www.revistageintec.net
ISSN: 2237-0722
revista GEINTEC Gestão, Inovação e Tecnologias

Improving Tourism Entrepreneur's Competition during the COVID 19 Pandemic – A Case Study in Tourism Industry in Vietnam

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Abstract
During the Covid 19 Pandemic, Vietnam tourism entrepreneurs need to develop suitable tourism package and tourism policies, going together with better management of tourism activities and with proper risk management strategies.
It is better for tourism company management to estimate effects from macro variables on firm stock price and then they can propose suitable business policies and suggest economic policies for economic growth.
Authors mainly use traditional Beta formula and with data collected together with methods of statistics, analysis, synthesis, comparison, then perform OLS regression in order to evaluate quantitative results, both good and bad aspects of impacts of 6 macroeconomic factors on stock price of a study tourism company from 2014-2019. Main results show us that tourism firm Stock price can go up if there is an increase in GDP growth and lending rate and Rf - risk free rate ten a decrease in exchange rate.
From that analysis, competitive policy for tourism firms can be recommended and there is the principle that better business management and better risk management will drive better competitiveness of these firms.

Key-words: Tourism Firm Stock Price, GDP, Risk Free Rate, Market Rate.
JEL: M21, N1.

1. Introduction

Tourism industry in Vietnam has been affected considerably by Covid 19 pandemic.

Therefore, this is the time we build a model for risk management and make recommendations fro developing tourism activities in the country.

We will select a typical case study, a tourism company in Vietnam, OCH - to perform a quantitative model with OLS regression for our study purpose.

Company Foundation history:

Ocean Hotel and Service Joint Stock Company (OCH) was established on July 24, 2006 doing business in hotel operation and management, restaurant and related services…with its charter capital up to VND 530 billion.

At the same time, in 2009, OCH made an investment and held controlling shares in Saigon - Givral Joint Stock Company, Investment Development and Support Services Joint Stock Company (IOC) on June 30, respectively. 2009 and December 31, 2009.

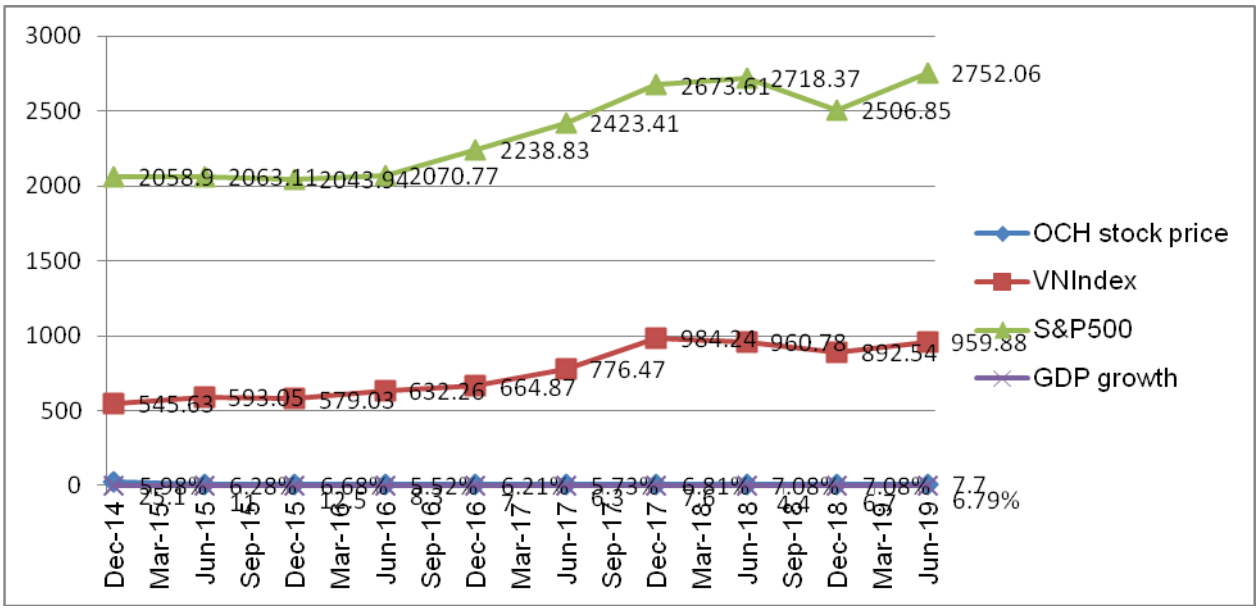
On December 31, 2009, OCH was restructured and became a subsidiary of Ocean Group Corporation (OGC).

By January 2010, charter capital increased to 750 billion VND, in July 2010, OCH continued to increase capital to 1,000 billion VND.

In August 2013, OCH increased its charter capital from VND 1000 billion to VND 2000 billion.

Looking at the below chart, we find out that OCH stock price moves in the same trend with VN Index and GDP growth, although it fluctuates in a smaller range.

Chart 1 - OCH stock price and other macro variables variation



Received: 18.04.2021 – Accepted: 10.05.2021

2. Previous Studies

2.1. Research Questions

Authors will answer:

Question 1: What are estimation of effects of economic factors: OCH stock price, interest rate, exchange rate, inflation, VNIndex, S&P 500 and GDP growth o stock price?

Question 2: What are management implications as well as policies?

2.2. Literature Review

First, Trivelas and Satouridis (2013) stated that in Greece a) the externally focused Management Information System (MIS) effectiveness archetypes (OS, RM) reflecting innovation, creativity, goal setting and planning enhance task productivity b) the Internal process (IP) model of MIS effectiveness influences negatively task productivity.

Then Haliti et al (2016) stated data with SPSS 21 version, and the hypotheses were tested by means of correlation and linear regression. The findings of the study proved that commercial banks in Kosovo could enlarge their profitability by increasing the level of bank loaning and other investments, except for managing risk and liquidity properly.

Last but not least, Huy, D.T.N et al (2020) measure effects of external factors on bank stock price in case of a big listed bank in Vietnam - Vietcombank which left the direction for further researches on internal factors effects measuring.

Moreover, Gupta (2019) specified that Information system (IS) is important in almost all the functional areas of any bank i.e., HR, Marketing, Finance, etc. It also helps in risk management and cash management along with maintaining long run customer relationship.

And Hang, T.T.B, Nhung, D.T.H, & Huy D.T.N (2020) stated that there is risk in tourism sector in Vietnam after global crisis which need to be controlled. Also, Huy, D.T.N et al (2020) shed risks also happen in banking sector which need macro policies control.

Ahmad and Ramzan (2016) stated the investors would like to know what factors, unusual macro factors movement, affect stock working and portfolio.

3. Methodology and Data

This study mainly use combination of quantitative methods and qualitative methods including synthesis, inductive and explanatory methods.

We derive qualitative analysis and solutions from regression model

Y (OCH stock price) = f (x1, x2, x3, x4, x5, x6) = ax1 + bx2 + cx3+dx4+ ex5 + fx6 + k

With: x1: GDP growth rate (g), x2: inflation, x3: VNIndex, x4: lending rate, x5: risk free rate (Rf), x6: USD/VND rate

4. Main Results

4.1. Overall Analysis

We analyze from below charts that:

- Between stock price OCH and G, VNIndex and exchange rate: there is negative correlation.
- Between stock price OCH and CPI, R and Rf: there is positive correlation.

Chart 2 – OCH Stock Price (Y) vs. GDP Growth in Vietnam (G)

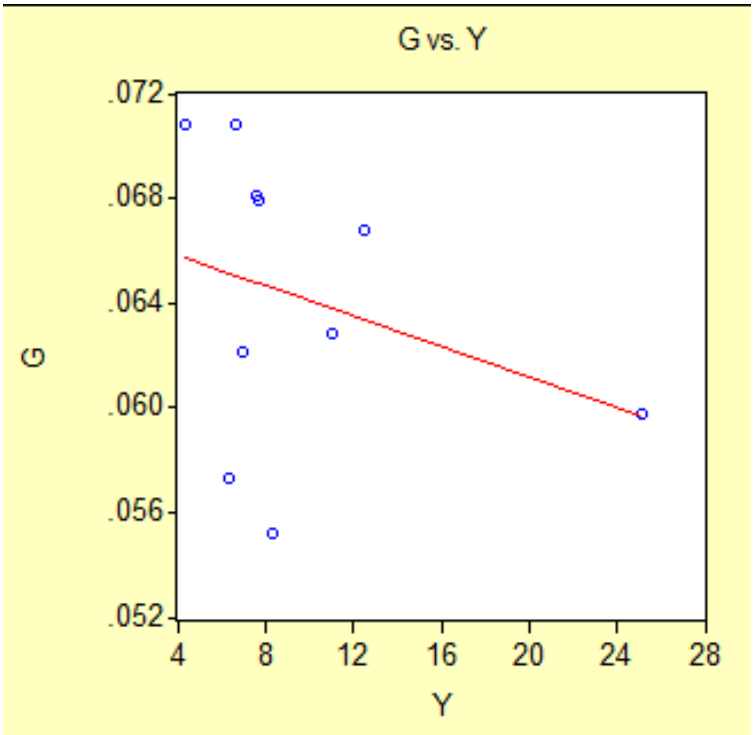


Chart 3 – OCH Stock Price (Y) vs. Inflation (CPI)

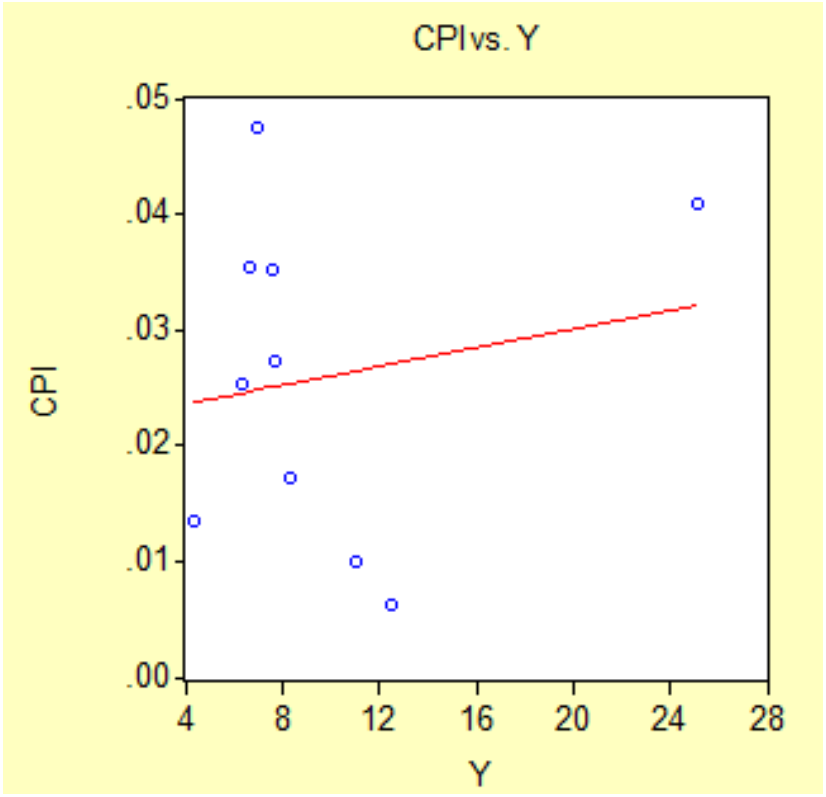


Chart 4 – Y vs. VNIndex

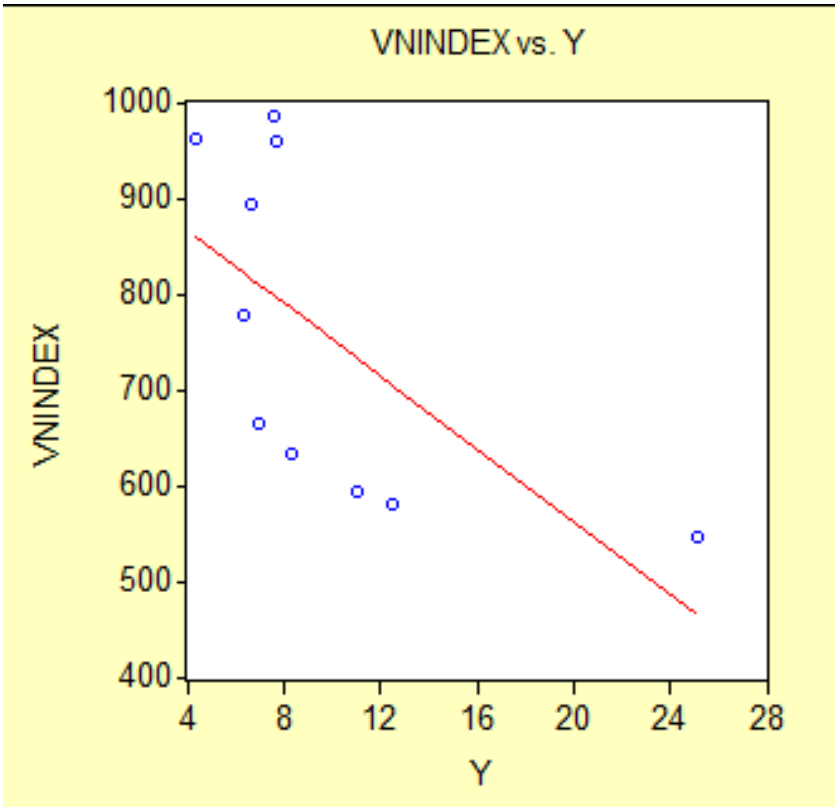


Chart 5 – Y vs. Lending Rate (r)

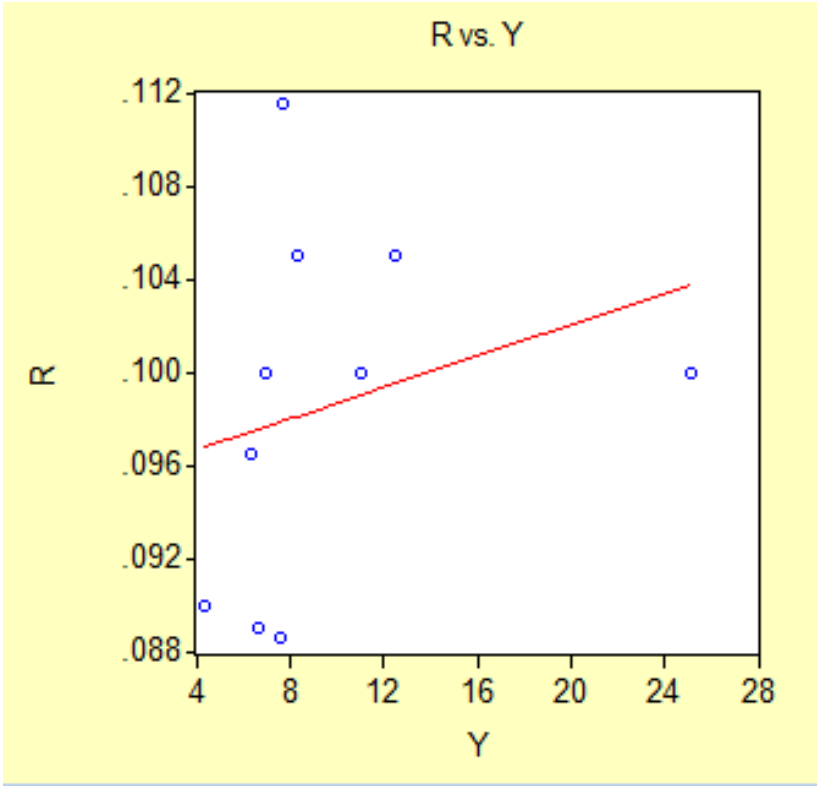


Chart 6 – Y vs. Risk free Rate (Rf)

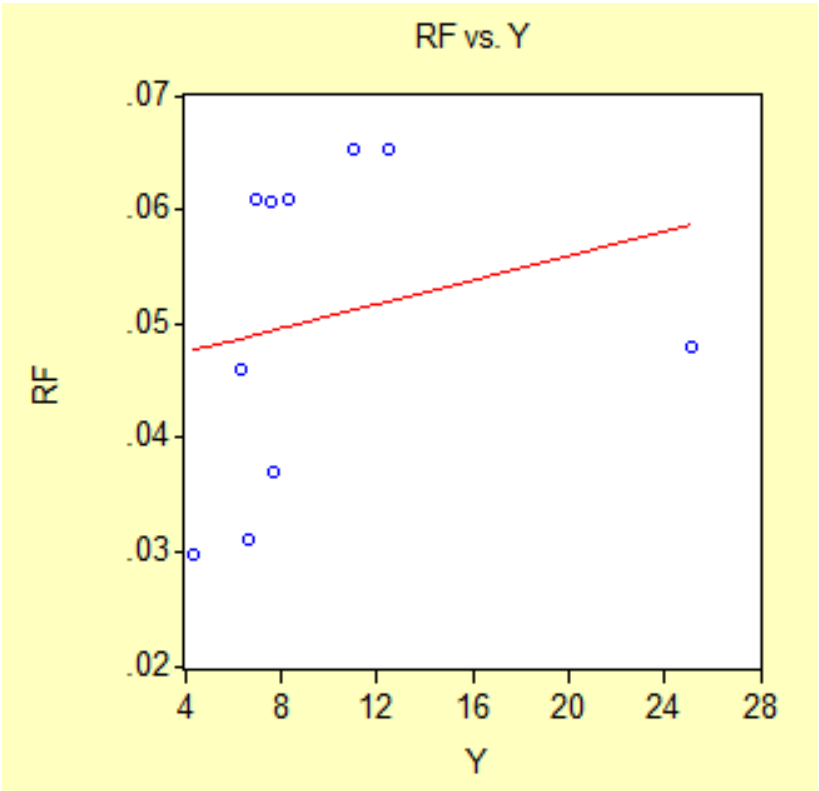
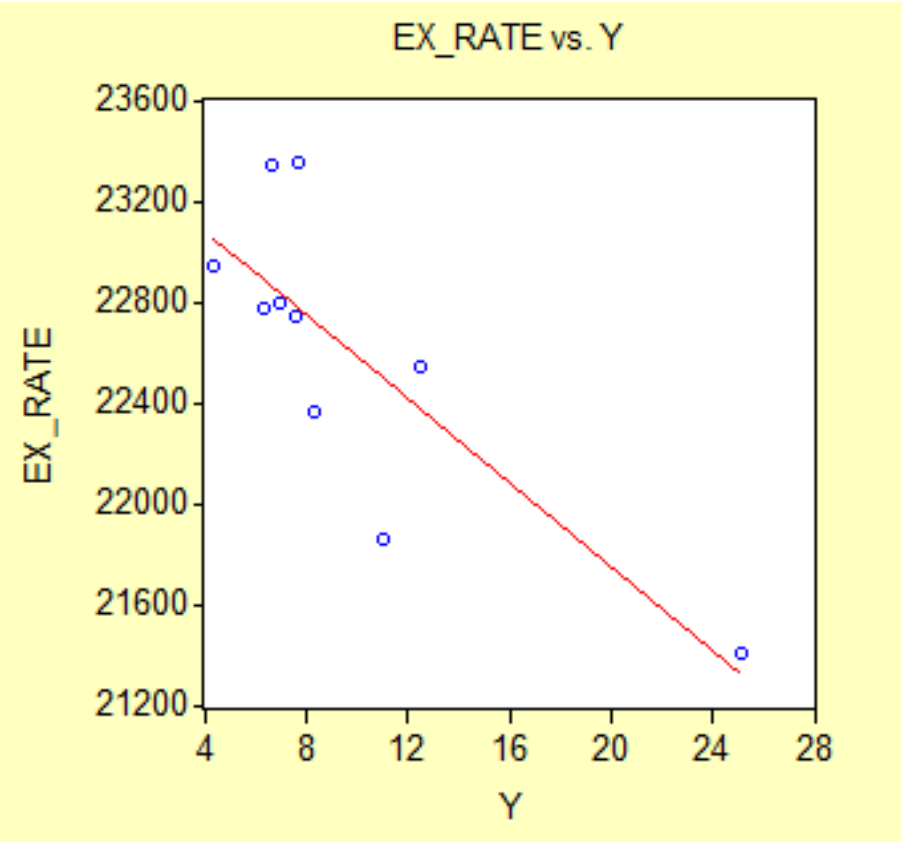


Chart 7 – Y vs. Exchange Rate (Ex_rate)



Next e see statistics (descriptive) in below figure.

Figure 1 – Statistics for Macro economic Factors

Unit: %

	OCH stock price	GDP growth	Inflation (CPI)	VN Index	Lending rate	Risk free rate	USD/VND rate
Mean	9.66	0.06416	0.02588	758.875	0.09856	0.050485	22611.7
Median	7.65	0.0648	0.0264	720.67	0.1	0.05435	22757.5
Maximum	25.1	0.0708	0.0474	984.24	0.1115	0.06535	23350
Minimum	4.4	0.0552	0.0063	545.63	0.0886	0.0297	21405
Standard dev.	5.897	0.005549	0.013884	176.4835	0.007636	0.014066	610.2313

We analyze from above figures that:

- Standard deviation of exchange rate and VNIndex is highest value while that of CPI is lowest.

Figure 2 – Correlation Matrix for Seven (7) Macro-economic Variables

Correlation Matrix								
	Y	G	CPI	VNINDEX	R	RF	EX_RATE	SP500
Y	1.000000	-0.308851	0.170660	-0.638243	0.259749	0.226107	-0.806245	-0.586206
G	-0.308851	1.000000	-0.050535	0.653067	-0.390583	-0.474076	0.564582	0.634468
CPI	0.170660	-0.050535	1.000000	0.146050	-0.220576	-0.158705	0.082310	0.183559
VNINDEX	-0.638243	0.653067	0.146050	1.000000	-0.440372	-0.634696	0.777514	0.983824
R	0.259749	-0.390583	-0.220576	-0.440372	1.000000	0.302601	-0.154750	-0.374293
RF	0.226107	-0.474076	-0.158705	-0.634696	0.302601	1.000000	-0.521420	-0.677534
EX_RATE	-0.806245	0.564582	0.082310	0.777514	-0.154750	-0.521420	1.000000	0.755250
SP500	-0.586206	0.634468	0.183559	0.983824	-0.374293	-0.677534	0.755250	1.000000

We analyze from above figures that:

- Correlation between Stock Price and R is Higher than that between Stock Price and CPI (0.25 > 0.17).

Figure 3 - Covariance Matrix for 7 Macro economic Variables

Covariance Matrix								
	Y	G	CPI	VNINDEX	R	RF	EX_RATE	SP500
Y	31.29840	-0.009096	0.012575	-597.8228	0.010526	0.016880	-2611.222	-917.5996
G	-0.009096	2.77E-05	-3.50E-06	0.575578	-1.49E-05	-3.33E-05	1.720538	0.934488
CPI	0.012575	-3.50E-06	0.000173	0.322068	-2.10E-05	-2.79E-05	0.627614	0.676458
VNINDEX	-597.8228	0.575578	0.322068	28031.78	-0.534085	-1.418033	75361.46	46087.69
R	0.010526	-1.49E-05	-2.10E-05	-0.534085	5.25E-05	2.93E-05	-0.648952	-0.758612
RF	0.016880	-3.33E-05	-2.79E-05	-1.418033	2.93E-05	0.000178	-4.028085	-2.529699
EX_RATE	-2611.222	1.720538	0.627614	75361.46	-0.648952	-4.028085	335144.0	122334.5
SP500	-917.5996	0.934488	0.676458	46087.69	-0.758612	-2.529699	122334.5	78286.05

We analyze from above figures that:

- An increase in R and and Rf might cause OCH stock price increase.

4.2. Regression Model and Main Findings

In this section, relationship between 6 macro-economic factors and OCH stock price is identified.

4.2.1. Scenario 1: Regression Model with Single Variable: GDP Growth

OLS regression gives below results:

Figure 4 - OLS Regression Model with Single Variable

Dependent Variable: Y
Method: Least Squares
Date: 02/17/20 Time: 17:04
Sample: 1 10
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
G	-328.2378	357.3762	-0.918466	0.3852
C	30.71974	23.00630	1.335275	0.2185

R-squared	0.095389	Mean dependent var	9.660000
Adjusted R-squared	-0.017688	S.D. dependent var	5.897118
S.E. of regression	5.949042	Akaike info criterion	6.581194
Sum squared resid	283.1288	Schwarz criterion	6.641711
Log likelihood	-30.90597	F-statistic	0.843579
Durbin-Watson stat	1.004041	Prob(F-statistic)	0.385230

Hence, there is negative relationship between VNIndex and G or GDP growth.

4.2.2. Scenario 2 - Regression Model with 2 Variables

OLS gives us below results:

Figure 5 - OLS Regression Model with 2 Variables

Dependent Variable: Y
Method: Least Squares
Date: 02/17/20 Time: 17:04
Sample: 1 10
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
G	-319.8890	377.4094	-0.847592	0.4247
CPI	66.02797	150.8386	0.437739	0.6748
C	28.47527	24.80072	1.148163	0.2886

R-squared	0.119492	Mean dependent var	9.660000
Adjusted R-squared	-0.132082	S.D. dependent var	5.897118
S.E. of regression	6.274495	Akaike info criterion	6.754188
Sum squared resid	275.5850	Schwarz criterion	6.844964
Log likelihood	-30.77094	F-statistic	0.474976
Durbin-Watson stat	0.824961	Prob(F-statistic)	0.640571

Therefore, there is positive correlation between inflation - CPI and stock price of OCH, while negative relationship between G and stock price.

4.2.3. Scenario 3 - Regression Model with 3 Variables: Adding Lending Rate (r) into the above Model

OLS give statistical results:

Figure 6 - OLS Regression Model with 3 Variables

Dependent Variable: Y
Method: Least Squares
Date: 02/17/20 Time: 17:05
Sample: 1 10
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
G	-224.2168	437.3351	-0.512689	0.6265
CPI	88.90136	164.9683	0.538900	0.6094
R	172.6225	325.4211	0.530459	0.6148
C	4.731310	51.85563	0.091240	0.9303

R-squared	0.158936	Mean dependent var	9.660000
Adjusted R-squared	-0.261597	S.D. dependent var	5.897118
S.E. of regression	6.623691	Akaike info criterion	6.908357
Sum squared resid	263.2397	Schwarz criterion	7.029391
Log likelihood	-30.54178	F-statistic	0.377939
Durbin-Watson stat	0.789166	Prob(F-statistic)	0.772659

Hence, there is positive correlation between CPI and R and stock price of OCH, while negative relationship between GDP growth - G and stock price.

4.2.4. Scenario 4 - Regression Model with 4 Macro Variables

Eviews presents the below results:

Figure 7 - OLS Regression Model with 4 Variables

Dependent Variable: Y
Method: Least Squares
Date: 02/17/20 Time: 17:05
Sample: 1 10
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
G	301.3758	450.9042	0.668381	0.5335
CPI	137.4008	138.5227	0.991901	0.3668
R	55.98984	275.3918	0.203310	0.8469
VNINDEX	-0.028027	0.014389	-1.947759	0.1090
C	2.518170	42.84862	0.058769	0.9554

R-squared	0.521784	Mean dependent var	9.660000
Adjusted R-squared	0.139211	S.D. dependent var	5.897118
S.E. of regression	5.471271	Akaike info criterion	6.543752
Sum squared resid	149.6740	Schwarz criterion	6.695044
Log likelihood	-27.71876	F-statistic	1.363880
Durbin-Watson stat	1.411137	Prob(F-statistic)	0.364443

Therefore, there is positive correlation between G, CPI and R and stock price of OCH, while negative relationship between VNIndex and stock price.

4.2.5. Scenario 5 - OLS Regression

Running Eviews gives us results:

Table 1 - Regression Model with 5-6 Macro Variables

	Coefficient	
	5 variables	6 variables
G	268.5	425.1
CPI	128.3	120.5
R	55.1	252.9
Rf	-0.03	-118.3
VNIndex	-102.2	-0.007
Exchange rate		-0.009
R-squared	0.55	0.88
Akaike info criterion	6.66	5.48

5. Discussion and Further Researches

We analyze from above table:

- With 6 macroeconomic variables: there is positive correlation between OCH stock price and GDP growth, CPI and R, while negative relationship between OCH stock price and Rf and VnIndex and exchange rate.

It means that OCH stock price can goes up because increase in CPI and R and decline in exchange rate.

6. Conclusion and Policy

Because the above results of regression show that: G, CPI and has positive correlation while Rf has negative relationship with OCH stock price, our recommendations will be: inflation need to be controlled more properly by government, Ministry of Finance and State Bank of Vietnam i.e. not decreasing much according to each economic development stage.

Government agencies also need to keep Risk free rate (Treasury bond) not increasing too much to have negative effects on firm stock price.

Beside, We would suggest solutions for tourism during and post-covid 19:

- Community tourism need to be developed more and with ethnic minorities tourism, as well as visiting trips to historical sites and old architecture/town centre.
- For sustainable tourism, we need to pay attention to quality of tourism services, quality of rooms, food and drink etc with rational prices.
- Preservation of own town centres solutions are needed, together with green and fresh environment solutions.
- Historical sites visiting trips for students need to be prepared well and pushed after covid 19
- If demand declines from international visitors, high demand will increase from local tourists and visitors, hence we need to take care quality of tourism services.

Below picture will show beautiful scenes in our country which are always destination for tourists.

Figure 8- Ha Long Bay- Quang Ninh Province

Limitation of Research

We can expand our research model for every regions of Vietnam.

Acknowledgements

Authors would like to take this opportunity to express my warm thanks to Board of Editors and Colleagues and friens to assist this publishing.

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Exhibit

Exhibit 1 – GDP Growth Rate Past 10 Years (2007-2018) in Vietnam