Factors Affecting Business Performance and Enhancing Competitiveness for Company in Vietnam - Case of Quang Ngai Agricultural Products and Food JSC

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Abstract: Business performance will be reflected via measures such as stock price, revenues and net profits, etc.

To be more competitive and have better performance, there are several factors that affect firm performance which need to be measured.

We mainly use combination of quantitative methods (statistics, calculation formulas) with OLS regression and qualitative methods including synthesis, inductive and explanatory methods.

The research findings in the case of Quang Ngai Agricultural Products and Food JSC (APF) tell us that For internal factors: R, Rf and CPI has positive correlation with APF stock price. For external factors: exchange rate has more impacts (negative relationship) on stock price.

Besides, this study also give out recommendations for enhancing competitiveness and business performance.

Keywords: Business Performance, Competitiveness, Stock Price, Inflation, Agricultural Products Company, Economic Development, Vietnam.

JEL: M21, G30, G32, G38

INTRODUCTION

First, we recognize the importance of agricultural products in Vietnam also increase to a new level in recent years.

Quang Ngai Agricultural Producst and FOodJSC (APF) doing Business in

Producing and trading in tapioca starch and after-starch products (modified starch, ethanol alcohol).

Manufacturing, manufacturing, processing, installing: mechanical equipment.

Civil construction and industry.

Garment for export.

Direct import and export business.

General business: Sugar, beer, alcohol, cigarettes, milk, dried cassava, handicrafts, processed forest products, seafood, herbal medicine, fertilizers, construction materials, machinery equipment machinery for production;

Over years, to be more competitive, there are many solutions, among them are organizing better management information system for business decision making.

In this paper we mainly focus on using reliable internet data in comparing and evaluating key macro economic factors on business performance measures such as : stock price .

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.

The paper organized with introduction, literature review, method, main results, discussion and conclusion

LITERATURE REVIEW

We summarize relating studies in below table:

Table 1: Summarize previous studies

Domestic researches	Authors name	Results, contents
1.Systemic risk and the problem of determining Beta coefficient in Vietnam	Vương Đức Hoàng Quân (2012)	In the first stage, in general, the information from the Vietnam stock market is not sufficient in quantity and quality to estimate the beta coefficient according to the

		traditional method, which is regression analysis of stock returns volatility compared to indices. VN-Index to value the listed companies and stocks.
2.Fama-French 3-Factor Model: The empirical evidence from the Ho Chi Minh City Stock Exchange	Trương Đông Lộc and Dương Thị Hoàng Trang (2014)	The research results show that earnings of stocks are positively correlated with market risk, firm size and the book value to market value (BE / ME) ratio. In other words, the Fama - French 3-factor model is suitable in explaining the change in profits of stocks listed on HOSE.
3.The econometric model for stock prices in the period 2008-2011 - Case of stock prices ACB, VNIndex, risk free rate and S& P500	Đinh Trần Ngọc Huy (2015)	Analyze the impact of VNIndex and internal and external macro variables on the stock price of ACB.
4.The theory of average return of K.Marx and model of capital asset pricing	Nguyễn Thị Hường (2017)	The limitation of Vietnam's stock market is the lack of beta in stock analysis. However, as the market portfolio matures, beta will keep pace with the development of the market.
5. Book chapter by Dinh Tran Ngoc Huy (2021, Springer Verlag book chapter) "Impacts of Internal and External Macro Factors on Firm Stock Price in An Econometric Model – A Case In Viet Nam Real Estate Industry"	Đinh Trần Ngọc Huy (2021)	Presenting a regression model analyzing the impact of internal macro variables (inflation in Vietnam, lending rate, risk-free rate) and external (US inflation, exchange rate, S&P 500) on stock prices Vingroup is as follows: Stock price_VIC = -245.13 * Inflation_CPI + Lendingrate - 815.06*Rf_rate USD_VND_rate+0.07*SP500 - 372.08*Inflation_US, R2 = 0.84, SER = 19.7
6. Systemic risks in banking business - periods of crisis	Nguyễn Thanh Bé, Bùi Quang Hưng (2019)	Presented in Vietnam, the risk management system at commercial banks has been paid attention to a certain extent in the past few years, but due to its structural and technical limitations, this system has not can meet the complex requirements of a modern commercial bank operating in the current risky environment.
7. Factors affecting the return rate of listed stocks from the Fama French 5-factor model	Trịnh Minh Quang et al (2019)	Referring to factors of market change will strongly affect the share prices of large companies
International researches	Authors name	Results
1. The Impact of Macroeconomic and Financial Variables on Market Risk: Evidence from International Equity Returns	Patro et al (2002)	They found that a number of variables including imports, exports, inflation, market capitalization, dividend yield, and a book-to-book price ratio significantly influence a person's world market risk at national level.
2. Do economic factors influence stock returns? A firm and industry level analysis	Butt et al (2010)	The results revealed that market returns are primarily changes in stock returns, but macroeconomic variables and industry-related variables add explanatory power in describing volatility. stock returns.
3. Macroeconomic factors and micro-level bank risk	Claudia et al (2010)	The risk of about a third of US banks increases in response to monetary easing.
4. Impact of Macroeconomic Factors on Banking Index in Pakistan	Saeed và Akhter (2012)	In Karachi stock market, Regression results show that exchange rate and short-term interest rate have a significant impact on the Banking index. Macroeconomic variables such as money supply, exchange rate, industrial production and Short-term interest rate and exchange rate have a negative effect on banking index while oil price has a positive effect on the bank index. Banking index.
5. Impact of Macroeconomic Indicators on Stock Market Performance: The Case of The Istanbul Stock Exchange	Arnes (2014)	Their analysis has shown that for investors interested in Turkey, first of all, be careful not to assume that relationships that existed in the past will continue into the future. We also find that depending on the sector, the effects of changes in macroeconomic variables will also differ. For policymakers and lawmakers, however, our findings indicate that keeping interest rates low has been a good policy for the past 20 years.
6. Bank Leverage Ratios and Financial	Emilios (2015)	The leverage cycle can cause financial instability and the

Stability: A Micro- and Macroprudential Perspective		impact of limited leverage on bank governance performance.
7. Effect Of Macroeconomic Variables On Stock Market Returns For Four Emerging Economies: Brazil, Russia, India, And China	Gay (2016)	According to the hypothesis, the relationship between the exchange rate and the security's price should be in the same direction.
8. The Impact of Macroeconomic Factors on the German Stock Market: Evidence for the Crisis, Pre- and Post-Crisis Periods	Celebi and Honig (2019)	In Germany, the aggregate index (OECD), the Economic Research Institute's Export Expectations index, the climate index, exports, CPI, as well as the 3-year German government bond yield has a delayed effect on stock returns
9. Impacts of macro variables on Starbucks Corp.	Kumaresan (2019)	Indicates that compared to internal corporate factors, macroeconomic factors (exchange rate) have a greater effect on firm performance.

METHODOLOGY
Method and Data
This study mainly use combination of quantitative methods and qualitative methods including synthesis, inductive and explanatory methods. And it emphasizes again important roles of internet data in sustainable firm management

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

Data is collected for 2016-2020 period from reliable internet sources and websites as below:

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.

Looking at Descriptive Statistics below, We See that:
Standard deviation of exchange rate, SP500 and VNIndex are highest values.

Also lending rate and CPI and G has positive correlation with stock price of APF while VNindex has negative relationship with stock price.

	STOCKPRI...	CPI	EXRATE	G	R	RF	SP500	VNINDEX
Mean	37.50000	0.033400	22993.25	0.061425	0.090950	0.036900	2752.125	876.8513
Median	33.35000	0.034100	23018.00	0.068000	0.089500	0.034000	2745.000	921.2200
Maximum	59.00000	0.047400	23230.00	0.070800	0.100000	0.060700	3231.000	984.2400
Minimum	20.90000	0.018700	22675.00	0.018100	0.080000	0.019500	2239.000	664.8700
Std. Dev.	15.10620	0.008815	223.3068	0.018057	0.008415	0.013000	341.3057	112.7039
Skewness	0.478624	-0.044953	-0.353645	-2.026366	-0.108512	0.675094	-0.033637	-0.838333
Kurtosis	1.780321	2.464919	1.632014	5.455020	1.592559	2.577484	1.795759	2.417464
Jarque-Bera	0.801314	0.098132	0.790549	7.483918	0.675996	0.667176	0.484907	1.050186
Probability	0.669880	0.952119	0.673495	0.023708	0.713197	0.716349	0.784700	0.591500
Sum	300.0000	0.267200	183946.0	0.491400	0.727600	0.295200	22017.00	7014.810
Sum Sq. Dev.	1597.380	0.000544	349061.5	0.002282	0.000496	0.001183	815426.9	88915.18

Fig.1: Stock price and macro factors descriptive statistics

Correlation Matrix								
	STOCKPRI...	CPI	EXRATE	G	R	RF	SP500	VNINDEX
STOCKPRI...	1.000000	0.890406	-0.988654	0.097523	0.580191	0.691576	-0.828712	-0.701531
CPI	0.890406	1.000000	-0.871921	0.175153	0.430110	0.635674	-0.853142	-0.697367
EXRATE	-0.988654	-0.871921	1.000000	-0.098448	-0.509456	-0.661913	0.779273	0.664714
G	0.097523	0.175153	-0.098448	1.000000	-0.553493	0.408477	-0.353655	0.293216
R	0.580191	0.430110	-0.509456	-0.553493	1.000000	0.368207	-0.474828	-0.826463
RF	0.691576	0.635674	-0.661913	0.408477	0.368207	1.000000	-0.657039	-0.674555
SP500	-0.828712	-0.853142	0.779273	-0.353655	-0.474828	-0.657039	1.000000	0.628184
VNINDEX	-0.701531	-0.697367	0.664714	0.293216	-0.826463	-0.674555	0.628184	1.000000

Fig.2: APF stock price and and other factors correlation matrix

Covariance Matrix								
	STOCKPRI...	CPI	EXRATE	G	R	RF	SP500	VNINDEX
STOCKPRI...	199.6725	0.103744	-2918.163	0.023276	0.064538	0.118838	-3738.613	-1045.079
CPI	0.103744	6.80E-05	-1.501750	2.44E-05	2.79E-05	6.37E-05	-2.245862	-0.606204
EXRATE	-2918.163	-1.501750	43632.69	-0.347344	-0.837713	-1.681363	51968.84	14638.08
G	0.023276	2.44E-05	-0.347344	0.000285	-7.36E-05	8.39E-05	-1.907103	0.522129
R	0.064538	2.79E-05	-0.837713	-7.36E-05	6.20E-05	3.52E-05	-1.193344	-0.685881
RF	0.118838	6.37E-05	-1.681363	8.39E-05	3.52E-05	0.000148	-2.550900	-0.864799
SP500	-3738.613	-2.245862	51968.84	-1.907103	-1.193344	-2.550900	101928.4	21143.54
VNINDEX	-1045.079	-0.606204	14638.08	0.522129	-0.685881	-0.864799	21143.54	11114.40

Fig.3: APF stock price and other factors covariance matrix

MAIN RESULTS
Overall Results
We see from below figures that: between stock price of APF and VNIndex, exchange rate and SP500 there is negative correlation, while positive correlation with CPI, G and lending rate and Rf.
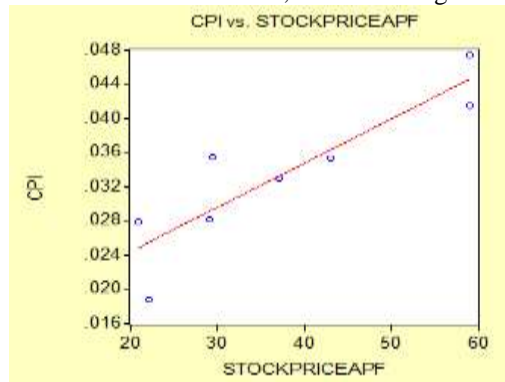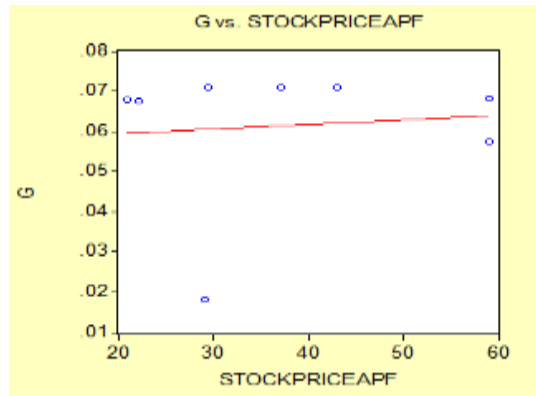

Chart 1: APF stock price and CPI
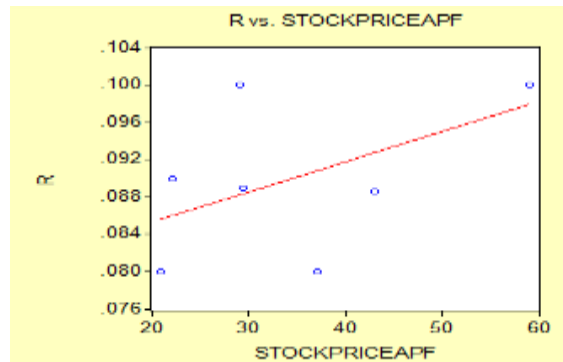

Chart 2: APF stock price and GDP growth

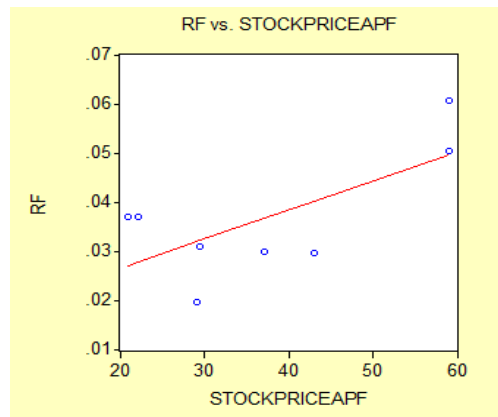**Chart 3: APF stock price and lending rate**

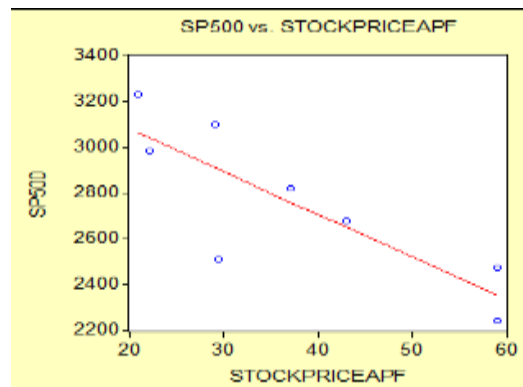**Chart 4: APF stock price and Risk free rate**

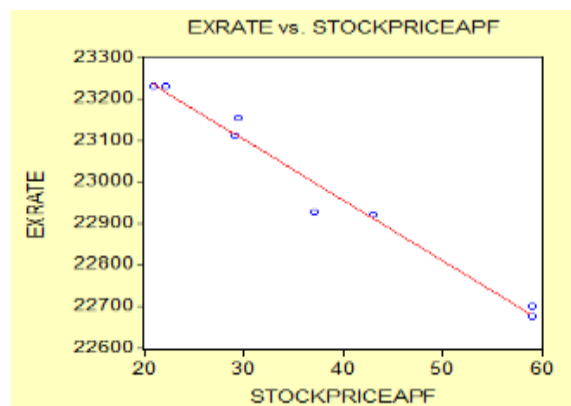**Chart 5: APF stock price and SP500**

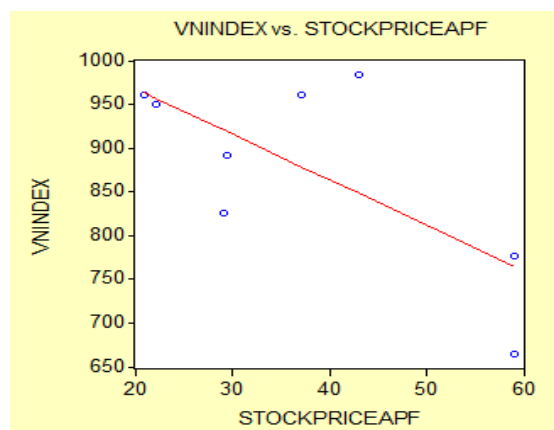**Chart 6: APF stock price and Exchange rate**

Chart 7: APF stock price and VNIndex

OLS Regression Results

Run OLS regression with Eviews gives below results:

Dependent Variable: STOCKPRICEAPF
Method: Least Squares
Date: 03/23/21   Time: 14:27
Sample: 1 8
Included observations: 8

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPI	1632.106	624.9406	2.611618	0.1206
G	-259.1799	449.2318	-0.576940	0.6223
R	926.6843	788.9373	1.174598	0.3611
RF	738.8243	670.9305	1.101193	0.3856
VNINDEX	0.121839	0.102094	1.193396	0.3551
C	-219.4713	148.7187	-1.475748	0.2780

R-squared	0.919320	Mean dependent var	37.50000
Adjusted R-squared	0.717618	S.D. dependent var	15.10620
S.E. of regression	8.027370	Akaike info criterion	7.117297
Sum squared resid	128.8773	Schwarz criterion	7.176878
Log likelihood	-22.46919	F-statistic	4.557831
Durbin-Watson stat	3.024687	Prob(F-statistic)	0.189662

Fig.4: Regression results for internal macro effects on APF stock price during 2016-2020

Dependent Variable: STOCKPRICEAPF
Method: Least Squares
Date: 03/23/21   Time: 14:28
Sample: 1 8
Included observations: 8

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXRATE	-0.059057	0.005694	-10.37106	0.0001
SP500	-0.006568	0.003726	-1.762920	0.1382
C	1413.494	123.1130	11.48127	0.0001

R-squared	0.986086	Mean dependent var	37.50000
Adjusted R-squared	0.980520	S.D. dependent var	15.10620
S.E. of regression	2.108384	Akaike info criterion	4.609717
Sum squared resid	22.22643	Schwarz criterion	4.639508
Log likelihood	-15.43887	F-statistic	177.1713
Durbin-Watson stat	2.106049	Prob(F-statistic)	0.000023

Fig.5: Regression results for external macro effects on APF stock price during 2016-2020

Analysis

We can infer from the above table that R, Rf and GDP growth have highest coefficients in case on VAPF stock price.

DISCUSSION & CONCLUSION

During 2016-2020 Period

For internal factors: R, Rf and CPI has positive correlation with APF stock price.

For external factors: exchange rate has more impacts (negative relationship) on stock price.

Therefore, Ministry of Finance, State bank of Vietnam and relevant agencies need to control GDP growth as well as rates of Treasury bonds toward benefits for better stock price performance. Also, USD/VND does not need to increase much.

LIMITATION OF RESEARCH

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

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