Journal of Contemporary Issues in Business and Government Vol. 27, No. 2, 2021
https://cibg.org.au/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI: 10.47750/cibg.2021.27.02.009

Better Bank Management for Sustainability - Empirical Risk Evidence from Vietnam

PHAM VAN TUAN, PHD[1]*, DINH TRAN NGOC HUY, MBA[2], VU THI KIM ANH, PHD[3], LE MANH HUNG, PHD[4]

[1]Asso.Prof., National Economics University (NEU) Vietnam
[2]PhD candidate, Banking University HCMC, Ho Chi Minh city Vietnam - International University of Japan, Japan.
[3,4]Trade Union University, Vietnam
Trade Union University, Vietnam
*Corresponding Author
Email ID: phamvantuan@neu.edu.vn, dtnhuy2010@gmail.com, kimanhvt@dhcd.eu.vn, hunglm@dhcd.eu.vn

Abstract: Vietnam has reached a low inflation rate of 06% in year 2015, so it is good to see what happen in bank management during the post- low (L) inflation time 2015-2020, in order to propose plans to maintain banking business management sustainability.
Within volatility of multi macro factors, this paper will estimate bank risks with Beta CAPM measurement in the nation in the above selected period.
Next step, we aims to measure and evaluate how much macro factors effects in the market risk of 7 big listed banks with semiannual data. We use synthesis statistics methods, and dialectical materialism method, combined with econometric model with 9 macro variables, and figure out that lending rate and risk free rate have inverse effects on market risk. It implies that increase in lending rate will cause market risk declines whereas increase in Rf will cause beta increases.
Then, we will suggest recommendations for improving bank management capabilities for sustainable bank management and governance. We recognize that modern advanced bank management solutions are needed for incoming periods.
JEL classification numbers: M21, G12, G30, E58, E62

Keywords: bank management, sustainability, beta CAPM, macro effects, low inflation, banking industry, Vietnam, policy

INTRODUCTION

Most of listed banks in Vietnam report huge profits in recent years despite of Covid 19 and commerce war impacts. The globalization and integration has allowed many overseas banks open branches in Vietnam and increase level of competitiveness. It will affect marketing strategy, market share, risk management and sustainability of banking management in the country.
On the other hand, banks face challenges. The method of risk identification and assessment must be regularly changed to suit, because it involves many factors, including factors arising from the bank itself and factors beyond its capacity of the bank. Through the risk management system, the goals and tasks in the development policies of banks are clearly reflected.
Daft (1986) presented us that good management requires sound principles and facts.
Whereas Inyang (2008) opined that management theories will provide basis for management practices, and vice versa, management practices will help to reinforce theories.
He also said that people that research on theories and with practices need , together, to improve our understanding. (Inyang, 2008:124-125).
Macro policy makers will need to look at risk management in banking industry and impacts of macro factors on market risk in order to adjust macro policies.
This study will calculate and figure out not only inflation but other macro factors, both internal and external, such as GDP growth, risk free rate, lending rate, SP500, trade balance and exchange rate, etc. affecting the market risk level during the low inflation time (2015-2020).

BODY OF MANUSCRIPT

Research Issues

The scope of this study are:

Issue 1: What are impacts of internal macro variables such as inflation, GDP growth, VNIndex, risk free rate,…on market risk of ACB?
Issue 2: Evaluating impacts of external macro variables such as balance of trade, exchange rate and S&P500 on market risk of ACB measured by Beta CAPM

LITERATURE REVIEW

Fama, Eugene F., and French, Kenneth R., (2004) also found out that not only beta market, but also beta with market capitalization will affect stock return.
Dimitrov (2006) observed that between debt ratio or leverage and returns of stock (risk adjusted) have negative relationship.
Umar (2011) said that companies with high leverage will have better corporate governance. Chen et all (2013) gave evidence showing that in Lehman Brothers case, depending too much on short term financing and not enough collateral will present high risk exposure.
During the financial crisis 2007-2009 in Viet Nam and global financial markets, high inflation causing high lending rates have created risks for many industries such as banking, medicine and the whole economy. Mohamad et all (2014) presented results showing that in banking operation, between risk and return, banks need to better select a trade off. Wang et all (2014) showed us that when institutional investors invest in longer period in firms, companies receive abnormal profits.
Then, Gunarathna (2016) mentioned that between firm size and financial risk, there is negative relationship.
Last but not least, Hami (2017) presented us that between inflation and depth of finance in Iran, there is negative relationship.

METHODOLOGY

All stock data is available from Vietnam stock exchange market (HOSE and HNX) during the low inflation period 2015-2020 and China-US commerce war, which we use to estimate systemic risk results. We perform , with formulas of traditional beta market and comparison, both fundamental data analysis and financial techniques.
Analysis of the effects of 9 macro variables on market risk of listed commercial bank, ACB. Weekly data collected from 2015-2020 for ACB stock price to measure Beta and other macro data from reliable sources such as the General Statistics Office and commercial banks. Beta CAPM is a function with 9 macro variables (x1: GDP growth rate (g), x2: Risk-free rate Rf (i), x3: Loan interest rate (r), x4: Exchange rate (ex_rate), x5: S&P 500, x6: VNIndex, x7 : trade balance, x8: industrial production index, x9: CPI). We use OLS regression.

MAIN RESULTS

General Data Analysis

We might recognize that internal macro factors have much more impacts on market risk (beta CAPM measurement) for most of banks, compared to other external macro indicators such as trade balance, SP500, exchange rate.

Empirical Research Findings and Discussion

In the below section, we use OLS regression from Eviews, we find out from chart 1 that: Rf has much more impacts on NVB Beta CAPM and less impact in case of CTG bank. CPI has more impacts on beta of EIB bank and less impact in case of CTG and ACB banks. GDP growth has more impacts in case of NVB and less impacts in case of EIB. Lending rate has more impacts in case of NVB and CTG, and less impacts in case of EIB and STB.

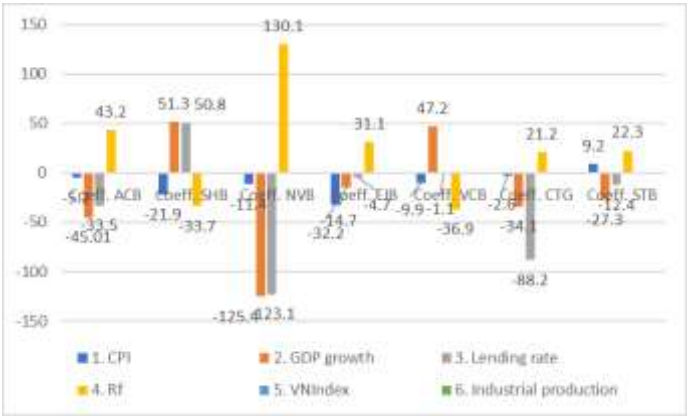

Chart 1: Comparison of multi macro factors coefficients (internal) ***(source: calculation of authors)***

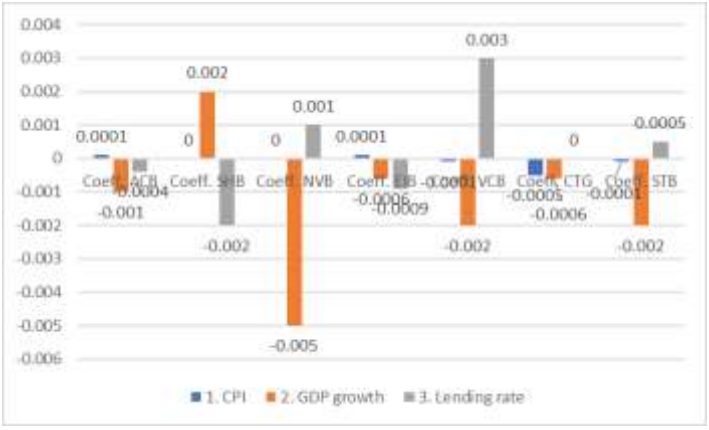

Chart 2: Comparison of multi macro factors coefficients (external) (source: calculation of authors)

Table 1: Both internal and External impacts on Beta CAPM – 4 banks SHB, EIB, NVB and ACB (source: calculation of authors)

	ACB case		SHB case		NVB case		EIB case	
	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
Internal macro factors								
1. CPI	-5.2	-0.04	-21.9	-0.3	-11.4	-0.09	-32.2	-0.5
2. GDP growth	-45.01	-0.3	51.3	0.46	-125.4	-0.7	-14.7	-0.2
3. Lending rate	-33.5	-0.13	50.8	0.3	-123.1	-0.5	-4.7	-0.03
4. Rf	43.2	0.27	-33.7	-0.3	130.1	0.8	31.1	0.3
5. VNIndex	0.005	0.3	-0.003	-0.2	0.01	0.8	0.006	0.6
6. Industrial production	0.004	0.3	-0.007	-0.6	0.005	0.3	0.005	0.6
External macro factors								
1. Exchange rate	0.0001	0.05	-4.26E	-0.02	-9.82E	-0.03	0.0001	0.1
2. SP500	-0.001	-0.2	0.002	0.5	-0.005	-0.7	-0.0006	-0.2
3. Trade balance	-0.0004	-0.07	-0.002	-0.4	0.001	0.16	-0.0009	-0.3

Table 2: Both internal and External impacts on Beta CAPM – 3 banks VCB, CTG and STB (source: calculation of authors)

	VCB case		CTG case		STB case	
	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
Internal macro factors						
1. CPI	-9.9	-0.5	-2.6	-0.04	9.2	0.12
2. GDP growth	47.2	2.04	-34.1	-0.39	-27.3	-0.27
3. Lending rate	-1.1	-0.3	-88.2	-0.6	-12.4	-0.08
4. Rf	-36.9	-1.6	21.2	0.2	22.3	0.2
5. VNIndex	-0.01	-3.5	-0.001	-0.1	0.005	0.4
6. Industrial production	0.003	1.1	0.01	1.57	0.002	0.17
External macro factors						
7. Exchange rate	-0.0001	-0.3	-0.0005	-0.35	-0.0001	-0.07
8. SP500	-0.002	-2.2	-0.0006	-0.16	-0.002	-0.37
9. Trade balance	0.003	3.6	4.64E	0.01	0.0005	0.1

DISCUSSION FOR FURTHER RESEARCHES

During the post-L inflation time, from above table 1 : in all 6 bank cases, CPI has negative correlation with Beta, except 1 case (STB bank) they have positive correlation. Then, GDP growth has positive correlation with market risk in just 2 banks (VCB and SHB) while they have negative correlation in 5 cases. Next, lending rate has positive correlation with beta in just 1 case (SHB) and they have negative relationship in all 6 cases. Last but

not least, Rf has negative correlation with market risk in just 2 cases (VCB and SHB) and positive correlation in 5 cases. And industrial production has positive correlation with beta in all 7 bank cases.
From above table 2 : in 2 cases, EIB and ACB, exchange rate has positive correlation with beta while negative correlation in other 5 cases. In only 1 case (SHB), SP500 has positive correlation with beta while negative correlation in other 6 cases. Then, Trade balance has positive correlation with beta in case of VCB and CTG (previous state owned banks) and negative correlation with beta of joint stock commercial banks (private banks, previously).

CONCLUSION AND POLICY SUGGESTION

As shown from the above regression model and equation, Government and Ministry of Finance need to increase GDP growth at proper rate and going parallel with manage risk and control CPI for lower market risk.
This research paper provides evidence that the market risk are affected much more by GDP growth, risk free rate and lending rate, then less impacts from other factors: CPI, VNIndex, exchange rate, etc. It means that we need the role of bank system and Ministry of Finance in trying to control credit growth and rates reasonably.

Policy implications:

Specifically, for bank system and relevant governmental agencies:
- It is good to construct a risk model to analyze the impact of macro variables on Beta CAPM for the financial services sector as described above.

ACKNOWLEDGEMENTS

I would like to take this opportunity to express my warm thanks to Board of Editors, my family, colleagues, and brother in assisting convenient conditions for my research paper.

REFERENCES

1. Abadi, H.R.D., Fathi, S., and Zare, M. (2012). 'Analyze the impact of financial variables on the market risk of Tehran Stock Exchange companies', *Interdisciplinary Journal of Contemporary Research in Business*, vol.10, no.3, pp.664-671.
2. Adhikari. N. (2015). 'Determinants of Systemic Risk for Companies Listed on Nepal Stock Exchange', *Global Journal of Management and Business Research: C Finance*,vol.15, no.5, pp. 75-83.
3. Akbari P. and Mohammadi E. (2013). 'A Study of the Effects of Leverages Ratio on Systematic Risk based on the Capital Asset Pricing Model Among Accepted Companies in Tehran Stock Market', *Journal of Educational and Management Studies*, vol.3, no.4, pp. 271-277.
4. Al-Qaisi., K.M. (2011). 'The Economic Determinants of Systematic Risk in the Jordanian Capital Market', *International Journal of Business and Social Science*, vol.2, no.20, pp. 85-95.
5. Anderssen, T.G., Bollerslev, T., Diebold, F.X., and Wu, J. (2005). 'A Framework for Exploring the Macroeconomic Determinants of Systematic Risk', *Financial Economics, Macroeconomics, and Econometrics*, vol.95. no.2, pp. 398-404.
6. Arnes, S.K. (2014). 'Impact of Macroeconomic Indicators on Stock Market Performance: The Case of The Istanbul Stock Exchange', *Master Thesis*, Copenhagen Business School. Retrieved from:https://research-api.cbs.dk/ws/portalfiles/portal/58450158/sibel_arnes.pdf.
7. Ahmad, N., and Ramzan, M. (2016). 'Stock Market Volatility and Macroeconomic Factor Volatility', *International Journal of Research in Business Studies and Management*, 3(7), 37-44. Ahmed, A., Ejaz, A., Ali, R., Ishfaq Ahmad, I. 2018. Sectoral integration and investment diversification opportunities: evidence from Colombo Stock Exchange. Entrepreneurship and Sustainability Issues, vol.5, no.3, pp. 514-527. https://doi.org/10.9770/jesi.2018.5.3(8)
8. Basu, Devraj., and Streme, Alexander. (2007). CAPM and Time-Varying Beta: The Cross-Section of Expected Returns, *SSRN Working paper series*
9. Bohachova, O. (2008). 'The Impact of Macroeconomic Factors on Risks in the Banking Sector: A Cross-Country Empirical Assessment', *IAW Discussion Papers 44*, Institut für Angewandte Wirtschaftsforschung (IAW).
10. Bowman, R.G. (1979). 'The Theoretical Relationship Between Systematic Risk and Financial (Accounting) Variables', *The Journal of Finance*, vol. 34, no.3, pp. 617-630.
11. Butt, B.Z., Rehman, K.U. (2010). 'Do economic factors influence stock returns? A firm and industry level analysis', *African Journal of Business Management*, vol.4, no.5, pp. 583-593
12. Chatterjea, Arkadev., Jerian, Joseph A., and Jarrow, Robert A. (2001). Market Manipulation and Corporate Finance: A new Perspectives, *1994 Annual Meeting Review*, SouthWestern Finance Association, Texas, USA.
13. Chen RR, Chidambaran NK, Imerman MB, Sopranzetti BJ. (2013). Liquidity, Leverage, and Lehman: A Structural Analysis of Financial Institutions in Crisis, *Fordham School of Business Research Paper No.2279686*

14. Cheng, L.Y., Wang, M.C., and Chen, K.C. (2014). Institutional Investment Horizons and the Stock Performance of Private Equity Placements: Evidence from the Taiwanese Listed Firms, *Review of Pacific Basin Financial Markets and Policies*, 17(2).

15. Celebi, K., and Honig, M. (2019). 'The Impact of Macroeconomic Factors on the German Stock Market: Evidence for the Crisis, Pre- and Post-Crisis Periods', *International Journal of Financial Studies*, vol.7, no.18. doi:10.3390/ijfs7020018

16. Claudia, M.P., Sandra, E., and Esteban, P. (2010). 'Macroeconomic factors and micro-level bank risk', *Discussion Paper Series 1: Economic Studies No 20/2010*.

17. Curran,M., and Velic, A. (2018). 'The CAPM, National Stock Market Betas, and Macroeconomic Covariates: A Global Analysis',*Trinity Economics Papers 0618*, Trinity College Dublin, Department of Economics.

18. DeGennaro, Ramon P., Kim, Sangphill. (2003). The CAPM and Beta in an Imperfect Market, *SSRN Working paper series*

19. Dimitrov V, Jain PC. (2006). The Value Relevance of Changes in Financial Leverage, *SSRN Working Paper*

20. Emilios, A. 2015, 'Bank Leverage Ratios and Financial Stability: A Micro- and Macroprudential Perspective', *Working Paper No.849*, Levy Economics Institute

21. Eugene FF, French KR. (2004). The Capital Asset Pricing Model: Theory and Evidence, *Journal of Economic Perspectives.*

22. Galagedera, D.U.A. (2007). An alternative perspective on the relationship between downside beta and CAPM beta, *Emerging Markets Review*

23. Galagedera, D.U.A. (2007). 'An alternative perspective on the relationship between downside beta and CAPM beta', *Emerging Markets Review*

24. Gay, R.D. (2016). 'Effect Of Macroeconomic Variables On Stock Market Returns For Four Emerging Economies: Brazil, Russia, India, And China', *International Business & Economics Research Journal*, vol.15, no.3.

25. Gizycki, M. (2001). 'The Effect Of Macroeconomic Conditions on Bank Risks and Profitability', *Research Discussion Paper 2001-06*,System Stability Department Reserve Bank of Australia. Retrieved from: https://www.rba.gov.au/publications/rdp/2001/pdf/rdp2001-06.pdf.

26. Gunarathna, V. (2016). How does Financial Leverage Affect Financial Risk? An Empirical Study in Sri Lanka, Amity Journal of Finance, 1(1), 57-66.

27. Gunaratha V. (2013). The Degree of Financial Leverage as a Determinant of Financial Risk: An Empirical Study of Colombo Stock Exchange in Sri Lanka, *2nd International Conference on Management and Economics Paper*.

28. Hojat, S. (2015). 'The Impact of Monetary Policy On the Stock Market', *Doctoral dissertation*, Walden University. Retrieved from: https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=2602&context=dissertations

29. Huey-Yeh, L., Nuraeni, H.F., and Meihua, K. (2016). 'The Impact of Macroeconomic Factors on Credit Risk in Conventional Banks and Islamic Banks: Evidence from Indonesia', *International Journal of Financial Research*, vol.7, no.4.

30. Huy, D. T.N., Loan, B. T., and Anh, P. T. (2020). 'Impact of selected factors on stock price: a case study of Vietcombank in Vietnam', *Entrepreneurship and Sustainability Issues, vol.7, no.4*, pp. 2715-2730. https://doi.org/10.9770/jesi.2020.7.4(10)

31. Huy, D.T.N. (2012). Estimating Beta of Viet Nam listed construction companies groups during the crisis, *Journal of Integration and Development* 15 (1).

32. Huy, D. T.N., Dat, P. M., và Anh, P. T. (2020). 'Building and econometric model of selected factors' impact on stock price: a case study', *Journal of Security and Sustainability Issues, vol.9*(M), pp. 77-93. https://doi.org/10.9770/jssi.2020.9.M(7)

33. Huy D.T.N., Nhan V.K., Bich N.T.N., Hong N.T.P., Chung N.T., Huy P.Q. (2021). 'Impacts of Internal and External Macroeconomic Factors on Firm Stock Price in an Expansion Econometric model—A Case in Vietnam Real Estate Industry', *Data Science for Financial Econometrics-Studies in Computational Intelligence*, vol.898, Springer. http://doi-org-443.webvpn.fjmu.edu.cn/10.1007/978-3-030-48853-6_14

34. Khwaja, Asim Ijaz., and Mian, Atif. (2005). Unchecked intermediaries:Price manipulation in an emerging stock market, *Journal of Financial Economics* 78, 243 – 241

35. Krishna, R.C. (2015). 'Macroeconomic Variables impact on Stock Prices in a BRIC Stock Markets: An Empirical Analysis, *Journal of Stock & Forex Trading*, vol.4, no.2. https://doi.org/10.4172/2168-9458.1000153

36. Kulathunga, K. (2015). Macroeconomic Factors and Stock Market Development: With Special Reference to Colombo Stock Exchange, *International Journal of Scientific and Research Publications*, vol.5, no.8, pp. 1-7.

37. Kumaresan, R. (2019). 'The Effects of Macroeconomics Factors towards the Starbucks Corporation', *MPRA Paper No. 97243*. Retrieved from:https://mpra.ub.uni-muenchen.de/97243/1/MPRA_paper_97243.pdf
38. Patro, D.K., Wald, J., & Wu, Y. (2002). 'The Impact of Macroeconomic and Financial Variables on Market Risk: Evidence from International Equity Returns', *European Financial Management*, 8(4):421 - 447. DOI: 10.1111/1468-036X.00198
39. Park, J.C, Ali, F.D., & Mbanga, C. (2019). Investor sentiment and aggregate stock returns: the role of investor attention, Review of Quantitative Finance and Accounting, 53(2), 397 - 428.
40. Sadia, S., and Noreen, A. 2012, 'Impact of Macroeconomic Factors on Banking Index in Pakistan', *Interdisciplinary Journal of Contemporary Research in Business*, vol.4, no.6, pp. 1200-1218.
41. Saeed, S., and Akhter, N. (2016). 'Impact of Macroeconomic Factors on Banking Index in Pakistan', *Interdisciplinary Journal of Contemporary Research in Business*, vol.4, no.6.
42. Singh, T., Mehta, S., and Versha, M.S. (2010). 'Macroeconomic factors and stock returns: Evidence from Taiwan', *Journal of Economics and International Finance*, vol.2, no.4, pp. 217-227
43. Siregar, E.I., and Diana. (2019). 'The Impact of Political Risk and Macro Economics on Stock Return at Indonesia Stock Exchange-An Approach of Arbritage Pricing Theory (APT)', *International Conference on Economics, Management, and Accounting (ICEMA)*, pp.744–772. DOI: https://doi.org/10.18502/kss.v3i26.5412
44. Tahmidi, A. Westlund, S.A., & Sheludchenko, D. (2011). The Effect of Macroeconomic Variables on Market Risk Premium, Working paper, Mälardalen University. Retrieved from: https://www.diva-portal.org/smash/get/diva2:429080/FULLTEXT01.pdf
45. Tomuleasa, I.I. (2015). 'Macroprudential policy and systemic risk: An overview', *Procedia Economics and Finance*, 20, pp.645 – 653.