Better Bank Management for Sustainability - Empirical Risk Evidence from Vietnam

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

<table>
<thead>
<tr>
<th>Internal macro factors</th>
<th>ACB case</th>
<th>SHB case</th>
<th>NVB case</th>
<th>EIB case</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CPI</td>
<td>-5.2</td>
<td>-0.04</td>
<td>-21.9</td>
<td>-0.3</td>
</tr>
<tr>
<td>2. GDP growth</td>
<td>-45.01</td>
<td>-0.3</td>
<td>51.3</td>
<td>0.46</td>
</tr>
<tr>
<td>3. Lending rate</td>
<td>-33.5</td>
<td>-0.13</td>
<td>50.8</td>
<td>0.3</td>
</tr>
<tr>
<td>4. Rf</td>
<td>43.2</td>
<td>0.27</td>
<td>-33.7</td>
<td>-0.3</td>
</tr>
<tr>
<td>5. VNIndex</td>
<td>0.005</td>
<td>0.3</td>
<td>-0.003</td>
<td>-0.2</td>
</tr>
<tr>
<td>6. Industrial production</td>
<td>0.004</td>
<td>0.3</td>
<td>-0.007</td>
<td>-0.6</td>
</tr>
</tbody>
</table>

**External macro factors**

<table>
<thead>
<tr>
<th></th>
<th>VCB case</th>
<th>CTG case</th>
<th>STB case</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CPI</td>
<td>-9.9</td>
<td>-0.5</td>
<td>-2.6</td>
</tr>
<tr>
<td>2. GDP growth</td>
<td>47.2</td>
<td>2.04</td>
<td>-34.1</td>
</tr>
<tr>
<td>3. Lending rate</td>
<td>-1.1</td>
<td>-0.3</td>
<td>-88.2</td>
</tr>
<tr>
<td>4. Rf</td>
<td>-36.9</td>
<td>-1.6</td>
<td>21.2</td>
</tr>
<tr>
<td>5. VNIndex</td>
<td>-0.01</td>
<td>-3.5</td>
<td>-0.001</td>
</tr>
<tr>
<td>6. Industrial production</td>
<td>0.003</td>
<td>1.1</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**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, \( R_f \) 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.

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**REFERENCES**


