

Whether Different Changing Tax Rates Cause the Risk Level of Viet Nam Insurance and Stock Investment Firms Increase or Decrease So Much?

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Abstract

Many global markets as well as the emerging stock market in Viet Nam has been affected by the financial crisis 2007-2009, in which many countries find out macro policies to help the economy. So, this study analyzes the impacts of tax policy on market risk for the listed firms in the insurance and stock investment industry as it becomes necessary. First, by using quantitative and analytical methods to estimate asset and equity beta of total 13 listed companies in Viet Nam insurance and stock investment 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 0,516, 0,517 and 0,518. These values are lower than those of the listed VN construction firms but little higher than those of the listed in banking 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, Insurance Industry

INTRODUCTION

Together with the development of banking industry, during many recent years, Viet Nam insurance and stock investment 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

RESEARCH ISSUES

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

Issue 1: Whether the risk level of insurance and stock investment 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 insurance and stock investment industry.

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.

Kimberly (2012) said that the global nature of economic activity required modernization of corporate taxation and reform of US corporate taxation is long overdue.

Next, Ruud et al (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, Beng et al (2013) found that less aggressive forms of corporate tax avoidance significantly reduces a firm's cost of equity.

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

CONCEPTUAL THEORIES

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.

Normally, the government or the Ministry of Finance may change tax rate within a range, for example: in the US, the range from 15% to 35%. Hence, 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.

METHODOLOGY

In this research, we use the live data from the stock exchange market in Viet Nam (HOSE and HNX) during the four or five years period 2007-2011 to estimate systemic risk results and tax impacts. And analytical research method is used and specially, tax rate scenario analysis method is used. Analytical data is from the situation of listed

insurance and stock investment firms in VN stock exchange and current tax rate is 25%.

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

GENERAL DATA ANALYSIS

The research sample has 13 listed firms in the insurance and stock investment 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 0,351, 0,352 and 0,353. Also in 3 scenarios, we find out var of asset beta estimated at 0,068 (almost the same) which shows small risk dispersion. Tax rate changes almost has no effect on asset beta var under financial leverage.

EMPIRICAL RESEARCH FINDINGS AND DISCUSSION

In the below section, data used are from total 13 listed insurance and stock investment 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 13 listed firms on VN insurance and stock investment market as following

Table 1 – Market risk of listed companies on VN insurance and stock investment market (t = 25%)

Order No.	Company stock code	Equity beta	Asset beta (assume debt beta = 0)
1	BVH	0,966	0,252
2	PVI	0,937	0,580
3	ABI	0,288	0,104
4	BIC	0,114	0,037
5	BMI	1,261	0,744
6	PGI	0,150	0,067

7	PTI	0,145	0,063
8	ASIAGF	0,326	0,213
9	MAFPF1	0,455	0,453
10	PRUBF1	0,247	0,246
11	VFMVF1	0,713	0,704
12	VFMVF4	0,671	0,669
13	VFMVFA	0,450	0,444

10	PRUBF1	0,247	0,246
11	VFMVF1	0,713	0,704
12	VFMVF4	0,671	0,669
13	VFMVFA	0,450	0,443

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.

Scenario 2: tax rate increases up to 28%

If corporate tax rates increases up to 28%, all beta values of total 13 listed firms on VN insurance and stock investment market as below:

Table 2 – Market risks of listed insurance and stock investment firms (t = 28%)

Order No.	Company stock code	Equity beta	Asset beta (assume debt beta = 0)
1	BVH	0,966	0,252
2	PVI	0,937	0,580
3	ABI	0,288	0,104
4	BIC	0,116	0,038
5	BMI	1,261	0,744
6	PGI	0,153	0,069
7	PTI	0,148	0,064
8	ASIAGF	0,32929	0,215331
9	MAFPF1	0,454765	0,452769
10	PRUBF1	0,247041	0,246193
11	VFMVF1	0,712517	0,704033
12	VFMVF4	0,671426	0,668907
13	VFMVFA	0,450165	0,443865

Scenario 3: tax rate decreases down to 20%

If corporate tax rate decreases down to 20%, all beta values of total 13 listed firms on the insurance and stock investment market in VN as following:

Table 3 – Market risk of listed insurance and stock investment firms (t = 20%)

Order No.	Company stock code	Equity beta	Asset beta (assume debt beta = 0)
1	BVH	0,966	0,252
2	PVI	0,937	0,580
3	ABI	0,288	0,104
4	BIC	0,109	0,036
5	BMI	1,261	0,744
6	PGI	0,145	0,065
7	PTI	0,141	0,061
8	ASIAGF	0,319	0,209
9	MAFPF1	0,455	0,453

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	1,261	0,744	0,5167
MIN	0,114	0,037	0,0764
MEAN	0,517	0,352	0,1651
VAR	0,1334	0,0679	0,0655

Note: Sample size : 13

b. tax rate = 28%

Statistic results	Equity beta	Asset beta (assume debt beta = 0)	Difference
MAX	1,261	0,744	0,5167
MIN	0,116	0,038	0,0783
MEAN	0,518	0,353	0,1656
VAR	0,1327	0,0677	0,0650

Note: Sample size : 13

c. tax rate = 20%

Statistic results	Equity beta	Asset beta (assume debt beta = 0)	Difference
MAX	1,261	0,744	0,5167
MIN	0,109	0,036	0,0734
MEAN	0,516	0,351	0,1643
VAR	0,1344	0,0683	0,0662

Based on the above results, we find out:

Not only equity beta mean values in all 3 scenarios are low (< 0,6) but also asset beta mean values are small (<0,3). In the case of current tax rate of 25%, equity beta value fluctuates in a wide range from 0,114 (min) up to 1,261 (max) and asset beta fluctuates from 0,037 (min) up to 0,744 (max). If corporate tax rate increases to 28%, equity beta moves from 0,116 (min) up to 1,261 (max) and asset beta moves from 0,038 (min) up to 0,744 (max). Hence, we note that there is a small increase in equity and asset beta min values if corporate tax increases. When tax rate decreases down to 20%, equity beta value changes from 0,109

(min) up to 1,261 (max) and asset beta changes from 0,036 (min) up to 0,744 (max). So, there is small decrease 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 13 listed firms increases slightly up to 0,001 while average asset beta value of these 13 firms increase slightly up to 0,0005. Then, when tax rate reduces to 20%, average equity beta value of 13 listed firms reduce to 0,002 and average asset beta value of 13 firms down to 0,001.

The below chart 1 shows us : when tax rate decreases down to 20%, average equity and asset beta values decrease slightly (0,516 và 0,351) compared to those at the initial rate of 25% (0,517 và 0,352). At the same time, when tax rate increases up to 28%, average equity/asset beta increases slightly to 0,518 and 0,353. However, the fluctuation of equity and asset beta values (0,134 and 0,068) in the case of 20% tax rate is higher than or equal to (\geq) the results in the rest 2 tax rate cases.

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

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.

Finally, comparing to beta values of banking industry, equity beta values in the insurance and stock investment industry are little higher. (see exhibit 8).

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 and asset beta mean increases very slightly to 0,518 and 0,353.

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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RESEARCH

Exhibit

Exhibit 1 – Interest rates in banking industry during crisis (*source: Viet Nam commercial banks*)

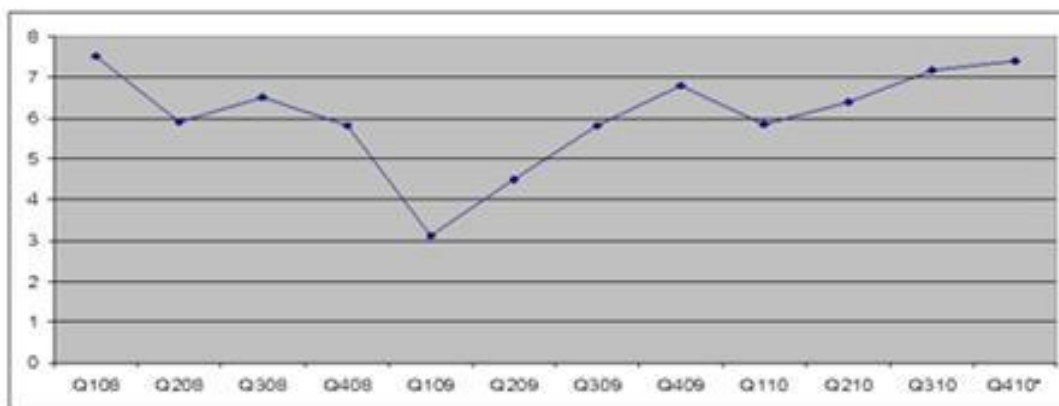
Year	Borrowing Interest rates	Deposit Rates	Note
2011	18%-22%	13%-14%	
2010	19%-20%	13%-14%	Approximately
2009	9%-12%	9%-10%	(2007: required reserves ratio at
2008	19%-21%	15%-16,5%	SBV is changed from 5% to
2007	12%-15%	9%-11%	10%) (2009:specialsupporting interest rate is 4%)

Exhibit 2 – Basic interest rate changes in Viet Nam (*source: State Bank of Viet Nam and Viet Nam economy*)

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%	

Exhibit 3 – Inflation, GDP growth and macroeconomics factors*(source: Viet Nam commercial banks and economic statistical bureau)*

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		

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 (source: Vietnamnet and Viet Nam report)**

Order	Rank	Company name	CEO	Tax code	Industry
1	1	CÔNG TY CP LAM SAN PISICO QUANG NAM	Phan Văn Cường	4000405162	Kinh doanh nông, lâm sản
2	2	CÔNG TY CP VÀNG BẠC ĐÁ QUỲ 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 QUỲ BẾN THÀNH	Tê Trí Dũng	300847936	Vàng, bạc, đá quý
5	5	CÔNG TY CP MÁY CHIẾN THẮNG	Ninh Thị Ty	100101058	Ngành may
6	6	CÔNG TY TNHH DU LỊCH TRẦN VIỆT	Nguyễn Mạnh Cường	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 Ân	1500441413	Sản xuất, kinh doanh, chế biến gạo, bột mì, 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 thủy sản và các sản phẩm thịt
12	12	CÔNG TY SẢN XUẤT THỜI TRANG MẠI VÀ ĐẦU TƯ TAM MINH	Lộ Tuấn Anh	4300327589	Sản xuất đồ gỗ, nội thất
13	13	CÔNG TY TNHH THỜI TRANG MẠI SẢN XUẤT HÙNG HUY	Voòng A Hoa	302259111	Sản xuất và gia công giấy, dệt
14	14	CÔNG TY TNHH THỜI TRANG MẠI HOÀNG ĐẠO	Hồ Hoàng Bách	301434963	Sản xuất, kinh doanh thuốc lá, nguyên liệu thuốc lá
15	15	CÔNG TY TNHH THỜI TRANG MẠI XÂY DỰNG ĐIỀU LONG	Đặng Thị Linh Phượng	302000905	Kinh doanh tổng hợp khác
16	16	CÔNG TY CP XÂY DỰNG NHÀ VÀ PHÁT TRIỂN HÀ TĂNG HÀ NỘI	Phạm Thanh Nam	101370536	Xây dựng nhà và các công trình kỹ thuật dân dụng; hoạt động xây dựng chuyên dụng
17	17	CÔNG TY CP XĂNG DẦU THỜI TRANG MẠI SỐNG TRÁ	Nguyễn Anh	4300334642	Kinh doanh xăng dầu, khí đốt, nhiên liệu và các sản phẩm liên quan
18	18	CÔNG TY CP SỢI PHÚ THANH	Nguyễn Văn Cường	3300471069	Sản xuất sợi, dệt
19	19	CÔNG TY TNHH DU LỊCH VÀ THỜI TRANG MẠI SỐNG 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, đậu nành, 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 HAI VIỆT	Nguyễn Văn Ri	3700443193	Kinh doanh nông, lâm sản
24	24	CÔNG TY TNHH MAY PHÙ ĐỔNG	Đông 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 ô tô, phụ tùng ô tô
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 thủy sản và các sản phẩm thịt
28	28	CÔNG TY TNHH THƯƠNG MẠI VÀ DỊCH VỤ VĂN TÀI 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 VĂN PHÁT	Cao Ngọc Anh	303332212	Kinh doanh tổng hợp khác
30	30	CÔNG TY CP VĂN TÀI 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 QUÁT	Nguyễn Nị	4300308498	Sản xuất đồ gỗ, nội thất
33	33	CÔNG TY TNHH BỆNH VIỆN ĐA KHOA TỰ NHÂN AN SINH	Ngô Đăng Sơn Anh	302774433	Sản xuất khác
34	34	CÔNG TY TNHH IN LUA NHẤT PHƯƠNG	Huỳnh Thị Thanh Thủy	301441840	Sản xuất giấy, in ấn, xuất bản
35	35	CÔNG TY CP DẦU KHÍ SÀI GÒN-PHÚ YẾN	Trần Công Chởng	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 GIẤY BÌNH ĐỊNH	Võ Ngọc Thùy	4100258761	Sản xuất và gia công giấy, dếp
38	38	CÔNG TY CP ĐÀU TƯ PHÁT TRIỂN THIÊN SƠN	Vũ Văn Tuyên	101536301	Sản xuất, kinh doanh vật liệu xây dựng: xi măng, gạch xây, đá, cát...
39	39	HTX THƯƠNG MẠI ĐỒ THÀNH	Hàng Thanh Dân	302804374	Kinh doanh thực phẩm chế biến: sữa, đậu nành, cà phê, dầu ăn, bánh kẹo.....
40	40	CÔNG TY CP XÂY DỰNG TỔNG HỢP 269	Trọng Duy Niệm	3000244523	Xây dựng nhà và các công trình kỹ thuật dân dụng; hoạt động xây dựng chuyên dụng

Exhibit 6: Risk and financial leverage of 13 listed insurance and stock investment 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	BVH	0,966	0,252		73,9%
2	PVI	0,937	0,580		38,1%
3	ABI	0,288	0,104		63,8%
4	BIC	0,114	0,037	ABI as comparable	67,3%
5	BMI	1,261	0,744		41,0%
6	PGI	0,150	0,067	ABI as comparable	55,2%
7	PTI	0,145	0,063	ABI as comparable	56,7%
8	ASIAGF	0,326	0,213	MAFPF1 as comparable	34,6%
9	MAFPF1	0,455	0,453		0,4%
10	PRUBF1	0,247	0,246		0,3%
11	VFMVF1	0,713	0,704		1,19%
12	VFMVF4	0,671	0,669		0,38%
13	VFMVFA	0,450	0,444	MAFPF1 as comparable	1,40%
	Average				33,41%

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	BVH	0,966397	0,251883	0,000	0,000	0,000	0,000
2	PVI	0,937499	0,580417	0,000	0,000	0,000	0,000
3	ABI	0,28846	0,104429	0,000	0,000	0,000	0,000
4	BIC	0,113528	0,037168	0,003	0,001	-0,004	-0,001
5	BMI	1,261068	0,744382	0,000	0,000	0,000	0,000
6	PGI	0,149963	0,067206	0,003	0,001	-0,005	-0,002
7	PTI	0,145386	0,06288	0,003	0,001	-0,005	-0,002
8	ASIAGF	0,325548	0,212884	0,004	0,002	-0,006	-0,004
9	MAFPF1	0,454765	0,452769	0,000	0,000	0,000	0,000
10	PRUBF1	0,247041	0,246193	0,000	0,000	0,000	0,000
11	VFMVF1	0,712517	0,704033	0,000	0,000	0,000	0,000
12	VFMVF4	0,671426	0,668907	0,000	0,000	0,000	0,000
13	VFMVFA	0,449975	0,443678	0,000	0,000	0,000	0,000
Average				0,001	0,00047	-0,002	-0,001

Exhibit 8 – Comparing statistical results of three (3) scenarios of changing tax rate in banking industry

Exhibit 8 – Comparing statistical results of three (3) scenarios of changing tax rate in banking industry

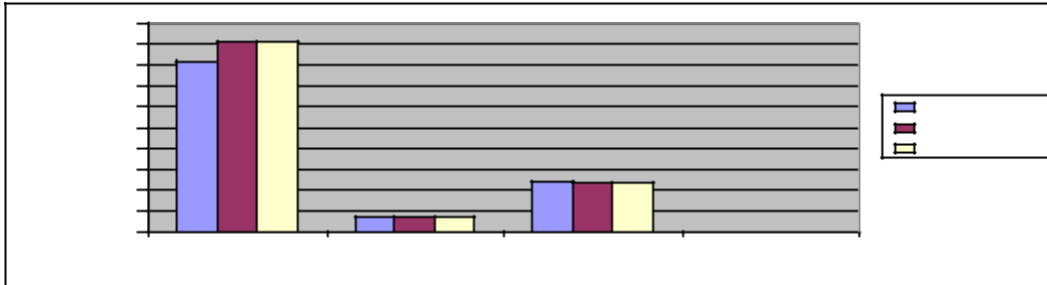


Exhibit 9- VNI Index and other stock market index during crisis 2006-2010

