



## Selecting Different Industrial Competitors Influence the Risk Level of Viet Nam Hardware Companies

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### Abstract

This research shows marketing factors such as business competitors could affect business market risk, from a quantitative point of view. Using a two (2) factors model, this research paper estimates the impacts of not only the size of firms' competitors, but also leverage in the hardware industry, on the market risk of 22 listed companies in this category.

This paper founds out that the risk dispersion level in this sample study could be minimized in case the competitor size remaining as current (measured by equity beta var of 0,067) and leverage down to 20%.

Beside, the empirical research findings show us that when financial leverage increases up to 30%, max asset beta value decreases from 1,069 to 1,033 in case the size of competitor doubles.

Last but not least, 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.

**Keywords:** Risk management; Competitive firm size; Market risk; Asset and equity beta; Hardware industry

**JEL Classification:** M00, G3, M3

### Introduction

In marketing and business, choosing competitors might affect business strategies, esp., during the crisis period 2007-2009 in which hardware firms experience many risks, although Viet Nam hardware industry is considered as one of active economic sectors, which has some positive effects for the economy [1,2].

This paper is arranged in a systematic way as follow. The research problems and literature evaluation can be covered in subsequent classes 2 and three, for a short summary. Then, methodology and conceptual theories are introduced in session four and 5. Session 6 describes the information in empirical evaluation. Session 7 offers empirical results and findings. Subsequent, session eight covers the analytical outcome. Then, session 9 presents evaluation of enterprise. Ultimately, session 10 will conclude with some coverage recommendations. This paper also helps readers with references, reveals and significant web sources.

### Research Issues

For the estimating of influences of the decision of one-of-a-kind industrial opponents on the chance measured via beta for listed hardware firms in Viet Nam inventory alternate, study issues might be recounted as following:

Limitation 1: whether or not the selection of unique opponents makes the chance stage of hardware industry corporations beneath the special changing eventualities of leverage expand or scale back so much.

Limitation 2: whether the choice of doubling size competitor makes the dispersion of beta values grow to be large within the exclusive altering situations of leverage on this enterprise.

### Literature Review

Huasheng [3], Litvak [4] and Dinh [5] pointed a large and active theoretical and empirical literature has related financial development

to the economic growth process.

Last but not least, Eugene [6] Binomial Leverage – Volatility theorem provides a precise link between leverage and volatility. Chen et al. [7] supports suspicions that over-reliance on short-term funding and insufficient collateral compounded the effects of dangerously high leverage and resulted in undercapitalization and excessive risk exposure for Lehman Brothers [8].

### Conceptual Theories

#### Industrial competitor theories

There are numerous moderate advantages which might be owned by way of industrial competitors. These advantages may also be attributes corresponding to entry to normal assets or particularly trained personel human assets or capital or leverage. Utilizing leverage can aid businesses to receive new technologies which might be a different competitive talents [9,10].

### Methodology

On this research, analytical study procedure is used, philosophical procedure is used and specially, scenario evaluation procedure is used. Analytical data is from the hindrance of listed industrial electric industry organizations in VN inventory exchange and utilized current tax price is 25%. The under desk 1 suggests us three circumstances of selecting exceptional rivals (Table 1) [11].

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Order No.	Company Stock code	Competitor size as current	Competitor size slightly smaller	Competitor size double
1	CMT			
2	SVT	TLC as comparable	TLC as comparable	VIE as comparable
3	VIE	UNI as comparable	ONE as comparable	LTC as comparable
4	HPT	TST as comparable	TST as comparable	ITD as comparable
5	NIS	VTC as comparable	VTC as comparable	ST8 as comparable
6	TST			
7	ST8			
8	TAG			
9	POT			
10	CKV			
11	ONE	UNI as comparable	UNI as comparable	TAG as comparable
12	PMT			
13	SMT	PMT as comparable	HTP as comparable	NIS as comparable
14	UNI			
15	TLC			
16	KST	TLC as comparable	VTC as comparable	VIE as comparable
17	VAT			
18	VTC			
19	ELC	ITD as comparable	ITD as comparable	CMG as comparable
20	SAM			
21	LTC			
22	ITD			

Table 1: Analyzing market risk under three (3) scenarios of changing competitors.

	FL as current	FL up 30%	FL down 20%
Competitor size as current	Scenario 1	Scenario 2	Scenario 3
Competitor size slightly smaller			
Competitor size double			

Scenario 1: Current financial leverage (FL) as in financial reports 2011 and competitor size kept as current, slightly smaller and double

Table 2: Inspecting market hazard beneath three (three) eventualities (Made by means of writer).

Eventually, we use the outcome to recommend coverage for both these firms, valuable companies and executive.

### General Data Analysis

The research sample has total 22 listed companies within the hardware enterprise market with the reside information from the stock trade.

First of all, we estimate fairness beta values of those organizations and use financial leverage to estimate asset beta values of them. Secondly, we change the opponents from what stated in F.S 2011 to these with measurement doubling and decreasing moderately to see the sensitivity of beta values [12,13]. We found out that in both cases of smaller competitors and double dimension opponents, asset beta mean values are reduced to 0,334 from 0,343 if the leverage up to 30%. Also in 3 scenarios of one-of-a-kind competitors, we find out equity beta mean values are relocating in the reverse path with the leverage. Leverage measure alterations definitely has precise effects on asset and equity beta values.

### Empirical Research Findings and Discussion

Within the under section, information used are from whole 22 listed hardware industry companies on VN inventory alternate (HOSE and HNX in most cases). In the scenario 1, present fiscal leverage degree is kept as in the 2011 fiscal statements which is used to calculate market hazard (beta) whereas competitor dimension is kept as present,

then modified from double size to reasonably smaller size. Then, two (2) FL situations are transformed as much as 30% and down to 20%, in comparison with the current FL measure. In brief, the below Table 2 indicates three situations used for examining the risk stage of those listed firms.

Market threat (beta) beneath the influence of tax cost, includes: 1) equity beta; and 2) asset beta.

In this case, all beta values of 22 listed firms on VN hardware industry market as following Table 3.

If leverage increases up to 30%, all beta values of total 22 listed firms on VN hardware industry market as below Table 4.

If leverage decreases down to 20%, all beta values of total 22 listed firms on the hardware industry market in VN as following Table 5.

All three above tables and data show that values of equity and asset beta in the case of increasing leverage up to 30% or decreasing leverage degree down to 20% have certain fluctuation.

### Comparing Statistical Results in 3 Scenarios of Changing Leverage

The calculated statistical results are shown in Tables 6-8.

Based on the calculated results, we find out:

First of all, if competitor size is kept as current, both max and min

Order No.	Company stock code	Competitor size as current		Competitor size slightly smaller		Competitor size double	
		Equity beta	Asset beta (assume debt beta = 0)	Equity beta	Asset beta (assume debt beta = 0)	Equity beta	Asset beta (assume debt beta = 0)
1	CMT	0,665	0,326	0,665	0,326	0,665	0,326
2	SVT	0,860	0,651	0,860	0,651	0,212	0,161
3	VIE	0,283	0,054	0,131	0,025	0,263	0,050
4	HPT	0,238	0,063	0,238	0,063	0,113	0,030
5	NIS	0,347	0,165	0,347	0,165	0,487	0,231
6	TST	0,739	0,236	0,739	0,236	0,739	0,236
7	ST8	0,891	0,682	0,891	0,682	0,891	0,682
8	TAG	0,632	0,411	0,632	0,411	0,632	0,411
9	POT	1,046	0,533	1,046	0,533	1,046	0,533
10	CKV	0,604	0,221	0,604	0,221	0,604	0,221
11	ONE	0,551	0,217	0,551	0,217	0,294	0,116
12	PMT	1,234	1,056	1,191	1,019	1,191	1,019
13	SMT	0,934	0,654	0,826	0,578	0,369	0,258
14	UNI	1,186	0,732	1,186	0,732	1,186	0,732
15	TLC	1,066	0,770	1,066	0,770	1,066	0,770
16	KST	0,679	0,386	0,405	0,230	0,168	0,095
17	VAT	1,028	0,485	1,168	0,551	1,168	0,551
18	VTC	0,635	0,431	0,635	0,431	0,635	0,431
19	ELC	0,200	0,100	0,200	0,100	0,542	0,271
20	SAM	1,191	1,069	1,191	1,069	1,191	1,069
21	LTC	1,102	0,329	1,102	0,329	1,102	0,329
22	ITD	0,351	0,132	0,351	0,132	0,351	0,132

Scenario 2: financial leverage increases up to 30% and competitor size kept as current, slightly smaller and double

**Table 3:** Market risk of listed companies on VN hardware industry market under a two factors model (case 1) (source: VN stock exchange 2012).

Order No.	Company stock code	Competitor size as current		Competitor size slightly smaller		Competitor size double	
		Equity beta	Asset beta (assume debt beta = 0)	Equity beta	Asset beta (assume debt beta = 0)	Equity beta	Asset beta (assume debt beta = 0)
1	CMT	0,665	0,224	0,665	0,224	0,665	0,224
2	SVT	0,792	0,543	0,792	0,543	-0,059	-0,040
3	VIE	-0,085	0,004	-0,022	0,001	-0,079	0,004
4	HPT	0,041	0,002	0,041	0,002	0,019	0,001
5	NIS	0,243	0,077	0,243	0,077	0,341	0,108
6	TST	0,739	0,085	0,739	0,085	0,739	0,085
7	ST8	0,891	0,619	0,891	0,619	0,891	0,619
8	TAG	0,632	0,345	0,632	0,345	0,632	0,345
9	POT	1,046	0,379	1,046	0,379	1,046	0,379
10	CKV	0,604	0,106	0,604	0,106	0,604	0,106
11	ONE	0,314	0,067	0,314	0,067	0,167	0,036
12	PMT	1,234	1,003	1,191	0,967	1,191	0,967
13	SMT	0,835	0,509	0,738	0,450	0,230	0,141
14	UNI	1,186	0,596	1,186	0,596	1,186	0,596
15	TLC	1,066	0,681	1,066	0,681	1,066	0,681
16	KST	0,544	0,239	0,324	0,142	-0,040	-0,018
17	VAT	1,028	0,323	1,168	0,366	1,168	0,366
18	VTC	0,635	0,369	0,635	0,369	0,635	0,369
19	ELC	0,147	0,051	0,147	0,051	0,397	0,139
20	SAM	1,191	1,033	1,191	1,033	1,191	1,033
21	LTC	1,102	0,097	1,102	0,097	1,102	0,097
22	ITD	0,351	0,066	0,351	0,066	0,351	0,066

Scenario 3: financial leverage increases up to 30% and competitor size kept as current, slightly smaller and double

**Table 4:** Market risks of listed hardware industry firms under a two factors model (case 2) (source: VN stock exchange 2012).

values of asset beta vary in 3 cases (max values decreasing to 1,033 and increasing to 1,094 when leverage up 30% and down 20%). Secondly, if competitor size is chosen with total asset doubling, max and min values

of asset beta vary in all 3 scenarios. Thirdly, if competitor is chosen with total asset slightly smaller, there is tiny change in min values of equity and asset beta in the case of leverage down 20% (for example, min asset

Order No.	Company stock code	Competitor size as current		Competitor size slightly smaller		Competitor size double	
		Equity beta	Asset beta (assume debt beta = 0)	Equity beta	Asset beta (assume debt beta = 0)	Equity beta	Asset beta (assume debt beta = 0)
1	CMT	0,665	0,394	0,665	0,394	0,665	0,394
2	SVT	0,903	0,728	0,903	0,728	0,392	0,316
3	VIE	0,498	0,176	0,292	0,103	0,463	0,163
4	HPT	0,356	0,146	0,356	0,146	0,169	0,069
5	NIS	0,411	0,238	0,411	0,238	0,577	0,335
6	TST	0,739	0,337	0,739	0,337	0,739	0,337
7	ST8	0,891	0,724	0,891	0,724	0,891	0,724
8	TAG	0,632	0,455	0,632	0,455	0,632	0,455
9	POT	1,046	0,636	1,046	0,636	1,046	0,636
10	CKV	0,604	0,297	0,604	0,297	0,604	0,297
11	ONE	0,695	0,358	0,695	0,358	0,371	0,191
12	PMT	1,234	1,092	1,191	1,054	1,191	1,054
13	SMT	0,998	0,759	0,882	0,671	0,467	0,355
14	UNI	1,186	0,823	1,186	0,823	1,186	0,823
15	TLC	1,066	0,829	1,066	0,829	1,066	0,829
16	KST	0,764	0,500	0,455	0,298	0,332	0,217
17	VAT	1,028	0,594	1,168	0,675	1,168	0,675
18	VTC	0,635	0,471	0,635	0,471	0,635	0,471
19	ELC	0,234	0,140	0,234	0,140	0,633	0,380
20	SAM	1,191	1,094	1,191	1,094	1,191	1,094
21	LTC	1,102	0,483	1,102	0,483	1,102	0,483
22	ITD	0,351	0,175	0,351	0,175	0,351	0,175

Table 5: Market risk of listed hardware industry firms under a two factors model (case 3) (source: VN stock exchange 2012).

Statistic results	Competitor size as current			Competitor size slightly smaller			Competitor size double		
	Equity beta	Asset beta (assume debt beta = 0)	Difference	Equity beta	Asset beta (assume debt beta = 0)	Difference	Equity beta	Asset beta (assume debt beta = 0)	Difference
MAX	1,234	1,069	0,165	1,191	1,069	0,122	1,191	1,069	0,122
MIN	0,200	0,054	0,147	0,131	0,025	0,106	0,113	0,030	0,083
MEAN	0,748	0,441	0,307	0,728	0,430	0,298	0,678	0,393	0,285
VAR	0,1085	0,0893	0,019	0,1226	0,0894	0,033	0,1392	0,0903	0,049

Note: Sample size : 22 firms

Table 6: Statistical results (FL in case 1) (source: VN stock exchange 2012).

Statistic results	Competitor size as current			Competitor size slightly smaller			Competitor size double		
	Equity beta	Asset beta (assume debt beta = 0)	Difference	Equity beta	Asset beta (assume debt beta = 0)	Difference	Equity beta	Asset beta (assume debt beta = 0)	Difference
MAX	1,234	1,033	0,201	1,191	1,033	0,158	1,191	1,033	0,158
MIN	-0,085	0,002	-0,087	-0,022	0,001	-0,024	-0,079	-0,040	-0,039
MEAN	0,691	0,337	0,354	0,684	0,330	0,353	0,611	0,287	0,325
VAR	0,1538	0,0945	0,059	0,1570	0,0929	0,064	0,2036	0,0985	0,105

Note: Sample size : 22 firms

Table 7: Statistical results (FL in case 2) (source: VN stock exchange 2012).

Statistic results	Competitor size as current			Competitor size slightly smaller			Competitor size double		
	Equity beta	Asset beta (assume debt beta = 0)	Difference	Equity beta	Asset beta (assume debt beta = 0)	Difference	Equity beta	Asset beta (assume debt beta = 0)	Difference
MAX	1,234	1,094	0,141	0,665	0,759	-0,093	1,191	1,094	0,097
MIN	0,234	0,140	0,094	0,234	0,103	0,131	0,234	0,103	0,131
MEAN	0,783	0,520	0,263	0,759	0,506	0,253	0,759	0,506	0,253
VAR	0,0908	0,0828	0,008	0,1036	0,0847	0,019	0,1036	0,0847	0,019

Note: Sample size : 22 firms

Table 8: Statistical results (FL in case 3) (source: VN stock exchange 2012).

beta increasing to 0,103 from 0,030).

Additionally, the below Figure 1 shows us: in the case of doubling competitor size, the risk is less dispersed in case FL down 20%. Especially, if leverage down to 20%, equity beta var is at 0,084 (equity beta var is minimum in case FL down 20% and approximate size competitors). On the contrary, in the case of doubling dimension opponents, if leverage as much as 30%, equity beta var increases to 0,210.

Last but not least, from Figure 2, we could note that in the case of slightly smaller size competitors, keeping the current leverage degree, asset beta mean value reduces to 0,436 from 0,448 (approximate size competitors). On the other hand, in the case of doubling size competitors, asset beta mean value goes down to 0,381.

### Conclusion and Policy Suggestion

In general, 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 hardware market [14]. 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 hardware

companies. Furthermore, the entire efforts among many different government bodies need to be coordinated [15].

Last but not least, these companies might be aware of a minimum value of asset beta mean of 0,334 with either doubling size competitors or smaller competitors (leverage up 30%) and a maximum value of asset beta mean of 0,531 with approximate size competitors if leverage down 20%. In this case, the statement “the riskier the marketing strategy, the lower the market risk” is not totally correct.

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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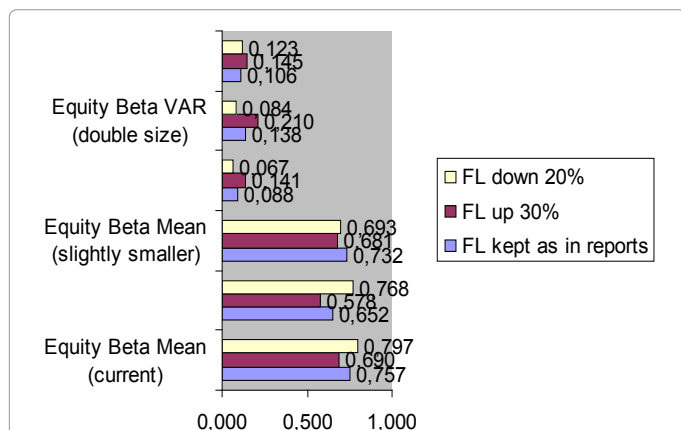


Figure 1: Comparing statistical results of equity beta var and mean in three (3) scenarios of changing FL and competitor size (source: VN stock exchange 2012).

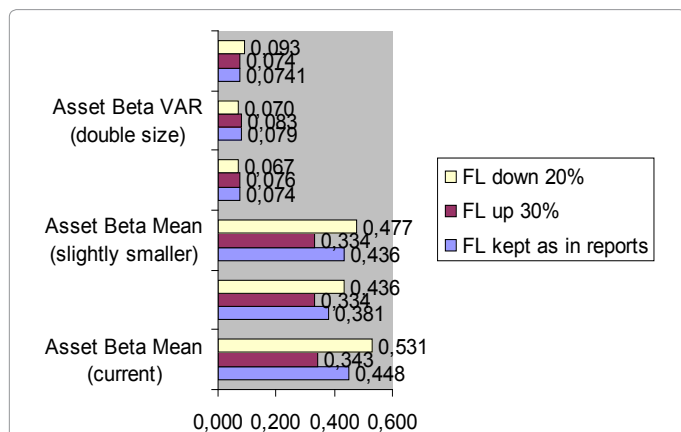


Figure 2: Comparing statistical results of asset beta var and mean in three (3) scenarios of changing FL and competitor size (source: VN stock exchange 2012).

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