Banking Sustainable Development in Vietnam – A Case Study of Saigon Hanoi Bank– SHB in Vietnam Banking Sector Period 2011-2020

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Abstract: The document of the 10th Party Congress continues to affirm: Rapid development must go hand in hand with sustainable development, the two sides affect each other, reflected at both the macro and micro levels, both short term and long term. Growth in quantity must go hand in hand with improving quality and efficiency efficiency and competitiveness of the economy. While exploiting the development factors under width, must pay special attention to the factors that develop in depth.

Therefore, in any industry or sector of the Vietnamese economy, we need to make the most of it applying these concepts in sustainable development, for example in this study, we analyze factors that affect banking sustainability in a case study of Saigon Hanoi bank -SHB during period 2011-2020, after global crisis time until China-US commerce war.

The research findings tell us that as GDP growth, R and Risk free rate have higher effects on market risks of banks, SBV and relevant governmental agencies need to control GDP growth as well as reducing lending rate and rates of Treasury bonds toward benefits for managing risk.

These macro factors affect will help, after measuring impacts, to adjust banking sustainable development in Vietnam.

1. Introduction

First, we recognize the importance of sustainable development in banking also increase to a new level in recent years.

Next, Vietnam banking sustainable development need to go parallel with socio-economic roles and development, environment protection and natural environment development.

For sustainability, we pay attention not only to perfecting financial policies, balancing the budget, stabilizing the currency, controlling inflation; but also effective use of advanced scientific and technological achievements to increase labor productivity.

Therefore, banking sustainable development is much depending on stable macro indicators such as GDP growth, industrial production, rates, exchange rates, stock exchange, VNIndex, CPI, etc.

Huy, D.T.N (2015) specified that there is set of governance standards and risk management that can be applied in banks and corporations.

In this paper we mainly focus on using reliable internet data in evaluating a key factor -beta CAPM under macro factors effects, for a big listed bank in Vietnam: Saigon Hanoi Bank -SHB (previously, private bank).

We structure our study with introduction, literature review, method, main results, discussion and conclusion.

2. Literature Review

First, Trivelas and Satouridis (2013) stated that innovation and creativity and goal affected by Management Information System (MIS) effectiveness in Greece.

Then, We summarize previous studies as follows:

Table 1. Summary of previous studies

Authors	Year	Contents, results
Karim, A.J	2011	Management Information Systems (MIS) is the key factor to facilitate and attain efficient decision making in an organization.
Avegrou, C.	2008	Social situation and strategic issues are concerned with Information system (IS) in emerging markets and associated with the role of Information and Communication Technology (ICT).
Huy, D.T.N	2015	Present corporate governance and risk management and sustainability standards for corporations
Giebe et al	2019	in banking sector, "Big Data & Analytics" were used as a tool to offer ustomer-oriented services and products.
Feitosa et al	2019	changes in organizational structure,and employee skills, CRM affected by technologies (disruptive)
Phung Tran My Hanh, Nguyen Thi Hang, Dinh Tran Ngoc Huy, Le Ngoc Nuong	2021	Beta CAPM and GAP can be compared ìn different groups of banks: joint stock banks (private banks)and previously SOE banks, at least in Vietnam.

3. Methodology

3.1. Method and Data

All internet data such as stock price, exchange rate, inflation, GDP growth, risk free rate we take from reliable internet data sources, esp. from website of State Bank of Vietnam, Bureau of Statistics, Ministry of Finance, banks, etc.

For quantitative analysis, the study is supported with OLS regression.

Looking at descriptive statistics below, we see that:
- Highest values of standard dev: exchange rate and SP500 (figure 1).
- Correlation between beta and SP500 higher than that between beta and exchange rate (figure 3)
- Correlation between beta and R higher than that between beta and Rf (figure 4).

	BETA_SHB	EX_RATE	SP500	TRADEBA...
Mean	0.745500	22394.20	2245.493	-75.16000
Median	0.895000	22700.00	2138.720	-125.0000
Maximum	1.650000	23230.00	3703.060	498.0000
Minimum	-1.460000	20618.00	1292.280	-1162.000
Std. Dev.	0.655242	837.4044	685.2655	402.1636
Skewness	-1.949069	-0.853154	0.363508	-0.667135
Kurtosis	7.598327	2.379814	2.307065	3.848882
Jarque-Bera	30.28341	2.746765	0.840594	2.084063
Probability	0.000000	0.253249	0.656852	0.352737
Sum	14.91000	447884.0	44909.86	-1503.200
Sum Sq. Dev.	8.157495	13323677	8922186.	3072975.

Figure 1. External factor descriptive

	BETA_SHB	CPI	G	IM	R	RF	VNIINDEX
Mean	0.745500	0.049970	0.057150	162.0550	0.112630	0.055213	680.2135
Median	0.895000	0.035350	0.059700	150.4000	0.102500	0.059850	606.6300
Maximum	1.650000	0.181300	0.070800	267.2000	0.190000	0.132000	1067.500
Minimum	-1.460000	0.006300	0.018100	117.4000	0.080000	0.012200	351.5500
Std. Dev.	0.655242	0.045765	0.013917	36.96982	0.030423	0.027599	226.7034
Skewness	-1.949069	1.928654	-1.442505	1.394427	1.349477	0.911109	0.267939
Kurtosis	7.598327	5.913603	4.632589	4.628737	4.016835	4.234518	1.664441
Jarque-Bera	30.28341	19.47325	9.157194	8.692074	6.931922	4.037095	1.725736
Probability	0.000000	0.000059	0.010269	0.012958	0.031243	0.132848	0.421950
Sum	14.91000	0.999400	1.143000	3241.100	2.252600	1.104250	13604.27
Sum Sq. Dev.	8.157495	0.039794	0.003680	25968.59	0.017586	0.014472	976494.2

Figure 2. Internal factor descriptive

	BETA_SHB	EX_RATE	SP500	TRADEBA...
BETA_SHB	1.000000	-0.295674	-0.251559	0.281810
EX_RATE	-0.295674	1.000000	0.720764	0.048661
SP500	-0.251559	0.720764	1.000000	0.375157
TRADEBA...	0.281810	0.048661	0.375157	1.000000

Figure 3. External factor correlation

Correlation Matrix							
	BETA_SHB	CPI	G	IM	R	RF	VNIINDEX
BETA_SHB	1.000000	0.207069	0.164088	-0.217265	0.377825	0.194722	-0.205408
CPI	0.207069	1.000000	0.038007	0.184050	0.547153	0.603133	-0.554246
G	0.164088	0.038007	1.000000	0.244021	-0.040216	0.068575	0.012915
IM	-0.217265	0.184050	0.244021	1.000000	0.128743	-0.019349	0.052526
R	0.377825	0.547153	-0.040216	0.128743	1.000000	0.484905	-0.790059
RF	0.194722	0.603133	0.068575	-0.019349	0.484905	1.000000	-0.804579
VNIINDEX	-0.205408	-0.554246	0.012915	0.052526	-0.790059	-0.804579	1.000000

Figure 4. Internal factor correlation

4. Main Results

4.1. Overall Results

We analyze as shown in below charts:
- Between Beta SHB and CPI, G, R: there is positive relationship.
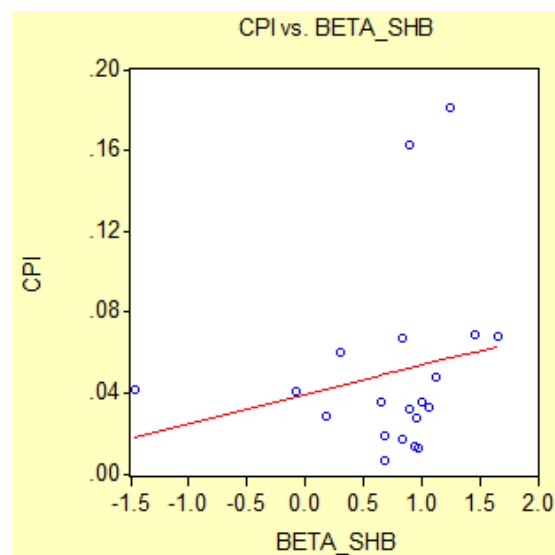- Between beta SHB and IM, VNIndex: there is negative relationship.
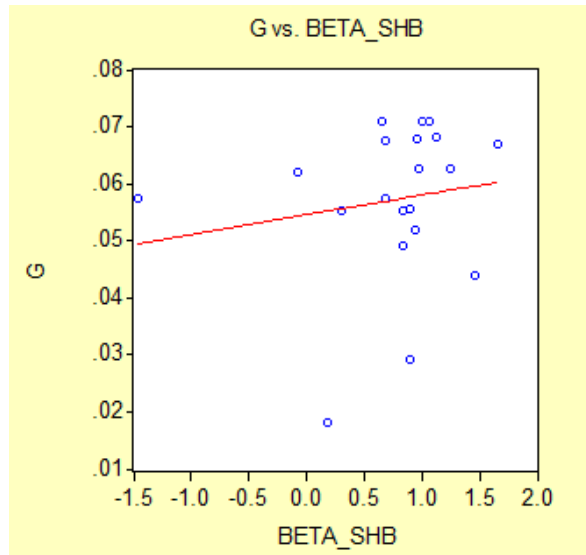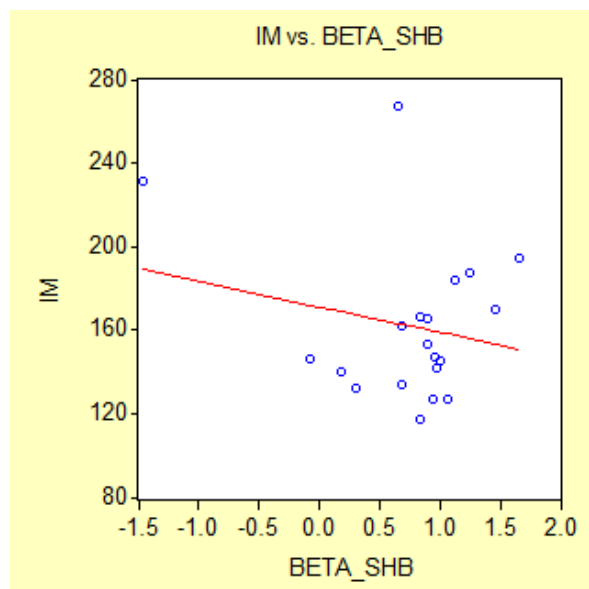

Chart 1. Beta and CPI

Chart 2. Beta and G
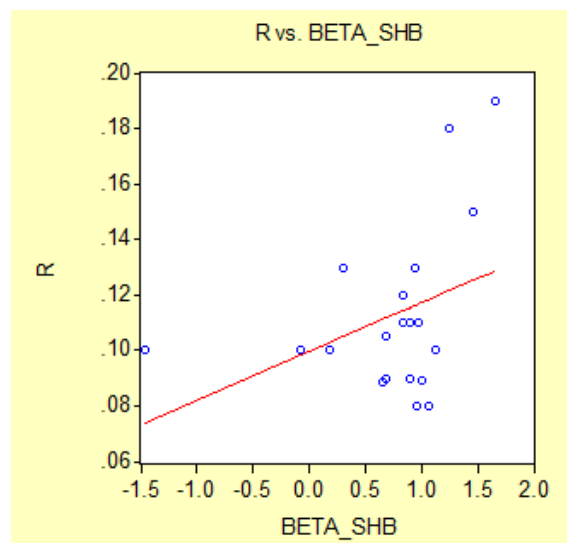

Chart 3. Beta and IM
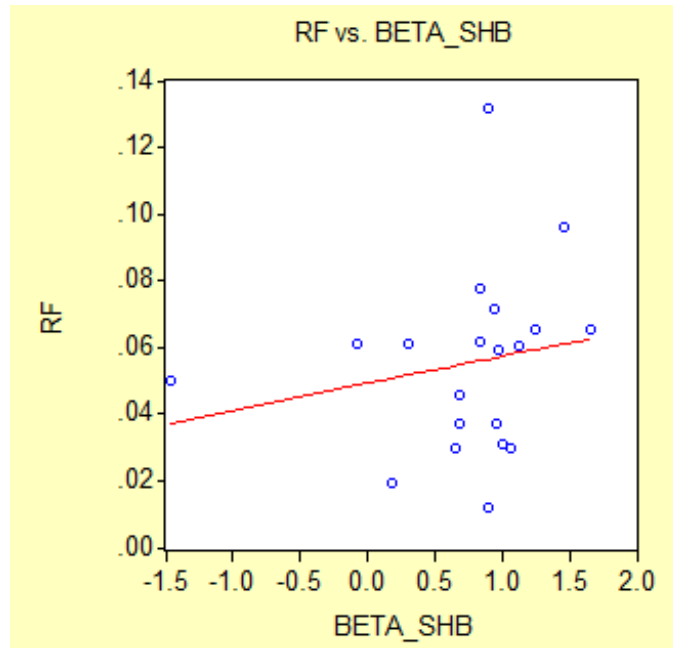

Chart 4. Beta and R
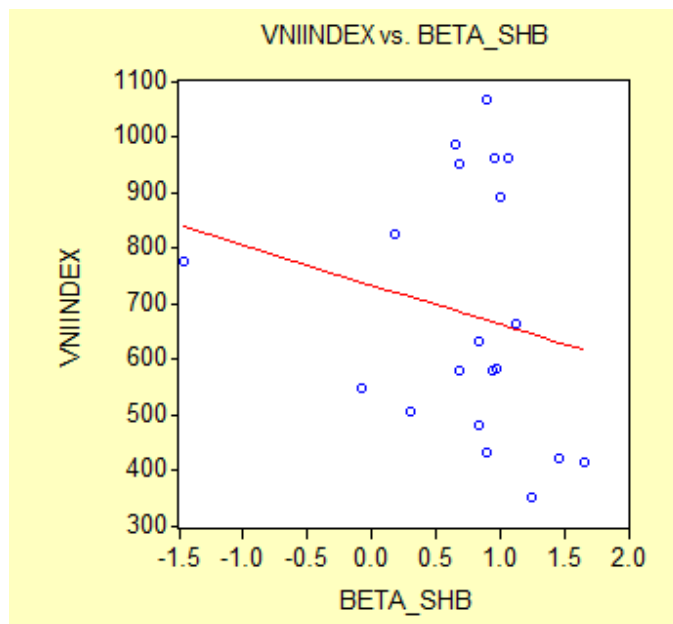
Chart 5. Beta and Rf

Chart 6. Beta and VNIndex

4.2. OLS Regression Results

We see in below figures:

- Coefficient of 2.96: beta and CPI has positive correlation (figure 5).

- Coefficient of 8.13: beta and R has positive correlation (figure 6).

- Coefficient of 4.6: beta and Rf has positive correlation (figure 7).

- Coefficient of -0.0005: VNIndex and beta SHB has negative correlation (figure 8).

Dependent Variable: BETA_SHB
Method: Least Squares
Date: 07/13/21   Time: 12:00
Sample: 1 20
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPI	2.964723	3.301543	0.897981	0.3811
C	0.597353	0.221147	2.701160	0.0146

R-squared	0.042877	Mean dependent var	0.745500
Adjusted R-squared	-0.010296	S.D. dependent var	0.655242
S.E. of regression	0.658606	Akaike info criterion	2.097258
Sum squared resid	7.807722	Schwarz criterion	2.196831
Log likelihood	-18.97258	F-statistic	0.806370
Durbin-Watson stat	2.194135	Prob(F-statistic)	0.381050

Figure 5. OLS for CPI

Dependent Variable: BETA_SHB
Method: Least Squares
Date: 07/13/21   Time: 12:00
Sample: 1 20
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
R	8.137483	4.700203	1.731305	0.1005
C	-0.171025	0.547423	-0.312418	0.7583

R-squared	0.142752	Mean dependent var	0.745500
Adjusted R-squared	0.095127	S.D. dependent var	0.655242
S.E. of regression	0.623298	Akaike info criterion	1.987054
Sum squared resid	6.992999	Schwarz criterion	2.086628
Log likelihood	-17.87054	F-statistic	2.997415
Durbin-Watson stat	2.350009	Prob(F-statistic)	0.100501

Figure 6. OLS for R

Dependent Variable: BETA_SHB
Method: Least Squares
Date: 07/13/21   Time: 12:01
Sample: 1 20
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RF	4.623026	5.488858	0.842256	0.4107
C	0.490251	0.337108	1.454284	0.1631

R-squared	0.037917	Mean dependent var	0.745500
Adjusted R-squared	-0.015533	S.D. dependent var	0.655242
S.E. of regression	0.660311	Akaike info criterion	2.102428
Sum squared resid	7.848191	Schwarz criterion	2.202001
Log likelihood	-19.02428	F-statistic	0.709396
Durbin-Watson stat	2.143216	Prob(F-statistic)	0.410696

Figure 7. OLS for Rf

Dependent Variable: BETA_SHB
Method: Least Squares
Date: 07/13/21   Time: 12:01
Sample: 1 20
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VNIINDEX	-0.000594	0.000667	-0.890458	0.3850
C	1.149336	0.476843	2.410302	0.0269

R-squared	0.042192	Mean dependent var		0.745500
Adjusted R-squared	-0.011019	S.D. dependent var		0.655242
S.E. of regression	0.658842	Akaike info criterion		2.097974
Sum squared resid	7.813312	Schwarz criterion		2.197547
Log likelihood	-18.97974	F-statistic		0.792916
Durbin-Watson stat	2.192580	Prob(F-statistic)		0.384967

Figure 8. OLS for VNIndex

Then we look at below table:

Table 2. OLS regression for external and internal factors

	Coefficients	
	Internal factors	**External factors**
CPI	-0.15	
G	12.6	
IM	-0.008	
R	21.4	
Rf	11.4	
VNIndex	0.002	
Ex_rate		-3.19E
SP500		-0.0003
Trade balance		0.0006
R-squared	0.4	0.22
Akaike info criteria	2.1	2.08

Analysis

We can infer from the above table that Rf , R and GDP growth have highest coefficients/effects on SHB beta CAPM whereas Exchange rate, trade balance have lowest coefficients/effects on beta..

5. Discussion

During period 2011-2020:

In case internal factors we find out: GDP growth and lending rate Risk free rate (Rf) have positive and higher impacts on beta CAPM. While for external factors, trade balance and SP500 have higher impacts on market risk.

6. Conclusion

Because GDP growth, R and Risk free rate have higher effects on market risks of banks, Ministry of Finance, State bank of Vietnam and relevant agencies need to control GDP growth as well as reducing lending rate and rates of Treasury bonds toward benefits for managing risk.

Huy, D.T.N et al (2020) stated that the critical role of commercial banks in developing countries need to be developed.

Suggestions for a Better Risk Management Information System

Commercial bank system need to organize better RMIS in order to predict macro.
effects on market risk and other risk types of banks.
Hence they can achieve better goals of banking sustainability.

Limitation of Research

We can expand our research model for other industries and other markets.

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