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# Research Article The Impact of Various Industrial Competitors on the Risk Level of Viet Nam Manufacturing Material Industry During and After The Global Crisis 2007-2011

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#### Keywords

Risk management, Competitive firm size, Market risk, asset and Equity beta, Manufacturing material Industry.

Jel classification : G00, G3, G30

#### Abstract

Using a one factor model, this paperwork estimates the impacts of the size of firms' competitors in the manufacturing material industry on the market risk level, measured by equity and asset beta, of 99 listed companies in this category. This study identified that the risk dispersion level in this sample study could be minimized in case the competitor size doubles (measured by equity beta var of 0,293). Beside, the empirical research findings show us that asset beta max value increases from 1,162 to 1,445 when the size of competitor doubles. Last but not least, most of beta values are acceptable except a few exceptional cases. Ultimately, this paper illustrates calculated results that might give proper recommendations to relevant governments and institutions in re-evaluating their policies during and after the financial crisis 2007-2011.

# **1. Introduction**

Together with financial system development and the economic growth, throughout many recent years, Viet Nam manufacturing material industry is considered as one of active economic sectors, which has some positive effects for the economy. Additionally, financial risk and reactions has become an issue after the global crisis 2007-2009 which has some certain impacts on the whole Viet nam economy, and specifically, the Viet Nam manufacturing material industry. Hence, this research paper analyzes market risk under a one factor model of these listed firms during this period.

This paper is organized as follow. The research issues and literature review will be covered in next sessions 2 and 3, for a short summary. Then, methodology and conceptual theories are introduced in session 4 and 5. Session 6 describes the data in empirical analysis. Session 7 presents empirical results and findings. Next, session 8 covers the analytical results. Then, session 9 will conclude with some policy suggestions. This paper also supports readers with references, exhibits and relevant web sources.

# 2. Research Issues

For the estimating of impacts of a one factor model: the size of competitor on beta for listed manufacturing material industry companies in Viet Nam stock exchange, research issues will be mentioned as following:

Issue 1: Whether the risk level of manufacturing material industry firms under the different changing scenarios of the size of competitor increase or decrease so much.

Issue 2: Whether the disperse distribution of beta values become large in the different changing scenarios of the size of competitor in the manufacturing material industry.

## **3. Literature review**

Black (1976) proposes the leverage effect to explain the negative correlation between equity returns and return volatilities. Diamond and Dybvig (1983) said banks can also help reduce liquidity risk and therefore enable long-term investment.

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Next, Kim et all (2002) noted that the nature of competitive interaction in an industry is important in assessing the effect of corporate product strategies on shareholder value. Pagano and Mao (2007) stated that An intermediated market can therefore remain viable in the face of competition from a possibly faster, non-intermediated market as long as the specialist can generate revenue for the above services that covers his/her costs associated with asymmetric information, order processing, and inventory management. Daly and Hanh Phan (2013) investigated the competitive structure of the banking industries in five emerging asian countries including Viet Nam and showed that the global financial crisis affected dramatically the competition of banking system in emerging Asian countries.

Last but not least, Ana and John (2013) Binomial Leverage – Volatility theorem provides a precise link between leverage and volatility.

#### 4. Conceptual theories

# The impact of competition or the size of competitor on the economy and business

In a specific industry such as manunfacturing material industry, there are many firms offering the similar products and services and this helps customers select a variety of qualified goods that meet their demand. Competitors could affect price and customer service policies; hence, affect revenues and profits of a typical company. The competition could drive down profits that firms can earn. Sources of competition include, but not limit to, training. Increasing training can help competition raising productivity.

#### 5. Methodology

In this research, analytical research method is used, philosophical method is used and specially, scenario analysis method is used. Analytical data is from the situation of listed manufacturing material industry firms in VN stock exchange and applied current tax rate is 25%.

Finally, we use the results to suggest policy for both these enterprises, relevant organizations and government.

#### 6. General Data Analysis

The research sample has total 99 listed firms in the manufacturing material industry market with the live data from the stock exchange.

Firstly, we estimate equity and asset beta values of these firms, as well as the risk dispersion. Secondly, we change the competitor size from aprroxiamte size to doubling size and slightly smaller size to see the sensitivity of beta values. We figure out that in 3 cases, asset beta mean values are estimated at 0,371, 0,392 and 0,360 which are positively correlated with the size of competitors. Also in 3 scenarios, we find out equity beta mean values (0,747, 0,786 and 0,728) are also positively correlated with the competitive firm size. Various competitors selected definitely have certain effects on asset and equity beta values.

#### 7. Empirical Research Findings and Discussion

In the below section, data used are from total 99 listed manufacturing material industry companies on VN stock exchange (HOSE and HNX mainly). In the scenario 1, current financial leverage degree is kept as in the 2011 financial statements which is used to calculate market risk (beta) whereas competitor size is kept as current, then changed from double size to slightly smaller size. Then, two (2) FL scenarios are changed up to 30% and down to 20%, compared to the current FL degree. In short, the below table 1 shows three scenarios used for analyzing the risk level of these listed firms.

Market risk (beta) under the impact of tax rate, includes: 1) equity beta; and 2) asset beta.

|                                  | FL as current |
|----------------------------------|---------------|
| Competitor size as current       | Scenario 1    |
| Competitor size slightly smaller | Scenario 2    |
| Competitor size double           | Scenario 3    |

 Table 1 – Analyzing market risk under three (3) scenarios (Made by Author)

# 7.1 Scenario 1: current financial leverage and competitor size kept as current

In this case, all beta values of 99 listed firms on VN manufacturing material industry market as following:

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#### Table 2 – Market risk of listed companies on VN manufacturing material industry market under one factor model (case 1) (source: VN stock exchange 2012)

| Order<br>No. | Company stock<br>code | Equity beta | Asset beta (assume<br>debt beta = 0) | Note                 | Financial<br>leverage (F.S<br>reports) |
|--------------|-----------------------|-------------|--------------------------------------|----------------------|--|
| 1            | COM                   | 0,604       | 0,473                                |                      | 17,3%                                  |
| 2            | AAA                   | 0,403       | 0,186                                | VID as comparable    | 43,1%                                  |
| 3            | ALV                   | 0,890       | 0,618                                | MMC as<br>comparable | 24,5%                                  |
| 4            | AMC                   | 0,781       | 0,450                                | CPC as comparable    | 33,9%                                  |
| 5            | <u>APP</u>            | 0,799       | 0,474                                | CPC as comparable    | 32,5%                                  |
| 6            | BGM                   | 0,719       | 0,672                                | GTA as comparable    | 5,3%                                   |
| 7            | BKC                   | 1,339       | 0,928                                |                      | 24,6%                                  |
| 8            | <u>BMC</u>            | 1,433       | 1,036                                |                      | 22,1%                                  |
| 9            | BMJ                   | -1,712      | -1,377                               |                      | 15,7%                                  |
| 10           | BRC                   | 0,835       | 0,587                                | TPP as comparable    | 23,8%                                  |
| 11           | <u>BVG</u>            | 0,197       | 0,053                                | COM as comparable    | 58,7%                                  |
| 12           | <u>BVN</u>            | 0,531       | 0,163                                | BMC as comparable    | 55,5%                                  |
| 13           | CAP                   | 0,543       | 0,205                                | CPC as comparable    | 49,7%                                  |
| 14           | <u>CMI</u>            | 0,875       | 0,384                                | KKC as comparable    | 44,9%                                  |
| 15           | <u>CPC</u>            | 1,211       | 0,937                                |                      | 18,1%                                  |
| 16           | <u>CTM</u>            | 0,350       | 0,178                                | DTT as comparable    | 39,4%                                  |
| 17           | <u>CZC</u>            | 0,090       | 0,028                                | HVT as comparable    | 54,9%                                  |
| 18           | DAG                   | 0,435       | 0,134                                | DHC as comparable    | 55,4%                                  |
| 19           | DHC                   | 1,170       | 0,461                                |                      | 48,5%                                  |
| 20           | DHM                   | 0,432       | 0,240                                | HGM as comparable    | 35,5%                                  |
| 21           | <u>DLG</u>            | 0,055       | 0,014                                | SQC as comparable    | 59,3%                                  |
| 22           | DNS                   | 0,076       | 0,025                                | BVG as comparable    | 54,3%                                  |
| 23           | <u>DNY</u>            | 0,063       | 0,018                                | SQC as comparable    | 56,4%                                  |
| 24           | DPM                   | 0,785       | 0,686                                |                      | 10,0%                                  |
| 25           | <u>DPR</u>            | 1,043       | 0,808                                |                      | 18,0%                                  |
| 26           | DTL_                  | 0,027       | 0,011                                | DLG as comparable    | 47,2%                                  |
| 27           | DTT                   | 0,605       | 0,517                                |                      | 11,6%                                  |
| 28           | <u>GER</u>            | 0,746       | 0,419                                | MMC as comparable    | 35,1%                                  |
| 29           | <u>GTA</u>            | 0,757       | 0,569                                |                      | 19,9%                                  |
| 30           | HAL                   | 0,823       | 0,456                                |                      | 35,7%                                  |
| 31           | <u>HAP</u>            | 1,280       | 1,018                                | 16,4%                |  |
| 32           | <u>HGM</u>            | 0,691       | 0,535                                | 18,0%                |  |
| 33           | <u>HLA</u>            | 1,833       | 0,339                                |                      | 65,2%                                  |
| 34           | <u>HLC</u>            | 0,397       | 0,045                                |                      | 71,0%                                  |

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| 35 | <u>HMC</u> | 1,227 | 0,348 |                   | 57,3% |
|----|------------|-------|-------|-------------------|-------|
| 36 | <u>HPG</u> | 0,969 | 0,424 |                   | 45,0% |
| 37 | <u>HPP</u> | 0,627 | 0,268 | KMT as comparable | 45,9% |
| 38 | HRC_       | 0,971 | 0,750 |                   | 18,2% |
| 39 | <u>HSG</u> | 1,821 | 0,587 |                   | 54,2% |
| 40 | <u>HSI</u> | 0,748 | 0,154 |                   | 63,6% |
| 41 | HVC        | 0,314 | 0,083 | HRC as comparable | 58,9% |
| 42 | <u>HVT</u> | 0,238 | 0,105 |                   | 44,6% |
| 43 | <u>KHB</u> | 0,550 | 0,486 | DTT as comparable | 9,3%  |
| 44 | <u>KKC</u> | 1,717 | 0,860 |                   | 39,9% |
| 45 | <u>KMT</u> | 1,259 | 0,386 |                   | 55,4% |
| 46 | <u>KSA</u> | 0,859 | 0,530 | KMT as comparable | 30,6% |
| 47 | KSB        | 1,103 | 0,705 |                   | 28,9% |
| 48 | <u>KSH</u> | 1,766 | 1,162 |                   | 27,4% |
| 49 | KSS        | 2,089 | 1,049 |                   | 39,8% |
| 50 | <u>KTB</u> | 0,485 | 0,366 | COM as            | 19,7% |
|    |            |       |       | comparable        |       |
| 51 | LAS        | 0,478 | 0,185 | DPR as comparable | 49,0% |
| 52 | <u>LCM</u> | 0,542 | 0,531 | KHB as comparable | 1,6%  |
| 53 | MAX        | 0,066 | 0,044 | CZC as comparable | 26,7% |
| 54 | <u>MDC</u> | 0,546 | 0,126 |                   | 61,6% |
| 55 | <u>MDF</u> | 0,067 | 0,057 | DNS as comparable | 12,2% |
| 56 | MHL        | 0,482 | 0,252 |                   | 38,1% |
| 57 | MIC        | 1,417 | 0,902 |                   | 29,1% |
| 58 | <u>MIH</u> | 0,068 | 0,016 | HVT as comparable | 61,6% |
| 59 | <u>MIM</u> | 0,425 | 0,196 | APP as comparable | 43,2% |
| 60 | <u>MMC</u> | 1,183 | 0,990 |                   | 13,1% |
| 61 | <u>NBC</u> | 1,129 | 0,273 |                   | 60,7% |
| 62 | <u>NKG</u> | 0,007 | 0,002 | DTL as comparable | 62,8% |
| 63 | <u>NSP</u> | 0,811 | 0,719 | ALV as comparable | 9,1%  |
| 64 | <u>NVC</u> | 0,353 | 0,050 |                   | 68,6% |
| 65 | PHR        | 0,471 | 0,268 |                   | 34,5% |
| 66 | PHT        | 0,912 | 0,477 |                   | 38,2% |
| 67 | PLC        | 1,338 | 0,448 |                   | 53,2% |
| 68 | РОМ        | 0,111 | 0,038 | TIS as comparable | 52,4% |
| 69 | РТК        | 1,368 | 0,986 | KSH as comparable | 22,3% |
| 70 | RDP        | 0,827 | 0,303 |                   | 50,7% |
| 71 | SHA        | 0,810 | 0,314 | KSH as comparable | 48,9% |
| 72 | SHI        | 1,550 | 0,476 |                   | 55,4% |
| 73 | SMC        | 1,142 | 0,266 |                   | 61,3% |
| 74 | SPC        | 0,062 | 0,015 | VCA as comparable | 61,0% |

| SQC | 0,174   | 0,148   |   | 11,9%  |
|-----|---|---|---|--|
| SSM | 1,402   | 0,710   |   | 39,5%  |
| TC6 | 0,678   | 0,127   |   | 65,0%  |
| TCS | 0,900   | 0,152   |   | 66,5%  |
| TDN | 0,587   | 0,127   |   | 62,7%  |
| TDS | 0,398   | 0,146   | PHT as comparable   | 50,6%  |
| THT | 0,927   | 0,294   |   | 54,6%  |
| TIS | 0,268   | 0,075   | DPM as comparable   | 57,6%  |
| TLH | 0,320   | 0,151   | TDN as comparable   | 42,2%  |
| TNB | 0,072   | 0,054   | CZC as comparable   | 19,9%  |
| TNC | 0,949   | 0,846   |   | 8,7%   |
| TNT | 1,085   | 0,781   | SSM as comparable   | 22,4%  |
| TPC | 1,062   | 0,531   |   | 40,0%  |
| TPP | 1,100   | 0,321   |   | 56,7%  |
| TRC | 1,185   | 0,917   |   | 18,1%  |
| TSC | 0,928   | 0,204   |   | 62,4%  |
| TTF | 1,576   | 0,392   |   | 60,1%  |
| TVD | 0,235   | 0,037   | TRC as comparable   | 67,5%  |
| VCA | 0,212   | 0,044   | RDP as comparable   | 63,5%  |
| VDT | 0,665   | 0,326   | MMC as comparable   | 40,8%  |
| VFG | 0,350   | 0,181   | _   | 38,6%  |
| VGS | 1,907   | 0,820   |   | 45,6%  |
| VID | 0,757   | 0,272   |   | 51,2%  |
| VIS | 1,289   | 0,500   |   | 49,0%  |
| VKP | 0,877   | 0,131   |   | 68,0%  |
|     |   |   | Average   | 40,8%  |
|     | SSM<br>TC6<br>TCS<br>TDN<br>TDS<br>TDN<br>TDS<br>THT<br>TIS<br>TLH<br>TNB<br>TNC<br>TNC<br>TNC<br>TNC<br>TNC<br>TNC<br>TNC<br>TNC<br>TNC<br>TNC | SSM         1,402           TC6         0,678           TCS         0,900           TDN         0,587           TDS         0,398           THT         0,927           TIS         0,268           TLH         0,320           TNB         0,072           TNC         0,949           TNT         1,085           TPC         1,062           TPP         1,100           TRC         1,185           TSC         0,928           TTF         1,576           TVD         0,235           VCA         0,212           VDT         0,665           VFG         0,350           VGS         1,907           VID         0,757           VIS         1,289 | SSM1,4020,710TC60,6780,127TCS0,9000,152TDN0,5870,127TDS0,3980,146THT0,9270,294TIS0,2680,075TLH0,3200,151TNB0,0720,054TNC0,9490,846TNT1,0850,781TPC1,0620,531TPP1,1000,321TRC1,1850,917TSC0,9280,204TTF1,5760,392TVD0,2350,037VCA0,2120,044VDT0,6650,326VFG0,3500,181VGS1,9070,820VID0,7570,272VIS1,2890,500 | SSM         1,402         0,710         Image: constraint of the state o |

## 7.2. Scenario 2: competitor size double

All beta values of total 99 listed firms on VN manufacturing material industry market as below:

## Table 3 – Market risks of listed manufacturing material industry firms under one factor model (case 2) (source: VN stock exchange 2012)

| Order<br>No. | Company<br>stock code | Equity beta | Asset beta (assume debt<br>beta = 0) | Note              | Financial<br>leverage (F.S<br>reports) |
|--------------|-----------------------|-------------|--------------------------------------|-------------------|--|
| 1            | COM                   | 0,604       | 0,473                                |                   | 17,3%                                  |
| 2            | AAA                   | 0,403       | 0,186                                | VID as comparable | 43,1%                                  |
| 3            | ALV                   | 0,890       | 0,618                                | MMC as comparable | 24,5%                                  |
| 4            | AMC                   | 0,781       | 0,450                                | CPC as comparable | 33,9%                                  |
| 5            | APP                   | 0,799       | 0,474                                | CPC as comparable | 32,5%                                  |
| 6            | BGM                   | 0,719       | 0,672                                | GTA as comparable | 5,3%                                   |
| 7            | ВКС                   | 1,339       | 0,928                                |                   | 24,6%                                  |

| 8  | BMC | 1,433  | 1,036  |                     | 22,1%  |
|----|-----|--------|--------|---------------------|--------|
| 9  | BMJ | -1,712 | -1,377 |                     | 15,7%  |
| 10 | BRC | 0,835  | 0,587  | TPP as comparable   | 23,8%  |
| 11 | BVG | 0,197  | 0,053  | COM as comparable   | 58,7%  |
| 12 | BVN | 0,531  | 0,163  | BMC as comparable   | 55,5%  |
| 13 | CAP | 0,543  | 0,205  | CPC as comparable   | 49,7%  |
| 14 | CMI | 0,875  | 0,384  | KKC as comparable   | 44,9%  |
| 15 | CPC | 1,211  | 0,937  |                     | 18,1%  |
| 16 | CTM | 0,350  | 0,178  | DTT as comparable   | 39,4%  |
| 17 | CZC | 0,090  | 0,028  | HVT as comparable   | 54,9%  |
| 18 | DAG | 0,435  | 0,134  | DHC as comparable   | 55,4%  |
| 19 | DHC | 1,170  | 0,461  |                     | 48,5%  |
| 20 | DHM | 0,432  | 0,240  | HGM as comparable   | 35,5%  |
| 21 | DLG | 0,055  | 0,014  | SQC as comparable   | 59,3%  |
| 22 | DNS | 0,076  | 0,025  | BVG as comparable   | 54,3%  |
| 23 | DNY | 0,063  | 0,018  | SQC as comparable   | 56,4%  |
| 24 | DPM | 0,785  | 0,686  |                     | 10,0%  |
| 25 | DPR | 1,043  | 0,808  |                     | 18,0%  |
| 26 | DTL | 0,027  | 0,011  | DLG as comparable   | 47,2%  |
| 27 | DTT | 0,605  | 0,517  | 1                   | 11,6%  |
| 28 | GER | 0,746  | 0,419  | MMC as comparable   | 35,1%  |
| 29 | GTA | 0,757  | 0,569  | 1                   | 19,9%  |
| 30 | HAI | 0,823  | 0,456  |                     | 35,7%  |
| 31 | НАР | 1,280  | 1,018  |                     | 16,4%  |
| 32 | HGM | 0,691  | 0,535  |                     | 18,0%  |
| 33 | HLA | 1,833  | 0,339  |                     | 65,2%  |
| 34 | HLC | 0,397  | 0,045  |                     | 71,0%  |
| 35 | НМС | 1,227  | 0,348  |                     | 57,3%  |
| 36 | HPG | 0,969  | 0,424  |                     | 45,0%  |
| 37 | HPP | 0,627  | 0,268  | KMT as comparable   | 45,9%  |
| 38 | HRC | 0,971  | 0,750  |                     | 18,2%  |
| 39 | HSG | 1,821  | 0,587  |                     | 54,2%  |
| 40 | HSI | 0,748  | 0,154  |                     | 63,6%  |
| 41 | HVC | 0,314  | 0,083  | HRC as comparable   | 58,9%  |
| 42 | HVT | 0,238  | 0,105  | -                   | 44,6%  |
| 43 | KHB | 0,550  | 0,486  | DTT as comparable   | 9,3%   |
| 44 | ККС | 1,717  | 0,860  |                     | 39,9%  |
| 45 | КМТ | 1,259  | 0,386  |                     | 55,4%  |
| 46 | KSA | 0,859  | 0,530  | KMT as comparable   | 30,6%  |
| 47 | KSB | 1,103  | 0,705  |                     | 28,9%  |
| 48 | KSH | 1,766  | 1,162  |                     | 27,4%  |
| 49 | KSS | 2,089  | 1,049  |                     | 39,8%  |
| 50 | KTB | 0,485  | 0,366  | COM as comparable   | 19,7%  |
| 51 | LAS | 0,478  | 0,185  | DPR as comparable   | 49,0%  |
| 52 | LCM | 0,542  | 0,531  | KHB as comparable   | 1,6%   |
| 53 | MAX | 0,066  | 0,044  | CZC as comparable   | 26,7%  |
|    |     | 0,000  | 3,311  | olle us computation | _0,770 |

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| 54       | MDC   | 0,546 | 0,126 |                   | 61,6% |
|----------|-------|-------|-------|-------------------|-------|
| 55       | MDF   | 0,067 | 0,057 | DNS as comparable | 12,2% |
| 56       | MHL   | 0,482 | 0,252 |                   | 38,1% |
| 57       | MIC   | 1,417 | 0,902 |                   | 29,1% |
| 58       | MIH   | 0,068 | 0,016 | HVT as comparable | 61,6% |
| 59       | MIM   | 0,425 | 0,196 | APP as comparable | 43,2% |
| 60       | MMC   | 1,183 | 0,990 | I                 | 13,1% |
| 61       | NBC   | 1,129 | 0,273 |                   | 60,7% |
| 62       | NKG   | 0,007 | 0,002 | DTL as comparable | 62,8% |
| 63       | NSP   | 0,811 | 0,719 | ALV as comparable | 9,1%  |
| 64       | NVC   | 0,353 | 0,050 |                   | 68,6% |
| 65       | PHR   | 0,471 | 0,268 |                   | 34,5% |
| 66       | PHT   | 0,912 | 0,200 |                   | 38,2% |
| 67       | PLC   | 1,338 | 0,448 |                   | 53,2% |
|          | POM   |       |       | TIC as comparable |       |
| 68       |       | 0,111 | 0,038 | TIS as comparable | 52,4% |
| 69<br>70 | PTK   | 1,368 | 0,986 | KSH as comparable | 22,3% |
| 70       | RDP   | 0,827 | 0,303 |                   | 50,7% |
| 71       | SHA   | 0,810 | 0,314 | KSH as comparable | 48,9% |
| 72       | SHI   | 1,550 | 0,476 |                   | 55,4% |
| 73       | SMC   | 1,142 | 0,266 |                   | 61,3% |
| 74       | SPC   | 0,062 | 0,015 | VCA as comparable | 61,0% |
| 75       | SQC   | 0,174 | 0,148 |                   | 11,9% |
| 76       | SSM   | 1,402 | 0,710 |                   | 39,5% |
| 77       | TC6   | 0,678 | 0,127 |                   | 65,0% |
| 78       | TCS   | 0,900 | 0,152 |                   | 66,5% |
| 79       | TDN   | 0,587 | 0,127 |                   | 62,7% |
| 80       | TDS   | 0,398 | 0,146 | PHT as comparable | 50,6% |
| 81       | THT   | 0,927 | 0,294 |                   | 54,6% |
| 82       | TIS   | 0,268 | 0,075 | DPM as comparable | 57,6% |
| 83       | TLH   | 0,320 | 0,151 | TDN as comparable | 42,2% |
| 84       | TNB   | 0,072 | 0,054 | CZC as comparable | 19,9% |
| 85       | TNC   | 0,949 | 0,846 |                   | 8,7%  |
| 86       | TNT   | 1,085 | 0,781 | SSM as comparable | 22,4% |
| 87       | TPC   | 1,062 | 0,531 |                   | 40,0% |
| 88       | TPP   | 1,100 | 0,321 |                   | 56,7% |
| 89       | TRC   | 1,185 | 0,917 |                   | 18,1% |
| 90       | TSC   | 0,928 | 0,204 |                   | 62,4% |
| 91       | TTF   | 1,576 | 0,392 |                   | 60,1% |
| 92       | TVD   | 0,235 | 0,037 | TRC as comparable | 67,5% |
| 93       | VCA   | 0,212 | 0,044 | RDP as comparable | 63,5% |
| 94       | VDT   | 0,665 | 0,326 | MMC as comparable | 40,8% |
| 95       | VFG   | 0,350 | 0,181 |                   | 38,6% |
| 96       | VGS   | 1,907 | 0,820 |                   | 45,6% |
| 97       | VID   | 0,757 | 0,320 |                   | 51,2% |
| 98       | VID   | 1,289 | 0,500 |                   | 49,0% |
| 99       | VKP   | 0,877 | 0,300 |                   | 68,0% |
|          | V IXI | 0,077 | 0,151 | Average           | 40,8% |
|          |       |       |       | Avelage           | 40,8% |

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#### 7.3. Scenario 3: Competitor size slightly smaller

All beta values of total 99 listed firms on the manufacturing material industry market in VN as following:

## Table 4 – Market risk of listed manufacturing material industry firms under one factor model (case 3) (source: VN stock exchange 2012)

| Order No. | Company stock<br>code | Equity beta | Asset beta (assume debt<br>beta = 0) | Note              |
|-----------|-----------------------|-------------|--------------------------------------|-------------------|
| 1         | СОМ                   | 0,604       | 0,473                                |                   |
| 2         | AAA                   | 0,752       | 0,346                                | HAP as comparable |
| 3         | ALV                   | 0,863       | 0,599                                | HTP as comparable |
| 4         | AMC                   | 0,822       | 0,474                                | MMC as comparable |
| 5         | APP                   | -1,213      | -0,720                               | BMJ as comparable |
| 6         | BGM                   | 0,322       | 0,300                                | CZC as comparable |
| 7         | BKC                   | 1,339       | 0,928                                |                   |
| 8         | BMC                   | 1,433       | 1,036                                |                   |
| 9         | BMJ                   | -1,712      | -1,377                               |                   |
| 10        | BRC                   | 0,774       | 0,544                                | CMI as comparable |
| 11        | BVG                   | 0,228       | 0,061                                | COM as comparable |
| 12        | BVN                   | 0,136       | 0,042                                | BGM as comparable |
| 13        | САР                   | 0,610       | 0,231                                | CPC as comparable |
| 14        | CMI                   | 0,970       | 0,425                                | KKC as comparable |
| 15        | CPC                   | 1,211       | 0,937                                |                   |
| 16        | СТМ                   | -0,767      | -0,390                               | APP as comparable |
| 17        | CZC                   | 0,335       | 0,105                                | BRC as comparable |
| 18        | DAG                   | 0,498       | 0,153                                | DHC as comparable |
| 19        | DHC                   | 1,170       | 0,461                                |                   |
| 20        | DHM                   | 0,969       | 0,539                                | BMC as comparable |
| 21        | DLG                   | 0,032       | 0,008                                | DTL as comparable |
| 22        | DNS                   | 0,100       | 0,032                                | BVG as comparable |
| 23        | DNY                   | 0,163       | 0,048                                | HLC as comparable |
| 24        | DPM                   | 0,785       | 0,686                                |                   |
| 25        | DPR                   | 1,043       | 0,808                                |                   |
| 26        | DTL                   | 0,088       | 0,036                                | DNY as comparable |
| 27        | DTT                   | 0,605       | 0,517                                | 1                 |
| 28        | GER                   | 0,336       | 0,188                                | VDT as comparable |
| 29        | GTA                   | 0,757       | 0,569                                |                   |
| 30        | HAI                   | 0,823       | 0,456                                |                   |
| 31        | НАР                   | 1,280       | 1,018                                |                   |
| 32        | HGM                   | 0,691       | 0,535                                |                   |
| 33        | HLA                   | 1,833       | 0,339                                |                   |
| 34        | HLC                   | 0,397       | 0,045                                |                   |
| 35        | НМС                   | 1,227       | 0,348                                |                   |
| 36        | HPG                   | 0,969       | 0,424                                |                   |
| 37        | HPP                   | 0,578       | 0,247                                | KSA as comparable |
| 38        | HRC                   | 0,971       | 0,750                                |                   |
| 39        | HSG                   | 1,821       | 0,587                                |                   |
| 40        | HSI                   | 0,748       | 0,154                                |                   |
| 41        | HVC                   | 0,186       | 0,049                                | DAG as comparable |
| 42        | HVT                   | 0,238       | 0,105                                |                   |
| 43        | KHB                   | 0,262       | 0,231                                | MIM as comparable |

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| 44 | KKC        | 1,717 | 0,860                                 |                                    |
|----|------------|-------|---------------------------------------|------------------------------------|
| 45 | KMT        | 1,259 | 0,386                                 |                                    |
| 46 | KSA        | 1,044 | 0,644                                 | BMC as comparable                  |
| 40 | KSA        | 1,103 | 0,705                                 | Divic as comparable                |
| 47 | KSH        | 1,103 | 1,162                                 |                                    |
| 48 | KSS        |       | 1,102                                 |                                    |
| 50 | K55<br>KTB | 2,089 | 0,793                                 | KMT as someorphic                  |
| 51 |            | 1,052 | · · · · · · · · · · · · · · · · · · · | KMT as comparable                  |
| 52 | LAS<br>LCM | 0,017 | 0,006                                 | DLG as comparableKHB as comparable |
| 53 | MAX        | 0,259 | 0,254 0,486                           |                                    |
| 53 |            | 0,729 |                                       | TNB as comparable                  |
| 55 | MDC        | 0,546 | 0,126                                 | KTD as some such 1.                |
|    | MDF        | 0,950 | 0,804                                 | KTB as comparable                  |
| 56 | MHL        | 0,482 | 0,252                                 |                                    |
| 57 | MIC        | 1,417 | 0,902                                 | MAX                                |
| 58 | MIH        | 0,243 | 0,056                                 | MAX as comparable                  |
| 59 | MIM        | 0,283 | 0,130                                 | MHL as comparable                  |
| 60 | MMC        | 1,183 | 0,990                                 |                                    |
| 61 | NBC        | 1,129 | 0,273                                 |                                    |
| 62 | NKG        | 0,027 | 0,006                                 | DTL as comparable                  |
| 63 | NSP        | 0,801 | 0,710                                 | ALV as comparable                  |
| 64 | NVC        | 0,353 | 0,050                                 |                                    |
| 65 | PHR        | 0,471 | 0,268                                 |                                    |
| 66 | PHT        | 0,912 | 0,477                                 |                                    |
| 67 | PLC        | 1,338 | 0,448                                 | 11                                 |
| 68 | POM        | 0,851 | 0,293                                 | HSG as comparable                  |
| 69 | PTK        | 0,101 | 0,073                                 | SHA as comparable                  |
| 70 | RDP        | 0,827 | 0,303                                 | MIII                               |
| 71 | SHA        | 0,125 | 0,048                                 | MIH as comparable                  |
| 72 | SHI        | 1,550 | ,                                     |                                    |
| 73 | SMC        | 1,142 | 0,266                                 |                                    |
| 74 | SPC        | 0,325 | 0,077                                 | MDF as comparable                  |
| 75 | SQC        | 0,174 | 0,148                                 |                                    |
|    | SSM        | 1,402 | 0,710                                 |                                    |
| 77 | TC6        | 0,678 | 0,127                                 |                                    |
| 78 | TCS        | 0,900 | 0,152                                 |                                    |
| 79 | TDN        | 0,587 | 0,127                                 | SDC og serverselt                  |
| 80 | TDS        | 0,160 | 0,059                                 | SPC as comparable                  |
| 81 | THT        | 0,927 | 0,294                                 |                                    |
| 82 | TIS        | 0,717 | 0,201                                 | HSG as comparable                  |
| 83 | TLH        | 0,406 | 0,192                                 | TC6 as comparable                  |
| 84 | TNB        | 0,948 | 0,713                                 | TNT as comparable                  |
| 85 | TNC        | 0,949 | 0,846                                 |                                    |
| 86 | TNT        | 1,137 | 0,818                                 | SSM as comparable                  |
| 87 | TPC        | 1,062 | 0,531                                 |                                    |
| 88 | TPP        | 1,100 | 0,321                                 |                                    |

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| 89 | TRC | 1,185 | 0,917 |                   |
|----|-----|-------|-------|-------------------|
| 90 | TSC | 0,928 | 0,204 |                   |
| 91 | TTF | 1,576 | 0,392 |                   |
| 92 | TVD | 0,096 | 0,015 | TLH as comparable |
| 93 | VCA | 0,098 | 0,020 | SPC as comparable |
| 94 | VDT | 0,493 | 0,242 | NSP as comparable |
| 95 | VFG | 0,350 | 0,181 |                   |
| 96 | VGS | 1,907 | 0,820 |                   |
| 97 | VID | 0,757 | 0,272 |                   |
| 98 | VIS | 1,289 | 0,500 |                   |
| 99 | VKP | 0,877 | 0,131 |                   |

All three above tables and data show that values of equity and asset beta in the three cases of changing competiotor size have certain fluctuation.

#### 8. Comparing statistical results in 3 scenarios of changing leverage:

| Statistic results         | Equity beta | Asset beta (assume debt beta = 0) | Difference |  |  |
|---------------------------|-------------|-----------------------------------|------------|--|--|
| MAX                       | 2,089       | 1,162                             | 0,927      |  |  |
| MIN                       | -1,712      | -1,377                            | -0,335     |  |  |
| MEAN                      | 0,747       | 0,371                             | 0,375      |  |  |
| VAR                       | 0,3030      | 0,1246                            | 0,178      |  |  |
| Note: Samle size 99 firms |             |                                   |            |  |  |

## Table 5 - Statistical results (FL in case 1) (source: VN stock exchange 2012)

#### Table 6 – Statistical results (FL in case 2) (source: VN stock exchange 2012)

| Statistic results      | Equity beta | Asset beta (assume debt beta = 0) | Difference |  |  |
|------------------------|-------------|-----------------------------------|------------|--|--|
| MAX                    | 2,089       | 1,445                             | 0,6434     |  |  |
| MIN                    | -1,712      | -1,377                            | -0,3354    |  |  |
| MEAN                   | 0,786       | 0,392                             | 0,3935     |  |  |
| VAR                    | 0,2931      | 0,1348                            | 0,1583     |  |  |
| Note: Sample size : 99 |             |                                   |            |  |  |

#### Table 7- Statistical results (FL in case 3) (source: VN stock exchange 2012)

| Statistic results      | Equity beta | Asset beta (assume debt beta = 0) | Difference |  |  |
|------------------------|-------------|-----------------------------------|------------|--|--|
| MAX                    | 2,089       | 1,162                             | 0,9268     |  |  |
| MIN                    | -1,712      | -1,377                            | -0,3354    |  |  |
| MEAN                   | 0,728       | 0,360                             | 0,3678     |  |  |
| VAR                    | 0,3605      | 0,1413                            | 0,2192     |  |  |
| Note: Sample size : 99 |             |                                   |            |  |  |

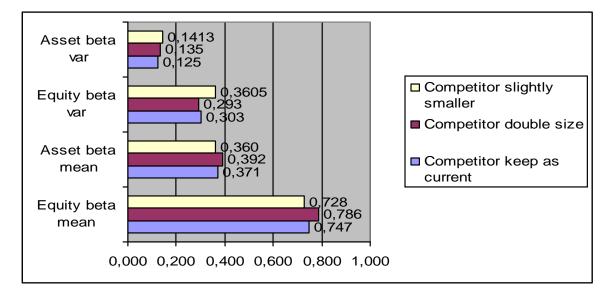
Based on the calculated results, we find out:

First of all, Equity beta mean values in all 3 scenarios are acceptable (< 0,8) and asset beta mean values are also small (< 0,4). In the case of reported leverage in 2011, equity beta max is 2,089 which is somewhat high in a few exceptional cases. If competitor size doubles, asset beta max decreases from 1,162 to 1,445. Finally, when competitor size is slightly smaller, asset beta max keeps the same value of 1,162.

The below chart 1 shows us : when competitive firm size decreases slightly, average equity beta value decrease slightly (0,728) compared to that at the initial selected competitor (0,747). Next, average asset beta decreases little (to 0,360). However, in case the competitor size doubles, the risk level of the selected firms is higher (0,392). Last but not least, the fluctuation of equity beta value (0,293) in the case of doubling size competitors is smaller than (>) the results in the rest 2 cases. And we could note that in the case competitor size slightly smaller, the risk is more dispersed (0,361).

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Chart 1 – Comparing statistical results of equity beta var and mean in three (3) scenarios of changing competitor size (source: VN stock exchange 2012)



## 9. Conclusion and Policy suggestion

In conclusion, the government has to consider the impacts on the mobility of capital in the markets when it changes the macro policies and the legal system and regulation for developing the manufacturing material market. The Ministry of Finance continues to increase the effectiveness of fiscal policies and tax policies which are needed to combine with other macro policies at the same time. The State Bank of Viet Nam continues to increase the effectiveness of capital providing channels for manufacturing material companies as we could note that in this study when competitive firm size doubles, the risk level increases (equity beta mean value is estimated at: 0.786). and the equity beta var value (0,293) is little lower than that in case competitor size as current (0,303).

Furthermore, the entire efforts among many different government bodies need to be coordinated.

Finally, this paper suggests implications for further research and policy suggestion for the Viet Nam government and relevant organizations, economists and investors from current market conditions.

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#### References

- 1. Dexheimer, John., and Haugen, Carla, (2003), Sarbanes-Oxley: Its Impact on the Venture Capital Community, *Minnesota Journal of Business Law and Entrepreneurship*, Vol.2 No.1
- 2. Eugene, Fama F., and French, Kenneth R., (2004), The Capital Asset Pricing Model: Theory and Evidence, *Journal of Economic Perspectives*
- 3. Flifel, Kaouther., (2012), Financial Markets between Efficiency and Persistence : Empirical Evidence on Daily Data, *Asian Journal of Finance and Accounting*
- 4. Gao, Huasheng., Harford, Jarrad., and Li, Kai., (2013), Determinants of Corporate Cash Policy: Insights from Private Firms, *Journal of Financial Economics*
- 5. Huy, Dinh T.N., (2012), Estimating Beta of Viet Nam listed construction companies groups during the crisis, *Journal of Integration and Development*
- 6. Kale, Jayant R., Meneghetti, Costanza., and Sharur, Husayn., (2013), Contracting With Non-Financial Stakeholders and Corporate Capital Structure: The Case of Product Warantties, *Journal of Financial and Quantitative Analysis*
- Litvak, Kate., (2008), Defensive Management: Does the Sarbanes-Oxley Act Discourage Corporate Risk-Taking?, Law and Economics Research Paper, No. 108
- 8. Ling, Amy., (2013), Tax Issues Relating to Intangibles, *Asia-Pacific Tax Bulletin*

- 9. Lu, Wenling., and Whidbee, David A., (2013), Bank Structure and Failure, *Journal of Financial Econoic Policy*
- 10. Mukerjee, Kaushik., (2013), Customer-Oriented Organizations: A Framework for Innovation, *Journal of Business Strategy*
- 11. Shi, Mingtao., (2013), Capturing Strategic Competencies :Cloud Security as a Case Study, *Journal* of Business Strategy
- 12. Young, L., (2011), Market Orientation Processes, Australasian Marketing Journal Research
- 13. Ang, A., Chen, J., (2007), CAPM Over the Long Run: 1926-2001, *Journal of Empirical Finance*
- Baker, Kent H., Singleton, Clay J., and Veit, Theodore E., (2011), Survey Research in Corporate Finance: Bridging The Gap Between Theory and Practice, Oxford University Press
- 15. ADB and Viet Nam Fact Sheet, 2010

#### Other web sources

- 16. http://www.mofa.gov.vn/vi/
- 17. http://www.hsx.vn/hsx/
- 18. <u>www.tuoitre.com.vn;</u>
- 19. www.saigontimes.com.vn;
- 20. <u>www.mof.gov.vn</u>;