shows that they are normally distributed.

Table 4.15: Descriptive statistics of book and market values of total debt ratio

| | N | | Mean | Median | Std. Deviation | Skewness | Kurtosis |
|-------|-------|---------|---------|---------|----------------|----------|----------|
| | Valid | Missing | | | | | |
| DR-BV | 220 | 0 | 38.6603 | 38.9050 | 19.08851 | -.006 | -.911 |
| DR-MV | 220 | 0 | 34.2167 | 33.8900 | 19.76632 | .271 | -.778 |

Note: DR-BV is book value of total debt ratio and DR-MV is market value of total debt ratio.

4.3.1.2 Check for heteroscedasticity

As the assumption of the ordinary least squares (OLS) regression model requires the absence of heteroscedasticity, thus, the study uses the normal probability (P-P) plot of regression standardized residual and the residual scatter plot of the dependent variable based on the model to test it. The results shown in Figures 4.9 and 4.10 suggest that there is no indication of the presence of significant heteroscedasticity.

Figure 4.9: The normal probability (P-P) and scatter plots of the dependent variable (DR-BV) based on the model

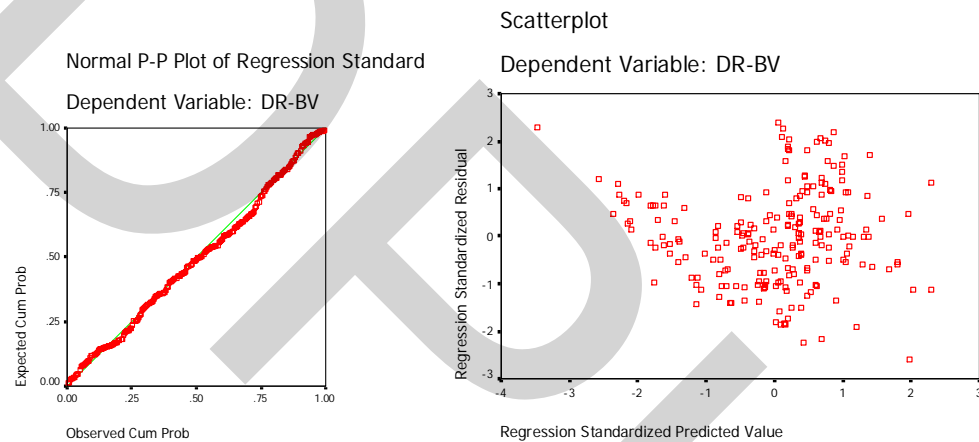
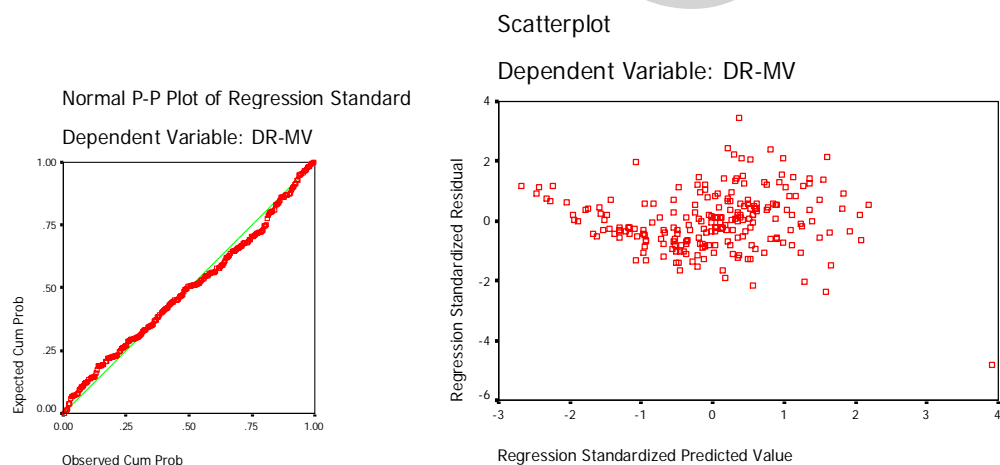


Figure 4.10: The normal probability (P-P) and scatter plots of the dependent variable (DR-MV) based on the model



4.3.1.3 Check for multicollinearity

To check multicollinearity between the independent variables, the study employs a bivariate Pearson product-moment correlation. The results show that there are not independent variables in this study having a high coefficient of variation (i.e. 0.80 and above). The highest correlation in the table is 0.466. Therefore, it can be concluded that there is no significant multicollinearity between the independent variables of the study.

Table 4.16: Pearson correlation coefficients

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------|----------|----------|----------------|---------|----------|---------|----------|-------|
| DMYDR | 1.000 | | | | | | | |
| SIZE | 0.264** | 1.000 | | | | | | |
| LIQD | -0.462** | -0.281** | 1.000 | | | | | |
| FRSK | -0.406** | -0.310** | <u>0.466**</u> | 1.000 | | | | |
| FASST | -0.168** | 0.175** | -0.292** | 0.072 | 1.000 | | | |
| PROF | -0.200** | -0.031 | 0.076 | 0.292** | 0.100 | 1.000 | | |
| DIVD | -0.180** | -0.219** | 0.132* | 0.124* | -0.195** | 0.034 | 1.000 | |
| GROW | 0.075 | -0.055 | 0.020 | -0.010 | 0.106 | 0.313** | -0.355** | 1.000 |

Notes: N = 220 companies

4.3.2 The regression model

As a result of the transformation in Section 4.3.1.1, the proposed research model from Chapter 3 (Section 3.3) is reviewed. The revised model for testing the dependent variable is as follows.

$$\begin{aligned} \text{TDR} = & \alpha + \beta_1(\text{LSIZE}) + \beta_2(\text{LLIQD}) + \beta_3(\text{LFASST}) + \beta_4(\text{LPROF}) + \beta_5(\text{LFRSK}) \\ & + \beta_6(\text{LDIVD}) + \beta_7(\text{LGROW}) + \beta_8(\text{DUMYDR}) + \varepsilon \end{aligned}$$

Where as;

α = A constant term

$\beta_1 \dots \beta_8$ = Coefficient of each variable

ε = An error term

TDR = Total debt ratio

LSIZE = The natural logarithm of the book value of total assets

LLIQD = The natural logarithm of the book value of current assets divided by the book value of current liabilities

LFASST = The natural logarithm of net fixed assets divided by the book value of total assets

LPROF = The natural logarithm of earnings after taxes divided by the book value of total assets

LFRSK = The natural logarithm of earnings before interest and taxes divided by interest expenses

LDIVD = The natural logarithm of dividend payments divided by earnings after taxes

LGROW = The natural logarithm of $\frac{\text{Earnings after taxes at } t - \text{Earnings after taxes at } t-1}{\text{Earnings after taxes at } t}$

DUMMYDR = A dummy variable for firms which have total debt ratio greater than 50%

4.3.3 The ordinary least squares regression results

The research model in Section 4.3.2 is tested to examine the relationship between the specific firm characteristics and financing decisions of sample companies listed on the Stock Exchange of Thailand based on two capital structure theories - the trade-off and pecking order theories. The regression findings are shown in Tables 4.17 and 4.18.

In Table 4.17 which shows empirical results of specific firm characteristics on financing decisions as measured by the book value (BV) of total debt ratio, there are six firm characteristics dominating financing decisions. They including firm size (LSIZE), liquidity (LLIQD), fixed assets (LFASST), profitability (LPROF), financial risk (LFRSK) and dividend policy (LDIVD) are statistically significant and have signs as expected at $p < 0.10$ (1-tailed). There is only one firm characteristic - firm growth

(LGROW) which is not statistically significant but shows a positive relationship as hypothesized.

The regression model in Table 4.17 is significant at $p < 0.10$ level with an F-test value of 206.25. The high adjusted R-square value of the model is 0.882, suggesting that the independent variables of the estimated equation explain approximately 88.20 percent of the variation in the financing decisions. The remaining 11.80 percent is explained by other independent variables which are not in the model.

Table 4.17: Empirical results of specific firm characteristics on financing decisions as measured by the book value (BV) of total debt ratio.

Model:

$$\text{TDR (BV)} = \alpha + \beta_1(\text{LSIZE}) + \beta_2(\text{LLIQD}) + \beta_3(\text{LFASST}) + \beta_4(\text{LPROF}) + \beta_5(\text{LFRSK}) + \beta_6(\text{LDIVD}) + \beta_7(\text{LGROW}) + \beta_8(\text{DUMYDR}) + \varepsilon$$

| Dependent Variable | Independent Variables | Hypothesis | Expected sign | Coefficient | t-value | Significance |
|--------------------|-----------------------|------------|---------------|-------------|---------|--------------|
| TDR (BV) | LSIZE | H1 | + | 1.839 | 5.342 | .000* |
| | LLIQD | H2 | - | -10.840 | -14.014 | .000* |
| | LFASST | H3 | - | -7.103 | -8.601 | .000* |
| | LPROF | H4 | - | -0.980 | -1.396 | .087* |
| | LFRSK | H5 | - | -1.133 | -7.021 | .000* |
| | LDIVD | H6 | + | 1.325 | 1.804 | .036* |
| | LGROW | H7 | + | 0.712 | 0.919 | .179 |
| | DUMYDR | | | 17.471 | 14.348 | .000 |
| | Intercept | | | 52.425 | 8.771 | .000 |

F-value 206.253*

R-square 0.887

Adjusted R-square 0.882

Note: N = 220 sample companies

* is percent significance level $< .10$ (1-tailed)

In Table 4.18 which shows empirical results of specific firm characteristics on financing decisions as measured by the market value (MV) of total debt ratio, there are also six firm characteristics influencing financing decisions. They are liquidity (LLIQD), fixed assets (LFASST), profitability (LPROF), financial risk (LFRSK), dividend policy (LDIVD) and firm growth (LGROW) that show statistically significant and have signs as expected at $p < 0.10$ (1- tailed). Only one firm characteristic - firm size (LSIZE) is not statistically significant with the market value of total debt ratio but it shows a positive sign as hypothesized.

Table 4.18: Empirical results of specific firm characteristics on financing decisions as measured by the market value (MV) of total debt ratio.

Model:

$$\text{TDR (MV)} = \alpha + \beta_1(\text{LSIZE}) + \beta_2(\text{LLIQD}) + \beta_3(\text{LFASST}) + \beta_4(\text{LPROF}) + \beta_5(\text{LFRSK}) + \beta_6(\text{LDIVD}) + \beta_7(\text{LGROW}) + \beta_8(\text{DUMYDR}) + \varepsilon$$

| Dependent Variable | Independent Variables | Hypothesis | Expected sign | Coefficient | t-value | Significance |
|--------------------|-----------------------|------------|---------------|-------------|---------|--------------|
| TDR (MV) | LSIZE | H1 | + | 0.634 | 1.133 | .129 |
| | LLIQD | H2 | - | -7.926 | -6.347 | .000* |
| | LFASST | H3 | - | -5.635 | -4.213 | .000* |
| | LPROF | H4 | - | -11.460 | -10.074 | .000* |
| | LFRSK | H5 | - | -1.519 | -5.959 | .000* |
| | LDIVD | H6 | + | 6.418 | 5.392 | .000* |
| | LGROW | H7 | + | 5.082 | 4.049 | .000* |
| | DUMYDR | | | 9.306 | 4.718 | .000 |
| | Intercept | | | 49.965 | 5.161 | .000 |
| F-value | 68.685* | | | | | |
| R-square | 0.723 | | | | | |
| Adjusted R-square | 0.712 | | | | | |

Note: N = 220 sample companies

* is percent significance level < .10 (1-tailed)

The regression model in Table 4.18 is significant at $p < 0.10$ level with an F-test value of 68.69. The high adjusted R-square value of the model is 0.712, suggesting that the independent variables of the estimated equation explain approximately 71.20 percent of the variation in the financing decisions. The remaining 28.80 percent is explained by other independent variables which are not in the model.

From the regression results in Tables 4.17 and 4.18, it is noticed that firm growth (LGROW) and firm size (LSIZE) shows the different results owing to different values of total debt ratio (a proxy of financing decisions). As can be seen, firm growth (LGROW) which is not statistically significant with the book value of total debt ratio in Table 4.17 becomes significant with the market value of total debt ratio in Table 4.18 whereas firm size (LSIZE) which shows statistically significant with the book value of total debt ratio in Table 4.17 shows insignificant with the market value of total debt ratio in Table 4.18. However, it can be stated that both firm growth and firm size are important factors affecting financing decisions as measured by total debt ratio.

Table 4.19: Tolerance and Variance Inflation Factors (VIF)
based on 220 sample companies

| Variables | Tolerance | VIF |
|-----------|-----------|-------|
| LSIZE | .783 | 1.277 |
| LLIQD | .537 | 1.862 |
| LFASST | .700 | 1.429 |
| LPROF | .764 | 1.308 |
| LFRSK | .620 | 1.612 |
| LDIVD | .765 | 1.308 |
| LGROW | .722 | 1.385 |
| DUMYDR | .611 | 1.638 |

Table 4.19 that examines tolerance and variance inflation factors (VIF) based on 220 sample companies reveals that the tolerance of variables in the model is not close to

zero (between 0.537 and 0.783) and the variance inflation factors (VIF) of variables are less than 10. These results confirm that multicollinearity between the independent variables is not significant for this model (Field, 2005; Tabachnick and Fidell, 2001).

4.4 The results of hypotheses testing

The following explains the results of hypotheses developed in Chapter 2.

4.4.1 Firm size

Based on the literature review, firm size is an important factor to financial decisions because large size companies have better access to credit markets and can borrow at better conditions (Akhtar, 2005; Fan, Titman and Twite, 2003; Frank and Goyal, 2003). Most empirical research reported a positive sign for the relationship between firm size and leverage (e.g., studies by Akhtar (2005), Chen and Strange (2005) and Rao and Lukose (2002)). Thus, it is hypothesized that:

H1: Firm size is positively related to a firm's financing decisions as measured by total debt ratio.

The results of the model in table 4.17 show that H1 is supported by the financing decisions model as the total debt ratio measured by the book value. The coefficient of firm size (+1.839) is significantly positive as expected. However, when the total debt ratio is measured by the market value in the model of table 4.18, H1 is not supported. The coefficient of firm size (+0.634) is not significant but show a positive sign as expected. Nevertheless, the sign H1 is positive in the expected direction of the pecking order assumption as measured by both of book and market values. The findings suggest that larger firms tend to use more debt financing than smaller firms. The results are in line with the prior studies such as Gaud, Jani, Hoesli and Bender (2003), Akhtar (2005), Chen and Strange (2005) and Rao and Lukose (2002) which report a significant positive correlation between firm size and debt ratios.

4.4.2 Liquidity

In the previous studies, the majority of empirical evidence found that firms with high liquidity tend to use less debt and supports the view of the pecking order assumption that liquidity of the firm has a negative sign with its financial leverage (e.g., Rajan and Zingales 1995; Bevan and Danbolt 2002; Eriotis 2007; Mazur 2007). As a result of these studies, it is hypothesized that:

H2: Liquidity is negatively related to a firm's financing decisions as measured by total debt ratio.

The results of the model in both tables 4.17 and 4.18 show that H2 is supported by the financing decisions model as the total debt ratio measured by the book and market values. The coefficient of liquidity (-10.840 in Table 4.17 and -7.926 in Table 4.18) is significantly negative as expected. The findings confirm the prediction sign of the pecking order theory. It is also consistent with Bevan and Danbolt's (2002) and Eriotis's (2007) research which explained that firms with high liquidity tend to use internal financing rather than external financing because they have a relatively high amount of current assets, which means that they have a high cash inflows, thus, they can use cash inflows as internal source for investing in the positive net present value projects.

4.4.3 Fixed assets

From the viewpoint of the pecking order theory, firms with high values of fixed assets are less sensitive to the problem of information asymmetric between managers and outside investors and then, tend to use less debt (Eldomiaty, 2007; Gaud, Jani, Hoesli and Bender, 2003; Mazur, 2007). Most previous studies confirmed a negative influence of fixed assets on debt ratios. Thus, it is hypothesized that:

H3: Fixed assets are negatively related to a firm's financing decisions as measured by total debt ratio.

The results of the model in both tables 4.17 and 4.18 show that H3 is supported by the financing decisions model as the total debt ratio measured by the book and market values. The coefficient of fixed assets (-7.103 in Table 4.17 and -5.635 in Table 4.18) is significantly negative as expected. The findings confirm the prediction sign of the pecking order theory. It is also similar to Bevan and Danbolt's (2002), Frank and Goyal's (2004) and Mazur's (2007) conclusions, in that, the problem of information asymmetric is not a subject matter for firms with high values of fixed assets, thus, they will issue equity rather than debt when they need external financing.

4.4.4 Profitability

The pecking order theory suggests that profitable firms prefer to use first their internal funds and then move to external funds. This means that high profit firms choose to have a small number of debt ratio. Several researchers tested the relationship between profitability and financial decisions and found that profitability had a negative relation with a debt ratio (Chen and Strange, 2005; Delcours 2007; Gaud, Jani, Hoesli and Bender 2003). Thus, it is hypothesized that:

H4: Profitability is negatively related to a firm's financing decisions as measured by total debt ratio.

The results of the model in both tables 4.17 and 4.18 show that H4 is supported by the financing decisions model as the total debt ratio measured by the book and market values. The coefficient of profitability (-0.980 in Table 4.17 and -11.460 in Table 4.18) is significantly negative as expected. The findings confirm the prediction sign and assumption of the pecking order theory. This is in line with related previous studies such as the studies by Akhtar (2005), Cassar and Holmes (2003), Delcours (2007) which stated that firms with high profitability will have sufficient internal fund to invest in their activities, thus, they will have a small debt ratio.

4.4.5 Financial risk

The capital structure theories view financial risk as a negative effect on capital structure because firms with high financial risk have incentive to reduce their level of debt within capital structure (Eriotis, 2007). The majority of prior studies found the evidence following the theory assumption and suggested a negative relationship between financial risk and debt ratios (Cassar and Holmes 2003; Eriotis, 2007). Thus, it is hypothesized that:

H5: Financial risk is negatively related to a firm's financing decisions as measured by total debt ratio.

The results of the model in both tables 4.17 and 4.18 show that H5 is supported by the financing decisions model as the total debt ratio measured by the book and market values. The coefficient of financial risk (-1.133 in Table 4.17 and -1.519 in Table 4.18) is significantly negative as expected. The findings confirm the prediction sign of the pecking order theory. The findings also supports the implication of the pecking order theory and research by Bennett and Donnelly (1993), Eriotis (2007) and Harris and Raviv (1990) which indicate that firms with high interest coverage ratio (which is a proxy of financial risk) can make high earnings. Thus, they can use their earnings to invest in their business operation and there is no need to use much debt financing.

4.4.6 Dividend policy

Following the pecking order theory suggestion, it is expected that payout ratio of the dividend policy will be likely to be a positive relationship with a firm's financing decision. The reason is that a firm pays dividend from retained earnings, consequently, when a firm needs funds for investment it will increase funds from external financing (Harris and Raviv, 1991; Mazur, 2007). Thus, it is hypothesized that:

H6: Dividend policy is positively related to a firm's financing decisions as measured by total debt ratio.

The results of the model in both tables 4.17 and 4.18 show that H6 is supported by the financing decisions model as the total debt ratio measured by the book and market values. The coefficient of dividend policy (+1.325 in Table 4.17 and +6.418 in Table 4.18) is significantly positive as expected. The findings confirm the prediction sign of the pecking order theory. The findings are also in the same direction with Mazur's (2007) work, in that, dividend-paying firms use internal funds to pay dividend and tend to use funds for investment from external financing.

4.4.7 Firm growth

Based on the pecking order theory assumption, firms with high growth need more funds to invest in their operating activities, thus it can be expected that these firms will have more debt financing (Delcours, 2007; Cassar and Holmes, 2003; Stulz, 1990). Empirical evidence found a positive relationship between growth and debt ratios (Bevan and Danbolt, 2002; Cassar and Holmes, 2003; Michaelas, Chittenden and Poutziouris, 1999; Mazur, 2007). Thus, it is hypothesized that:

H7: Firm growth is positively related to a firm's financing decisions as measured by total debt ratio.

The results of the model in table 4.17 show that H7 is not supported by the financing decisions model as the total debt ratio measured by the book value but the coefficient of firm growth (+0.712) is positive as expected. However, when the total debt ratio is measured by the market value in the model of table 4.18, H7 is supported. The coefficient of firm growth (+5.082) is statistically significant and has a positive sign as expected. Nevertheless, the sign H7 is positive in the expected direction of the pecking order assumption as measured by both of book and market values. The findings suggest that growing firms are likely to use more debt because they have more opportunities to invest in their projects. The significant result is consistent with many prior studies such as the studies of Cassar and Holmes (2003), Michaelas et al., (1999), and Mazur (2007).

A summary of the results of hypotheses testing is exhibited in Table 4.20.

Table 4.20: Results of hypotheses testing

| Hypothesis | Expected sign | Result |
|--|---------------|-----------------------------|
| H1: Firm size is positively related to a firm's financing decisions as measured by total debt ratio | + | Supported and Not Supported |
| H2: Liquidity is negatively related to a firm's financing decisions as measured by total debt ratio. | - | Supported |
| H3: Fixed assets are negatively related to a firm's financing decisions as measured by total debt ratio. | - | Supported |
| H4: Profitability is negatively related to a firm's financing decisions as measured by total debt ratio. | - | Supported |
| H5: Financial risk is negatively related to a firm's financing decisions as measured by total debt ratio. | - | Supported |
| H6: Dividend policy is positively related to a firm's financing decisions as measured by total debt ratio. | + | Supported |
| H7: Firm growth is positively related to a firm's financing decisions as measured by total debt ratio. | + | Not Supported and Supported |

Notes: 1. H1 is supported as the total debt ratio measured by book value but not supported as measured by market value. The sign H1 is positive in the expected direction of the pecking order assumption as measured by both of book and market values.

2. H2 – H6 is supported as the total debt ratio measured by both of book and market values and their signs are negative in the expected direction of the pecking order assumption.

3. H7 is not supported as the total debt ratio measured by book value but supported as measured by market value. The sign H7 is positive in the expected direction of the pecking order assumption as measured by both of book and market values.

4.5 Summary

This chapter reports descriptive analysis of all variables and the empirical results of the ordinary least squares (OLS) regression model used to test the research hypotheses of the study.

In descriptive analysis, the results show that 220 companies that have a complete data for analysis are classified in 7 industries - agro & food industry (29), consumer products (19), industrials (42), property & construction (42), resources (14), services (52), and technology (22). By average, their mean book and market values of total debt ratio are around 38.66% and 34.21%, respectively. Sizes of sample firms are large, especially in resources industry. The average firm size is 18,621.52 million baht and the smallest size is 358.47 million baht. The average liquidity ratio is also high. The mean value is 2.59 and the maximum value reaches 34.63. The mean value of the percentage of fixed assets to total assets is 50.73%. It is found that there are not companies in the study having negative profits. The mean value of profitability ratio (return on assets - ROA) is 11.75%. Their financial risk is low as well. The mean value of interest coverage ratio (a proxy of financial risk) is 66,729.94 times. All firms in the sample have paid dividends to stockholders. The mean value of payout ratio is 5.50%. However, their growth ratios are mixed between positive and negative ratios but the average ratio is still positive (52.27%).

For the OLS regression tests, the results of Tables 4.17, 4.18 and 4.20 indicate that specific firm characteristics – firm size, liquidity, fixed assets, profitability, dividend policy and firm growth are significant factors of a firm's financing decisions. Hypotheses of the study are supported by this model.

The final chapter will present the conclusion of the study. It contains a summary and the implication of the study including suggestions for future research.