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Whether Different Changing Tax Rates Cause the Risk Level of Viet Nam Construction Firms Increase or Decrease so Much?

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First, by using quantitative and analytical methods to estimate asset and equity beta of total 104 listed companies in Viet Nam construction industry with a proper traditional model, we found out that the beta values, in general, for many companies are acceptable.

Second, under 3 different scenarios of changing tax rates (20%, 25% and 28%), we recognized that there is not large disperse in equity beta values, estimated at 1,008, 1,106 and 1,014.These values are higher than those of the listed VN real estate firms.

Third, by changing tax rates in 3 scenarios (25%, 20% and 28%), we recognized both equity and asset beta mean values have positive relationship with the increasing levels of tax rate.

Finally, this paper provides some outcomes that could provide companies and government more evidence in establishing their policies in governance.

Keywords : *equity beta, financial structure, financial crisis, risk, tax rate real estate industry.*

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I. Introduction

Together with the development of real estate industry, throughout many recent years, Viet Nam construction industry is considered as one of active economic sectors, which has certain positive effect for the economy.

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 presents analysis of risk. Lastly, session 10 will conclude with some policy suggestions. This paper also supports readers with references, exhibits and relevant web sources.

II. Research Issues

We mention some issues on the estimating of impacts of tax rates on beta for listed construction companies in Viet Nam stock exchange as following:

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Issue 1 : Whether the risk level of construction firms under the different changing scenarios of tax rates increase or decrease so much.

Issue 2 : Whether the disperse distribution of beta values become large in the different changing scenarios of tax rates estimated in the construction industry.

III. Literature Review

Smith (2004) mentions in Chicago, properties located in a designated TIF (tax increment financing) district will exhibit higher rates of appreciation after the area is designated a qualifying TIF district when compared to those properties selling outside TIF districts, and when compared to properties that sell within TIF district boundaries prior to designation.

Robert et all (2011) recognized a significant positive relation between changes in intercorporate investment and changes in corporate marginal tax rates on ordinary income.

George and Jot Yau (2012) found that there is a positive relationship between transaction cost and price volatility, suggesting that the imposition of a transaction tax could increase financial market fragility, increasing the likelihood of a financial crisis rather than reducing it.

Next, Ruud et all (2013) said that greater tax bias is associated with significantly higher aggregate bank leverage, and this in turn is associated with a significantly greater chance of crisis.

Then, Sung, Mark and Laura (2013) also indicated that business property values are more responsive to changes in tax rates as compared to residential property.

Finally, tax rate can be considered as one among many factors that affect business risk of real estate firms.

IV. Conceptual Theories

a) The impact of fiscal policy on the economy

Tax policy is one among major fiscal policies. If the government changes the tax or expenditure policy, the economy will be affected because the aggregate demand fluctuates, level of economic activities fluctuates, level of income changes and the allocation of economic resources in the public sector in relative to private sector changes.

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In a specific industry such as construction industry, on the one hand, using tax policy with a decrease or increase in tax rate could affect tax revenues, profit after tax and financial results and compensation and jobs of the industry. On the other hand, using tax policies could increase the financial results of this industry and therefore, affect the tax revenues, compensation and jobs.

During and after financial crises such as the 2007-2009 crisis, there raises concerns about fiscal policies or public policies of many countries, in both developed and developing markets.

V. Methodology

Because the period 2007-2011 is the time the local economy experienced impacts from financial crisis, in this study, we use the live data from the stock exchange market in Viet Nam (HOSE and HNX) during the four or five years period to estimate systemic risk results and tax impacts.

In this research, analytical research method is used and specially, tax rate scenario analysis method is used. Analytical data is from the situation of listed construction firms in VN stock exchange and cuurent tax rate is 25%.

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

VI. General Data Analysis

The research sample has 104 listed firms in the construction market with the live data from the stock exchange.

Firstly, we estimate equity beta values of these firms and use financial leverage to estimate asset beta values of them. Secondly, we change the tax rate from 25% to 28% and 20% to see the sensitivity of beta values. In 3 cases (rate = 20%, 25%, and 28%), asset beta mean is estimated at 0,306, 0,307 and 0,308. Also in 3 scenarios, we find out var of asset beta estimated at 0,064 (almost the same) which shows small risk dispersion. Tax rate changes almost has no effect on asset beta var under financial leverage.

VII. Empirical Research Findings and Discussion

In the below section, data used are from total 104 listed construction companies on VN stock exchange (HOSE and HNX mainly). In the scenario 1, current tax rate is 25% which is used to calculate market risk (beta). Then, two (2) tax rate scenarios are changed up to 28% and down to 20%, compared to the current corporate tax rate.

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

- Scenario 1: current tax rate is 25%

In the case of tax rate of 25%, all beta values of 104 listed firms on VN construction market as following:

Table 1 : Market risk of listed companies on VN construction market (t = 25%)

Order No.	Company stock code	Equity beta	Asset beta (assume debt beta = 0)
1	CNT	1,062	0,134
2	DCC	1,299	0,578
3	DIG	1,772	0,964
4	FPC	0,484	0,229
5	HBC	1,030	0,277
6	L10	0,909	0,193
7	MCG	1,595	0,543
8	VNE	1,700	0,606
9	L35	0,295	0,095
10	LM3	0,337	0,040
11	LO5	0,745	0,179
12	L62	0,606	0,171
13	L61	0,856	0,261
14	L43	0,709	0,217
15	L44	1,277	0,252
16	B82	0,860	0,146
17	BCE	0,955	0,515
18	C92	0,800	0,121
19	CIC	0,919	0,248
20	CID	0,891	0,423
21	CSC	1,023	0,217
22	CT6	0,435	0,122
23	CTD	0,950	0,574
24	CTM	2,869	1,458
25	CVN	0,995	0,605
26	CX8	0,180	0,034
27	DC2	0,323	0,116
28	DLR	0,243	0,064
29	HUT	1,084	0,143
30	L18	1,069	0,156
31	LCS	0,141	0,037
32	LHC	0,755	0,358
33	LIG	0,436	0,091
34	LUT	1,433	0,730
35	MCO	0,755	0,127

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36	NSN	0,115	0,014
37	PHC	1,667	0,409
38	QTC	0,259	0,110
39	TV2	0,822	0,207
40	TV4	0,666	0,241
41	VE1	1,475	0,776
42	VE2	0,595	0,358
43	VE3	0,598	0,403
44	VE9	0,704	0,430
45	VHH	0,440	0,226
46	SNG	1,264	0,484
47	SSS	1,074	0,385
48	STL	1,634	0,066
49	SJM	1,030	0,389
50	SJE	1,399	0,324
51	SJC	1,103	0,266
52	SIC	1,568	0,365
53	SEL	0,220	0,059
54	SDT	1,406	0,435
55	SDS	0,929	0,071
56	SDJ	1,257	0,249
57	SDH	2,884	1,290
58	SDB	0,214	0,043
59	SD9	1,456	0,415
60	SD8	1,210	0,103
61	SD7	1,461	0,243
62	SD6	1,670	0,479
63	SD5	1,332	0,503
64	SD4	1,114	0,233
65	SD3	1,361	0,695
66	SD2	1,386	0,450
67	SD1	0,198	0,034
68	S99	1,286	0,800
69	S96	1,706	0,480
70	S91	1,213	0,386
71	S74	1,250	0,443
72	S64	1,099	0,358
73	S55	1,251	0,476
74	S27	1,213	0,008
75	S12	1,180	0,202
76	MEC	1,410	0,040
77	ICG	1,634	0,795
78	PHH	1,069	0,108
79	PIV	0,598	0,325
80	PVA	1,932	0,209
81	PVE	1,580	0,499
82	PVR	1,670	0,440
83	PVV	1,332	0,048
84	PVX	1,304	0,311
85	PXI	1,332	0,029
86	PXS	1,406	0,172
87	PXT	1,521	0,206
88	SDP	1,410	0,271
89	CTN	0,922	0,160
90	V11	1,148	0,161
91	V12	1,521	0,181
92	V15	1,566	0,582
93	V21	0,971	0,012
94	VC1	1,815	0,525
95	VC2	1,240	0,220
96	VC3	1,256	0,195
97	VC5	1,266	0,181
98	VC6	1,123	0,287
99	VC7	1,106	0,252
100	VC9	1,140	0,124
101	VCC	0,971	0,188
102	VCG	1,505	0,186
103	VCH	1,286	0,018
104	VMC	1,503	0,292

Note : Raw data, not adjusted

- Scenario 2: tax rate increases up to 28%

If corporate tax rates increases up to 28%, all beta values of total 45 listed firms on VN construction market as below:

Table 2 : Market risks of listed construction firms (t = 28%)

Order No.	Company stock code	Equity beta	Asset beta (assume debt beta = 0)
1	CNT	1,062	0,134
2	DCC	1,299	0,578
3	DIG	1,772	0,964
4	FPC	0,484	0,229
5	HBC	1,030	0,277

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6	L10	0,909	0,193
7	MCG	1,595	0,543
8	VNE	1,700	0,606
9	L35	0,303	0,098
10	LM3	0,337	0,040
11	LO5	0,745	0,179
12	L62	0,606	0,171
13	L61	0,856	0,261
14	L43	0,709	0,217
15	L44	1,277	0,252
16	B82	0,860	0,146
17	BCE	0,971	0,523
18	C92	0,800	0,121
19	CIC	0,919	0,248
20	CID	0,891	0,423
21	CSC	1,023	0,217
22	CT6	0,447	0,125
23	CTD	0,950	0,574
24	CTM	2,869	1,458
25	CVN	1,008	0,613
26	CX8	0,185	0,035
27	DC2	0,331	0,119
28	DLR	0,250	0,066
29	HUT	1,084	0,143
30	L18	1,069	0,156
31	LCS	0,149	0,039
32	LHC	0,755	0,358
33	LIG	0,449	0,094
34	LUT	1,433	0,730
35	MCO	0,755	0,127
36	NSN	0,119	0,014
37	PHC	1,667	0,409
38	QTC	0,259	0,110
39	TV2	0,822	0,207
40	TV4	0,666	0,241
41	VE1	1,475	0,776
42	VE2	0,603	0,363
43	VE3	0,604	0,407
44	VE9	0,704	0,430
45	VHH	0,448	0,229
46	SNG	1,264	0,484
47	SSS	1,074	0,385
48	STL	1,634	0,066
49	SJM	1,030	0,389
50	SJE	1,399	0,324
51	SJC	1,103	0,266
52	SIC	1,568	0,365
53	SEL	0,226	0,061
54	SDT	1,406	0,435
55	SDS	0,929	0,071
56	SDJ	1,257	0,249
57	SDH	2,884	1,290
58	SDB	0,221	0,044
59	SD9	1,456	0,415
60	SD8	1,210	0,103
61	SD7	1,461	0,243
62	SD6	1,670	0,479
63	SD5	1,332	0,503
64	SD4	1,114	0,233
65	SD3	1,361	0,695
66	SD2	1,386	0,450
67	SD1	0,205	0,035
68	S99	1,286	0,800
69	S96	1,706	0,480
70	S91	1,213	0,386
71	S74	1,250	0,443
72	S64	1,099	0,358
73	S55	1,251	0,476
74	S27	0,113	0,008
75	S12	1,180	0,202
76	MEC	0,275	0,041
77	ICG	1,634	0,795
78	PHH	0,385	0,111
79	PIV	0,467	0,331
80	PVA	1,932	0,209
81	PVE	1,580	0,499
82	PVR	0,936	0,448
83	PVV	0,293	0,049
84	PVX	1,304	0,311
85	PXI	0,105	0,030
86	PXS	0,553	0,176
87	PXT	0,628	0,211

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88	SDP	1,410	0,271
89	CTN	0,922	0,160
90	V11	1,148	0,161
91	V12	1,521	0,181
92	V15	1,566	0,582
93	V21	0,125	0,012
94	VC1	1,815	0,525
95	VC2	1,240	0,220
96	VC3	1,256	0,195
97	VC5	1,266	0,181
98	VC6	1,123	0,287
99	VC7	1,106	0,252
100	VC9	1,140	0,124
101	VCC	0,971	0,188
102	VCG	1,505	0,186
103	VCH	0,180	0,019
104	VMC	1,503	0,292

- Scenario 3: tax rate decreases down to 20%

If corporate tax rate decreases down to 20%, all beta values of total 104 listed firms on the construction market in VN as following:

Table 3 : Market risk of listed construction firms t = 20%)

Order No.	Company stock code	Equity beta	Asset beta (assume debt beta = 0)
1	CNT	1,062	0,134
2	DCC	1,299	0,578
3	DIG	1,772	0,964
4	FPC	0,484	0,229
5	HBC	1,030	0,277
6	L10	0,909	0,193
7	MCG	1,595	0,543
8	VNE	1,700	0,606
9	L35	0,284	0,091
10	LM3	0,337	0,040
11	LO5	0,745	0,179
12	L62	0,606	0,171
13	L61	0,856	0,261
14	L43	0,709	0,217
15	L44	1,277	0,252
16	B82	0,860	0,146
17	BCE	0,931	0,502
18	C92	0,800	0,121
19	CIC	0,919	0,248
20	CID	0,891	0,423
21	CSC	1,023	0,217
22	CT6	0,417	0,116
23	CTD	0,950	0,574
24	CTM	2,869	1,458
25	CVN	0,974	0,592
26	CX8	0,171	0,033
27	DC2	0,311	0,112
28	DLR	0,232	0,061
29	HUT	1,084	0,143
30	L18	1,069	0,156
31	LCS	0,129	0,034
32	LHC	0,755	0,358
33	LIG	0,415	0,087
34	LUT	1,433	0,730
35	MCO	0,755	0,127
36	NSN	0,108	0,013
37	PHC	1,667	0,409
38	QTC	0,259	0,110
39	TV2	0,822	0,207
40	TV4	0,666	0,241
41	VE1	1,475	0,776
42	VE2	0,582	0,350
43	VE3	0,588	0,396
44	VE9	0,704	0,430
45	VHH	0,428	0,220
46	SNG	1,264	0,484
47	SSS	1,074	0,385
48	STL	1,634	0,066
49	SJM	1,030	0,389
50	SJE	1,399	0,324
51	SJC	1,103	0,266
52	SIC	1,568	0,365
53	SEL	0,210	0,057
54	SDT	1,406	0,435
55	SDS	0,929	0,071
56	SDJ	1,257	0,249
57	SDH	2,884	1,290
58	SDB	0,204	0,041

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59	SD9	1,456	0,415
60	SD8	1,210	0,103
61	SD7	1,461	0,243
62	SD6	1,670	0,479
63	SD5	1,332	0,503
64	SD4	1,114	0,233
65	SD3	1,361	0,695
66	SD2	1,386	0,450
67	SD1	0,189	0,032
68	S99	1,286	0,800
69	S96	1,706	0,480
70	S91	1,213	0,386
71	S74	1,250	0,443
72	S64	1,099	0,358
73	S55	1,251	0,476
74	S27	0,103	0,007
75	S12	1,180	0,202
76	MEC	0,252	0,038
77	ICG	1,634	0,795
78	PHH	0,360	0,104
79	PIV	0,443	0,314
80	PVA	1,932	0,209
81	PVE	1,580	0,499
82	PVR	0,892	0,427
83	PVV	0,270	0,046
84	PVX	1,304	0,311
85	PXI	0,091	0,026
86	PXS	0,518	0,165
87	PXT	0,590	0,198
88	SDP	1,410	0,271
89	CTN	0,922	0,160
90	V11	1,148	0,161
91	V12	1,521	0,181
92	V15	1,566	0,582
93	V21	0,114	0,011
94	VC1	1,815	0,525
95	VC2	1,240	0,220
96	VC3	1,256	0,195
97	VC5	1,266	0,181
98	VC6	1,123	0,287
99	VC7	1,106	0,252
100	VC9	1,140	0,124
101	VCC	0,971	0,188
102	VCG	1,505	0,186
103	VCH	0,165	0,017
104	VMC	1,503	0,292

All three above tables and data show that values of equity and asset beta in the case of increasing tax rate up to 28% or decreasing rate down to 20% have small fluctuation.

VIII. Comparing Statistical Results in 3 Scenarios of Changing Tax Rate

a) tax rate = 25%

Statistic results	Equity beta	Asset beta (assume debt beta = 0)	Difference
MAX	2,884	1,458	1,427
MIN	0,115	0,008	0,107
MEAN	1,106	0,307	0,799
VAR	0,2527	0,0640	0,189
Note: Sample size : 104 firms			

b) tax rate = 28%

Statistic results	Equity beta	Asset beta (assume debt beta = 0)	Difference
MAX	2,884	1,458	1,427
MIN	0,105	0,008	0,098
MEAN	1,014	0,308	0,706
VAR	0,2964	0,0640	0,232
Note: Sample size : 104 firms			

c) tax rate = 20%

Statistic results	Equity beta	Asset beta (assume debt beta = 0)	Difference
MAX	2,884	1,458	1,427
MIN	0,091	0,007	0,083
MEAN	1,008	0,306	0,702
VAR	0,3028	0,0641	0,239
Note: Sample size : 104 firms			

a) Based on above results, we find out

Equity beta mean values in all 3 scenarios are little high (> 1) but asset beta mean values are small. In the case of current tax rate of 25%, equity beta value fluctuates in a wide range from 0,115 (min) up to 2,884 (max) and asset beta fluctuates from 0,008 (min) up to 1,458 (max). If corporate tax rate increases to 28%, equity beta moves from 0,105 (min) up to 2,884 (max)

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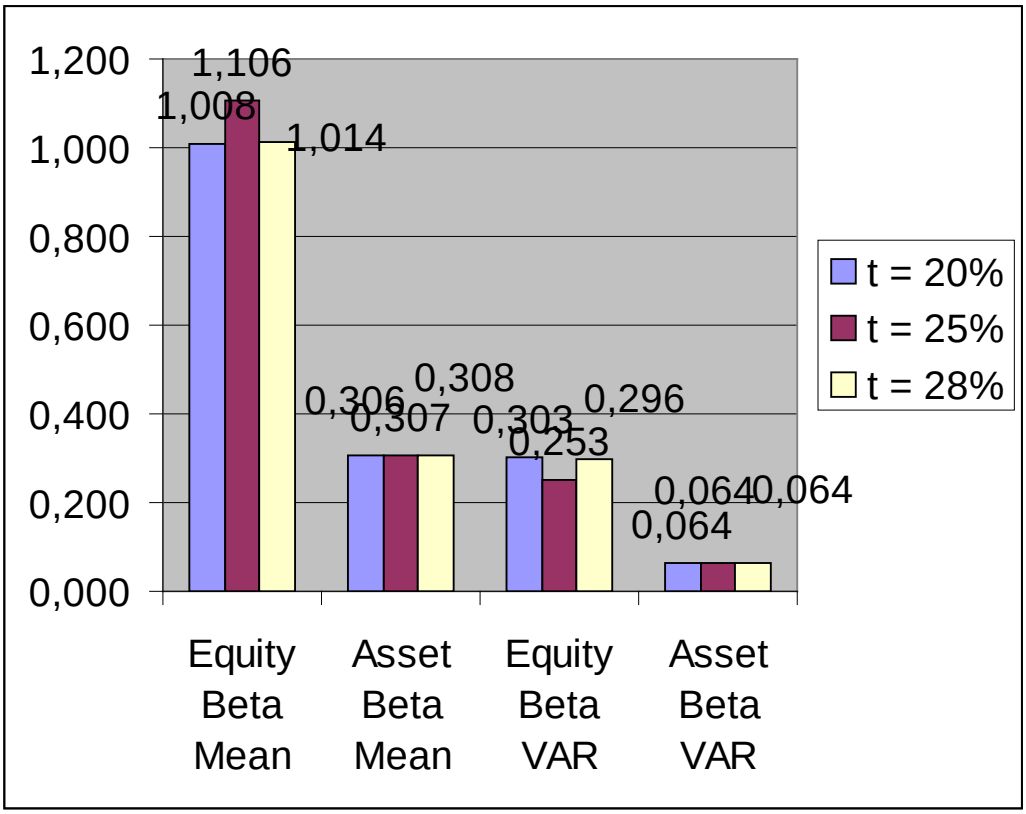
and asset beta moves from 0,008 (min) up to 1,458 (max). Hence, we note that there is a change in equity beta min value if corporate tax increases. When tax rate decreases down to 20%, equity beta value changes from 0,091 (min) up to 2,884 (max) and asset beta changes from 0,007 (min) up to 1,458 (max). So, there is small changes in equity/asset beta min values when tax decreases In scenario 3.

Beside, Exhibit 7 informs us that in the case 28% tax rate, average equity beta value of 104 listed firms decreases up to 0,0924 while average asset beta value of these 104 firms increase slightly up to 0,0008. Then, when tax rate reduces to 20%, average equity beta value of 104 listed firms reduce to 0,0983 and average asset beta value of 104 firms down to 0,0013.

The below chart 1 shows us : when tax rate decreases down to 20%, average equity and asset beta values decrease slightly (1,008 và 0,306) compared to those at the initial rate of 25% (1,106 và 0,307). At the same time, when tax rate increases up to 28%, average equity beta decreases slightly whereas average asset beta value increases slightly (to 1,014 và 0,308). However, the fluctuation of equity and asset beta values (0,303 và 0,064) in the case of 20% tax rate is higher than or equal to (>=) the results in the rest 2 tax rate cases.

Chart 1 : Comparing statistical results of three (3) scenarios of changing tax rate



IX. Risk Analysis

In the case of decreasing tax rate, (20%), the market and companies can receive more benefits such as generating more jobs and compensation, but the government budget can have deficit and the government has to cut expenses. Changes in tax rates can have both positive and negative impacts on the local market.

In the case of increasing tax rate (28%), the government will have budget to finance public expenditures but the tax could reduce both demand and supply.

X. Conclusion and Policy Suggestion

In summary, the government continues to increase the effectiveness of building the legal system and regulation and macro policies supporting the plan of developing both the construction together with the real estate market. The Ministry of Finance Continue to increase the effectiveness of fiscal policies and tax policies which are needed to combine with other macro policies at the same time, although we could note that in this study when tax rate is going to increase up to 28%, the value of equity beta mean decreases down to 1,014, from 1,106.

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The State Bank of Viet Nam continues to increase the effectiveness of capital providing channels for both construction and real estate companies.

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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Exhibit

Exhibit 1 : Interest rates in banking industry during crisis

Year	Borrowing Interest rates	Deposit Rates	Note
2011	18%-22%	13%-14%	Approximately (2007: required reserves ratio at SBV is changed from 5% to 10%) (2009: special supporting interest rate is 4%)
2010	19%-20%	13%-14%	
2009	9%-12%	9%-10%	
2008	19%-21%	15%-16,5%	
2007	12%-15%	9%-11%	

(Source : Viet Nam commercial banks)

Exhibit 2 : Basic interest rate changes in Viet Nam

Year	Basic rate	Note
2011	9%	
2010	8%	
2009	7%	
2008	8,75%-14%	Approximately, fluctuated
2007	8,25%	
2006	8,25%	
2005	7,8%	
2004	7,5%	
2003	7,5%	
2002	7,44%	
2001	7,2%-8,7%	Approximately, fluctuated
2000	9%	

(Source : State Bank of Viet Nam and Viet Nam economy)

Exhibit 3 : Inflation, GDP growth and macroeconomics factors

Year	Inflation	GDP	USD/VND rate
2011	18%	5,89%	20.670
2010	11,75% (Estimated at Dec 2010)	6,5% (expected)	19.495
2009	6,88%	5,2%	17.000
2008	22%	6,23%	17.700
2007	12,63%	8,44%	16.132
2006	6,6%	8,17%	
2005	8,4%		
Note		approximately	

(Source: Viet Nam commercial banks and economics statistical bureau)

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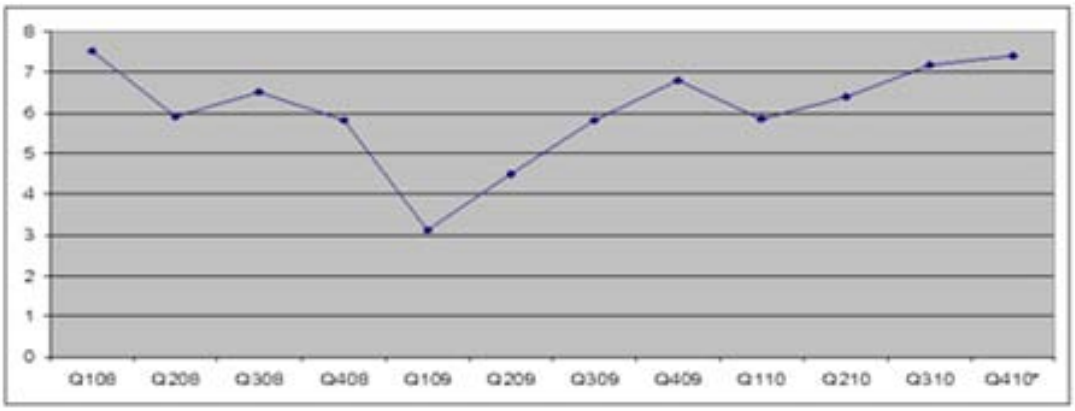
Exhibit 4 : GDP growth Việt Nam 2006-2010



(Source : Bureau Statistic)

Exhibit 5 : Top 40 among top 500 SMEs with the highest growth speed in 2012

Order	Rank	Company name	CEO	Tax code	Industry
1	1	CÔNG TY CP LÂM SẢN PISICO QUẢNG NAM	Phan Văn Cường	4000405162	Kinh doanh nông, lâm sản
2	2	CÔNG TY CP VÀNG BẠC ĐÁ QUÝ SJC CẦN THƠ	Lê Phát Vinh	1800636290	Vàng, bạc, đá quý
3	3	CÔNG TY CP SỢI PHÚ NAM	Hoàng Văn Thám	3300491474	Sản xuất sợi, dệt
4	4	CÔNG TY CP VÀNG BẠC ĐÁ QUÝ BẾN THÀNH	Tề Trí Dũng	300847936	Vàng, bạc, đá quý
5	5	CÔNG TY CP MAY CHIẾN THẮNG	Ninh Thị Ty	100101058	Ngành may
6	6	CÔNG TY TNHH DU LỊCH TRẦN VIỆT	Nguyễn Mạnh Cương	301069809	Du lịch, khách sạn
7	7	N.A		2012701	
8	8	CÔNG TY TNHH TRUYỀN THÔNG ADT	Đặng Huy Thắng	100905796	Sản xuất khác
9	9	CÔNG TY CP KẾT NỐI NHÂN TÀI	Tiêu Yến Trinh	305202145	Kinh doanh tổng hợp khác
10	10	CÔNG TY TNHH THIẾT LẬP	Nguyễn Hoàng Ẩn	1500441413	Sản xuất, kinh doanh, chế biến gạo, bột mỳ, ngũ cốc…
11	11	CÔNG TY TNHH-CHẾ BIẾN THỦY SẢN VÀ XNK TRANG KHANH	Trần Tuấn Khanh	1900287501	Nuôi trồng, chế biến, kinh doanh thuỷ sản và các sản phẩm thịt
12	12	CÔNG TY SẢN XUẤT THƯƠNG MẠI VÀ ĐẦU TƯ TAM MINH	Lưu Tuấn Anh	4300327589	Sản xuất đồ gỗ, nội thất
13	13	CÔNG TY TNHH THƯƠNG MẠI SẢN XUẤT HÙNG HUY	Voòng A Hoa	302259111	Sản xuất và gia công giầy, dép
14	14	CÔNG TY TNHH THƯƠNG MẠI HOÀNG ĐẠO	Hồ Hoàng Bách	301434963	Sản xuất, kinh doanh thuốc lá, nguyên liệu thuốc lá
15	15	CÔNG TY TNHH THƯƠNG MẠI XÂY DỰNG DIỆU LONG	Đặng Thị Linh Phương	302000905	Kinh doanh tổng hợp khác
16	16	CÔNG TY CP XÂY DỰNG NHÀ VÀ PHÁT TRIỂN HẠ TẦNG HÀ NỘI	Phạm Thanh Nam	101370536	Xây dựng nhà và các công trình kỹ thuật dân dụng; hoạt động xây dựng chuyên dụng

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17	17	CÔNG TY CP XĂNG DẦU THƯƠNG MẠI SÔNG TRÀ	Nguyễn Anh	4300334642	Kinh doanh xăng dầu, khí đốt, nhiên liệu và các sản phẩm liên quan
18	18	CÔNG TY CP SỢI PHÚ THẠNH	Nguyễn Văn Cường	3300471069	Sản xuất sợi, dệt
19	19	CÔNG TY TNHH DU LỊCH VÀ THƯƠNG MẠI SÔNG HỒNG	Lê Công Hoàng	100237411	Kinh doanh xăng dầu, khí đốt, nhiên liệu và các sản phẩm liên quan
20	20	CÔNG TY CP DẦU THỰC VẬT BÌNH ĐỊNH	Nguyễn Thị Thùy Giao	4100399995	Sản xuất thực phẩm chế biến: sữa, đường, cà phê, dầu ăn, bánh kẹo…
21	21	CÔNG TY CP VẬT TƯ MỎ ĐỊA CHẤT	Lê Nhật Tân	101453768	Kinh doanh tổng hợp khác
22	22	CÔNG TY TNHH MTV SÀI GÒN BẾN TRE	Nguyễn Ngọc Minh Hùng	1300419650	Bán lẻ, kinh doanh siêu thị
23	23	CÔNG TY TNHH HẢI VIỆT	Nguyễn Văn Rỉ	3700443193	Kinh doanh nông, lâm sản
24	24	CÔNG TY TNHH MAY PHÙ ĐỔNG	Dương Đức Thanh	100598947	Ngành may
25	25	CÔNG TY TNHH THƯƠNG MẠI VÀ DỊCH VỤ KỸ THUẬT TESCO	Trần Thanh Bình	101507773	Sản xuất, kinh doanh ôtô, phụ tùng ôtô
26	26	CÔNG TY TNHH THƯƠNG MẠI PHÚC THÁI	Bùi Xuân Huy	600346391	Kinh doanh xăng dầu, khí đốt, nhiên liệu và các sản phẩm liên quan
27	27	CÔNG TY TNHH MINH ĐĂNG	Nguyễn Thị Cẩm Nhung	2200258144	Nuôi trồng, chế biến, kinh doanh thuỷ sản và các sản phẩm thịt
28	28	CÔNG TY TNHH THƯƠNG MẠI VÀ DỊCH VỤ VẬN TẢI NGỌC KHÁNH	Trần Ngọc Huân	4000377194	Kinh doanh xăng dầu, khí đốt, nhiên liệu và các sản phẩm liên quan
29	29	CÔNG TY TNHH THƯƠNG MẠI DỊCH VỤ VÂN PHÁT	Cao Ngọc Anh	303332212	Kinh doanh tổng hợp khác
30	30	CÔNG TY CP VẬN TẢI VÀ DỊCH VỤ PETROLIMEX NGHỆ TĨNH	Võ Văn Tân	2900428497	Kinh doanh xăng dầu, khí đốt, nhiên liệu và các sản phẩm liên quan
31	31	CÔNG TY TNHH THƯƠNG MẠI SẢN XUẤT TÂN BÌNH	Trần Trí Thức	3900326063	Sản xuất đồ gỗ, nội thất
32	32	CÔNG TY TNHH NGUYÊN LIỆU GIẤY DUNG QUẤT	Nguyễn Nị	4300308498	Sản xuất đồ gỗ, nội thất
33	33	CÔNG TY TNHH BỆNH VIỆN ĐA KHOA TƯ NHÂN AN SINH	Ngô Đăng Sơn Anh	302774433	Sản xuất khác
34	34	CÔNG TY TNHH IN LỤA NHẤT PHƯƠNG	Huỳnh Thị Thanh Thuỷ	301441840	Sản xuất giấy, in ấn, xuất bản
35	35	CÔNG TY CP DẦU KHÍ SÀI GÒN-PHÚ YÊN	Trần Công Chưởng	4400344901	Kinh doanh xăng dầu, khí đốt, nhiên liệu và các sản phẩm liên quan
36	36	CÔNG TY CP BÊ TÔNG ĐĂNG HẢI	Phan Văn Khanh	400619838	Sản xuất, kinh doanh vật liệu xây dựng: xi măng, gạch xây, đá, cát…
37	37	CÔNG TY CP GIÀY BÌNH ĐỊNH	Võ Ngọc Thủy	4100258761	Sản xuất và gia công giầy, dép
38	38	CÔNG TY CP ĐẦU TƯ PHÁT TRIỂN THIÊN SƠN	Vũ Văn Tuyên	101536301	Sản xuất, kinh doanh vật liệu xây dựng: xi măng, gạch xây, đá, cát…

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39	39	HTX THƯƠNG MẠI ĐÔ THÀNH	Hàng Thanh Dân	302804374	Kinh doanh thực phẩm chế biến: sữa, đường, cà phê, dầu ăn, bánh kẹo……
40	40	CÔNG TY CP XÂY DỰNG TỔNG HỢP 269	Trương Duy Niệm	3000244523	Xây dựng nhà và các công trình kỹ thuật dân dụng; hoạt động xây dựng chuyên dụng

(source : Vietnamnet and Viet Nam report)

Exhibit 6 : Risk and financial leverage of 104 listed construction firms on VN stock exchange period 2007-2011

Order No.	Company stock code	Equity beta	Asset beta (assume debt beta = 0)	Note	Financial leverage
1	CNT	1,062	0,134		87,4%
2	DCC	1,299	0,578		55,5%
3	DIG	1,772	0,964		45,6%
4	FPC	0,484	0,229		52,6%
5	HBC	1,030	0,277		73,1%
6	L10	0,909	0,193		78,8%
7	MCG	1,595	0,543		66,0%
8	VNE	1,700	0,606		64,4%
9	L35	0,295	0,095	SKS as comparable	67,8%
10	LM3	0,337	0,040		88,1%
11	LO5	0,745	0,179		76,0%
12	L62	0,606	0,171		71,8%
13	L61	0,856	0,261		69,5%
14	L43	0,709	0,217		69,4%
15	L44	1,277	0,252		80,3%
16	B82	0,860	0,146		83,0%
17	BCE	0,955	0,515	SIC as comparable	46,1%
18	C92	0,800	0,121		84,9%
19	CIC	0,919	0,248		73,1%
20	CID	0,891	0,423		52,5%
21	CSC	1,023	0,217		78,8%
22	CT6	0,435	0,122	L44 as comparable	72,1%
23	CTD	0,950	0,574		39,6%
24	CTM	2,869	1,458		49,2%
25	CVN	0,995	0,605	VE1 as comparable	39,2%
26	CX8	0,180	0,034	LHC as comparable	81,0%
27	DC2	0,323	0,116	LHC as comparable	64,0%
28	DLR	0,243	0,064	MCO as comparable	73,8%
29	HUT	1,084	0,143		86,8%
30	L18	1,069	0,156		85,4%

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31	LCS	0,141	0,037	CT6 as comparable	73,5%
32	LHC	0,755	0,358		52,5%
33	LIG	0,436	0,091	SD6 as comparable	79,1%
34	LUT	1,433	0,730		49,0%
35	MCO	0,755	0,127		83,2%
36	NSN	0,115	0,014	MCO as comparable	88,2%
37	PHC	1,667	0,409		75,5%
38	QTC	0,259	0,110		57,3%
39	TV2	0,822	0,207		74,8%
40	TV4	0,666	0,241		63,9%
41	VE1	1,475	0,776		47,4%
42	VE2	0,595	0,358	CID as comparable	39,8%
43	VE3	0,598	0,403	HPS as comparable	32,7%
44	VE9	0,704	0,430		38,9%
45	VHH	0,440	0,226	LHC as comparable	48,8%
46	SNG	1,264	0,484		61,7%
47	SSS	1,074	0,385		64,2%
48	STL	1,634	0,066		96,0%
49	SJM	1,030	0,389		62,2%
50	SJE	1,399	0,324		76,8%
51	SJC	1,103	0,266		75,9%
52	SIC	1,568	0,365		76,7%
53	SEL	0,220	0,059	TV4 as comparable	73,1%
54	SDT	1,406	0,435		69,1%
55	SDS	0,929	0,071		92,3%
56	SDJ	1,257	0,249		80,2%
57	SDH	2,884	1,290		55,3%
58	SDB	0,214	0,043	L61 as comparable	80,0%
59	SD9	1,456	0,415		71,5%
60	SD8	1,210	0,103		91,5%
61	SD7	1,461	0,243		83,4%
62	SD6	1,670	0,479		71,3%
63	SD5	1,332	0,503		62,3%
64	SD4	1,114	0,233		79,1%
65	SD3	1,361	0,695		49,0%
66	SD2	1,386	0,450		67,5%
67	SD1	0,198	0,034	SDS as comparable	83,1%
68	S99	1,286	0,800		37,8%

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69	S96	1,706	0,480		71,9%
70	S91	1,213	0,386		68,2%
71	S74	1,250	0,443		64,6%
72	S64	1,099	0,358		67,5%
73	S55	1,251	0,476		61,9%
74	S27	1,213	0,008	S91 as comparable	93,1%
75	S12	1,180	0,202		82,9%
76	MEC	1,410	0,040	SDP as comparable	85,1%
77	ICG	1,634	0,795		51,3%
78	PHH	1,069	0,108	L18 as comparable	71,1%
79	PIV	0,598	0,325	VE3 as comparable	29,1%
80	PVA	1,932	0,209		89,2%
81	PVE	1,580	0,499		68,4%
82	PVR	1,670	0,440	SD6 as comparable	52,2%
83	PVV	1,332	0,048	SD5 as comparable	83,1%
84	PVX	1,304	0,311		76,1%
85	PXI	1,332	0,029	PVV as comparable	71,2%
86	PXS	1,406	0,172	SDT as comparable	68,2%
87	PXT	1,521	0,206	V12 as comparable	66,4%
88	SDP	1,410	0,271		80,8%
89	CTN	0,922	0,160		82,7%
90	V11	1,148	0,161		86,0%
91	V12	1,521	0,181		88,1%
92	V15	1,566	0,582		62,8%
93	V21	0,971	0,012	VCC as comparable	90,4%
94	VC1	1,815	0,525		71,1%
95	VC2	1,240	0,220		82,3%
96	VC3	1,256	0,195		84,5%
97	VC5	1,266	0,181		85,7%
98	VC6	1,123	0,287		74,4%
99	VC7	1,106	0,252		77,2%
100	VC9	1,140	0,124		89,1%
101	VCC	0,971	0,188		80,6%
102	VCG	1,505	0,186		87,7%
103	VCH	1,286	0,018	S99 as comparable	89,5%
104	VMC	1,503	0,292		80,6%
				Average	70,5%

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Exhibit 7 : Increase/decrease risk level of listed real estate firms under changing scenarios of tax rates : 25%, 28%, 20% period 2007 – 2011

Order No.	Company stock code	t = 25%		t = 28%		t = 20%	
		Equity beta	Asset beta	Increase /Decrease (equity beta)	Increase /Decrease (asset beta)	Increase /Decrease (equity beta)	Increase /Decrease (asset beta)
1	CNT	1,062	0,134	0,0000	0,000	0,000	0,000
2	DCC	1,299	0,578	0,0000	0,000	0,000	0,000
3	DIG	1,772	0,964	0,0000	0,000	0,000	0,000
4	FPC	0,484	0,229	0,0000	0,000	0,000	0,000
5	HBC	1,030	0,277	0,0000	0,000	0,000	0,000
6	L10	0,909	0,193	0,0000	0,000	0,000	0,000
7	MCG	1,595	0,543	0,0000	0,000	0,000	0,000
8	VNE	1,700	0,606	0,0000	0,000	0,000	0,000
9	L35	0,295	0,095	0,0074	0,002	-0,012	-0,004
10	LM3	0,337	0,040	0,0000	0,000	0,000	0,000
11	LO5	0,745	0,179	0,0000	0,000	0,000	0,000
12	L62	0,606	0,171	0,0000	0,000	0,000	0,000
13	L61	0,856	0,261	0,0000	0,000	0,000	0,000
14	L43	0,709	0,217	0,0000	0,000	0,000	0,000
15	L44	1,277	0,252	0,0000	0,000	0,000	0,000
16	B82	0,860	0,146	0,0000	0,000	0,000	0,000
17	BCE	0,955	0,515	0,0152	0,008	-0,024	-0,013
18	C92	0,800	0,121	0,0000	0,000	0,000	0,000
19	CIC	0,919	0,248	0,0000	0,000	0,000	0,000
20	CID	0,891	0,423	0,0000	0,000	0,000	0,000
21	CSC	1,023	0,217	0,0000	0,000	0,000	0,000
22	CT6	0,435	0,122	0,0118	0,003	-0,018	-0,005
23	CTD	0,950	0,574	0,0000	0,000	0,000	0,000
24	CTM	2,869	1,458	0,0000	0,000	0,000	0,000
25	CVN	0,995	0,605	0,0131	0,008	-0,021	-0,013
26	CX8	0,180	0,034	0,0057	0,001	-0,009	-0,002
27	DC2	0,323	0,116	0,0076	0,003	-0,012	-0,004
28	DLR	0,243	0,064	0,0068	0,002	-0,011	-0,003
29	HUT	1,084	0,143	0,0000	0,000	0,000	0,000
30	L18	1,069	0,156	0,0000	0,000	0,000	0,000
31	LCS	0,141	0,037	0,0079	0,002	-0,012	-0,003
32	LHC	0,755	0,358	0,0000	0,000	0,000	0,000
33	LIG	0,436	0,091	0,0133	0,003	-0,020	-0,004
34	LUT	1,433	0,730	0,0000	0,000	0,000	0,000
35	MCO	0,755	0,127	0,0000	0,000	0,000	0,000
36	NSN	0,115	0,014	0,0040	0,000	-0,006	-0,001
37	PHC	1,667	0,409	0,0000	0,000	0,000	0,000
38	QTC	0,259	0,110	0,0000	0,000	0,000	0,000
39	TV2	0,822	0,207	0,0000	0,000	0,000	0,000
40	TV4	0,666	0,241	0,0000	0,000	0,000	0,000
41	VE1	1,475	0,776	0,0000	0,000	0,000	0,000
42	VE2	0,595	0,358	0,0080	0,005	-0,013	-0,008
43	VE3	0,598	0,403	0,0064	0,004	-0,010	-0,007
44	VE9	0,704	0,430	0,0000	0,000	0,000	0,000

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45	VHH	0,440	0,226	0,0075	0,004	-0,012	-0,006
46	SNG	1,264	0,484	0,0000	0,000	0,000	0,000
47	SSS	1,074	0,385	0,0000	0,000	0,000	0,000
48	STL	1,634	0,066	0,0000	0,000	0,000	0,000
49	SJM	1,030	0,389	0,0000	0,000	0,000	0,000
50	SJE	1,399	0,324	0,0000	0,000	0,000	0,000
51	SJC	1,103	0,266	0,0000	0,000	0,000	0,000
52	SIC	1,568	0,365	0,0000	0,000	0,000	0,000
53	SEL	0,220	0,059	0,0060	0,002	-0,009	-0,003
54	SDT	1,406	0,435	0,0000	0,000	0,000	0,000
55	SDS	0,929	0,071	0,0000	0,000	0,000	0,000
56	SDJ	1,257	0,249	0,0000	0,000	0,000	0,000
57	SDH	2,884	1,290	0,0000	0,000	0,000	0,000
58	SDB	0,214	0,043	0,0066	0,001	-0,010	-0,002
59	SD9	1,456	0,415	0,0000	0,000	0,000	0,000
60	SD8	1,210	0,103	0,0000	0,000	0,000	0,000
61	SD7	1,461	0,243	0,0000	0,000	0,000	0,000
62	SD6	1,670	0,479	0,0000	0,000	0,000	0,000
63	SD5	1,332	0,503	0,0000	0,000	0,000	0,000
64	SD4	1,114	0,233	0,0000	0,000	0,000	0,000
65	SD3	1,361	0,695	0,0000	0,000	0,000	0,000
66	SD2	1,386	0,450	0,0000	0,000	0,000	0,000
67	SD1	0,198	0,034	0,0064	0,001	-0,010	-0,002
68	S99	1,286	0,800	0,0000	0,000	0,000	0,000
69	S96	1,706	0,480	0,0000	0,000	0,000	0,000
70	S91	1,213	0,386	0,0000	0,000	0,000	0,000
71	S74	1,250	0,443	0,0000	0,000	0,000	0,000
72	S64	1,099	0,358	0,0000	0,000	0,000	0,000
73	S55	1,251	0,476	0,0000	0,000	0,000	0,000
74	S27	1,213	0,008	-1,1001	0,000	-1,110	0,000
75	S12	1,180	0,202	0,0000	0,000	0,000	0,000
76	MEC	1,410	0,040	-1,1349	0,001	-1,157	-0,002
77	ICG	1,634	0,795	0,0000	0,000	0,000	0,000
78	PHH	1,069	0,108	-0,6835	0,003	-0,709	-0,004
79	PIV	0,598	0,325	-0,1312	0,007	-0,155	-0,011
80	PVA	1,932	0,209	0,0000	0,000	0,000	0,000
81	PVE	1,580	0,499	0,0000	0,000	0,000	0,000
82	PVR	1,670	0,440	-0,7345	0,008	-0,778	-0,013
83	PVV	1,332	0,048	-1,0390	0,002	-1,062	-0,002
84	PVX	1,304	0,311	0,0000	0,000	0,000	0,000
85	PXI	1,332	0,029	-1,2267	0,002	-1,242	-0,003
86	PXS	1,406	0,172	-0,8528	0,004	-0,888	-0,007
87	PXT	1,521	0,206	-0,8922	0,005	-0,931	-0,008
88	SDP	1,410	0,271	0,0000	0,000	0,000	0,000
89	CTN	0,922	0,160	0,0000	0,000	0,000	0,000
90	V11	1,148	0,161	0,0000	0,000	0,000	0,000
91	V12	1,521	0,181	0,0000	0,000	0,000	0,000
92	V15	1,566	0,582	0,0000	0,000	0,000	0,000
93	V21	0,971	0,012	-0,8459	0,000	-0,857	-0,001
94	VC1	1,815	0,525	0,0000	0,000	0,000	0,000

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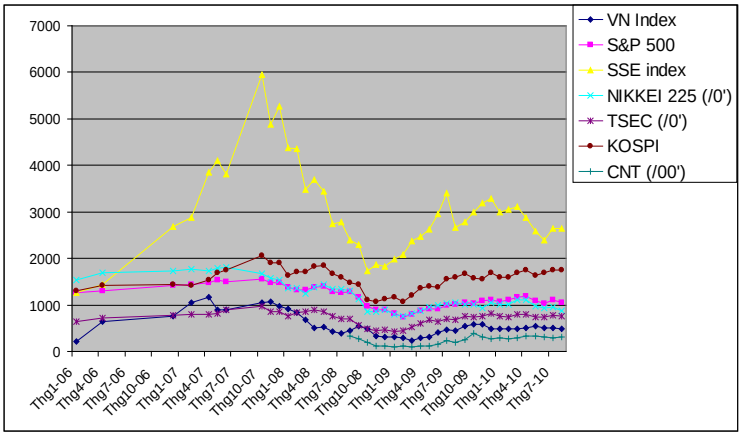
95	VC2	1,240	0,220	0,0000	0,000	0,000	0,000
96	VC3	1,256	0,195	0,0000	0,000	0,000	0,000
97	VC5	1,266	0,181	0,0000	0,000	0,000	0,000
98	VC6	1,123	0,287	0,0000	0,000	0,000	0,000
99	VC7	1,106	0,252	0,0000	0,000	0,000	0,000
100	VC9	1,140	0,124	0,0000	0,000	0,000	0,000
101	VCC	0,971	0,188	0,0000	0,000	0,000	0,000
102	VCG	1,505	0,186	0,0000	0,000	0,000	0,000
103	VCH	1,286	0,018	-1,1056	0,001	-1,121	-0,001
104	VMC	1,503	0,292	0,0000	0,000	0,000	0,000
Average				-0,0924	0,0008	-0,0983	-0,0013

Exhibit 8 : VNI Index and other stock market index during crisis 2006-2010



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