Financial risk management via evaluating impacts of a six factor model on hoi an tourist holding company stock price and transparency disclosure– a case in tourism industry in Vietnam

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Abstract: Quang Nam tourism industry recently also affected by Covid 19 and Hoi An Tourism Holding Company (HOT) is one of leader with 15% average growth annually. HOT is much paying attention to social security and create more jobs for local laborers. With the use of qualitative and quantitative analysis in OLS model, we get the results presenting that: stock price of HOT (Hoi An company) is much affected by GDP growth and CPI, negative correlation. We can propose suitable policies for better managing company stock price volatility and expan our research for other markets.

Keywords: Hoi An stock price; GDP growth; inflationary; Rf; market interest rate
JEL: M21, N1, G30

INTRODUCTION

Hoi An co. (HOT) continues to focus on research and development of new products, strengthening service quality supervision, focusing on investment in human factors, with flexible pricing policies. Along with the strategic direction of innovation and development towards professionalism and investment in raising the brand name for products to ensure high rankings in the 4-star hotel segment, Hoi An hotel is applying many strategies to maintain the market. traditional schools, promote the exploitation of key markets, penetrate new markets, increase the proportion of tourists exploiting via the global network, exploit the market of corprate, mice, ... to develop market share.

Below chart shows stock price of HOT moves with other macro factors, same trend..
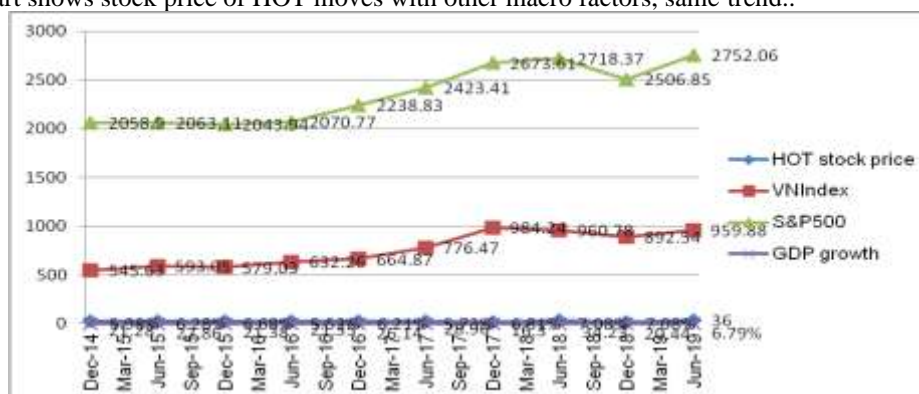
CONTENTS
Research questions
Question 1: What are the correlation among HOT stock price and many economic factors ?
Question 2: What are the management implications?
Literature review
Lina (2012) between bank stock return and exchange rate there is positive correlation.. Next, Sadia and Noreen (2012) found out banking index is much affected by exchange rate.
Next, Manisha and Shikha (2014) stated that between BSE Bankex and gold price there is negative correlation.

Beside, Krishna (2015) presented between stock price and macro indicator, long and short periods, have causal relation.

Then, Ahmad and Ramzan (2016) stated investors would like to know impacts of macro indicators on stock performance in their portfolio.

Hami (2017) showed that financial depth has been affected negatively by inflation in Iran during the observation period.

And Kumaresan (2019) Indicates that compared to internal corporate factors, macroeconomic factors (exchange rate) have a greater effect on firm performance.

Our study model and results as below.

METHODOLOGY AND DATA

Data from stock exchange are quite reliable and other data from Statstic Bureau and commercial bank system. We make OLS regresson with 6 macro variables and described below in results.

MAIN RESULTS

General data analysis

In the below charts, we see between G and Y , lending rate and Y, VNindex and Y,exchange rate and Y: the is positive correlation, while between CPI and Y, and Rf and Y:there is negative correlation.
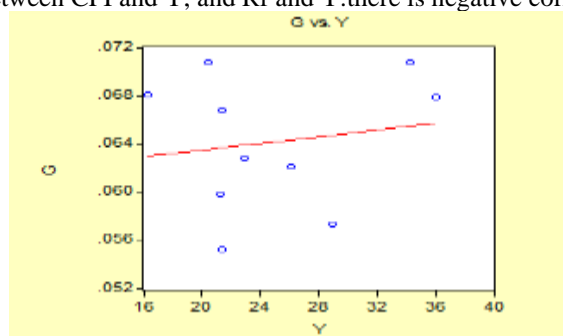

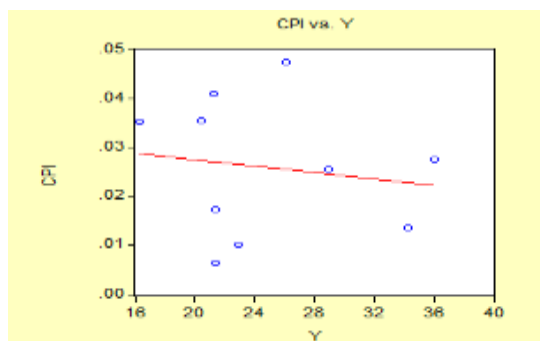**Chart 1: HOT stock price (Y) vs. GDP growth in Vietnam (G)**
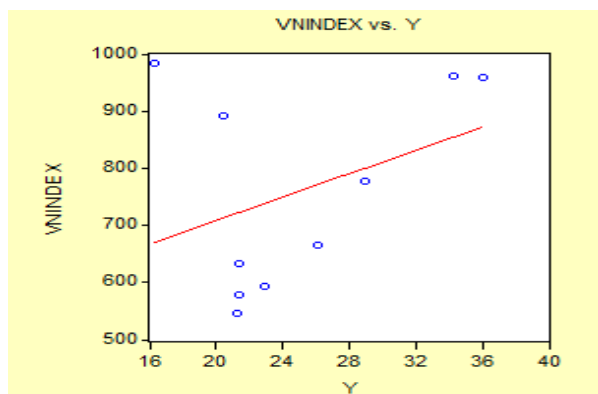

Chart 2: HOT stock price (Y) vs. Inflation (CPI)
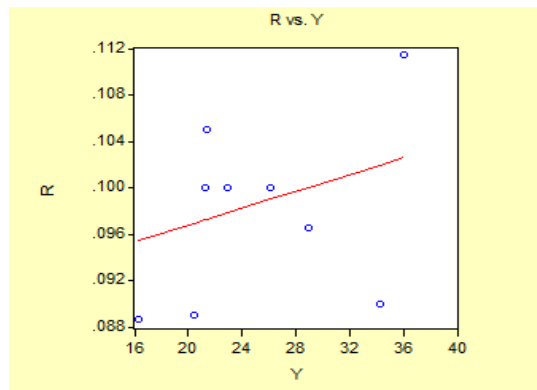

Chart 3: Y vs. VNIndex
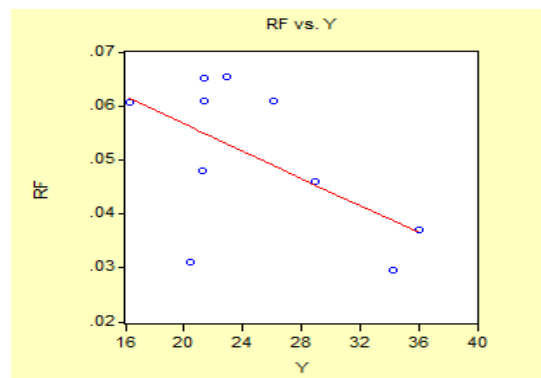
Chart 4: Y vs. Lending rate (r)

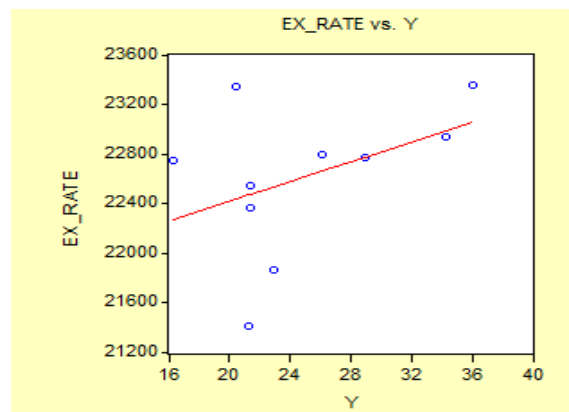**Chart 5: Y vs. Risk free rate (Rf)**

Chart 6: Y vs. Exchange rate (Ex_rate)

On the other hand, we could see statistical results with Eview in the below table with 6 variables:

Table 1: Statistics for macro-economic factors Unit: %

	HOT stock price	GDP growth	Inflation (CPI)	VN Index	Lending rate	Risk free rate	USD/VND rate
Mean	24.89	0.06416	0.02588	758.875	0.09856	0.050485	22611.7
Median	22.12	0.0648	0.0264	720.67	0.1	0.05435	22757.5
Maximum	36	0.0708	0.0474	984.24	0.1115	0.06535	23350
Minimum	16.3	0.0552	0.0063	545.63	0.0886	0.0297	21405
Standard dev.	6.363	0.005549	0.013884	176.4835	0.007636	0.014066	610.2313

Standard deviation of exchange rate and VNIndex are the highest values. While standard deviation of GDP growth and lending rate are the lowest values.

Table 2: Correlation matrix for seven (7) macro-economic variables (GDP growth, inflation in VN, market interest rate, Risk free rate, exchange rate and HOT stock price)

Correlation Matrix								
	Y	G	CPI	VNINDEX	R	RF	EX_RATE	SP500
Y	1.000000	0.159343	-0.150440	0.368893	0.301424	-0.571431	0.420943	0.490549
G	0.159343	1.000000	-0.050535	0.653067	-0.390583	-0.474076	0.564582	0.634468
CPI	-0.150440	-0.050535	1.000000	0.146050	-0.220576	-0.158705	0.082310	0.183559
VNINDEX	0.368893	0.653067	0.146050	1.000000	-0.440372	-0.634696	0.777514	0.983824
R	0.301424	-0.390583	-0.220576	-0.440372	1.000000	0.302601	-0.154750	-0.374293
RF	-0.571431	-0.474076	-0.158705	-0.634696	0.302601	1.000000	-0.521420	-0.677534
EX_RATE	0.420943	0.564582	0.082310	0.777514	-0.154750	-0.521420	1.000000	0.755250
SP500	0.490549	0.634468	0.183559	0.983824	-0.374293	-0.677534	0.755250	1.000000

An increase in exchange rate and decrease in lending rate might lead to an increase in HOT stock price.

Regression model and main findings

In this section, we will find out the relationship between eight macro economic factors and public debt.

4.2.1 Scenario 1: Regression model with single and 2 variables: analyzing impact of GDP growth (G) and CPI on stock price (Y)

Table 3: Coefficients in 2 scenarios

	Single factor	2 variables
	Coefficient	Coefficient
GDP growth (G)	182.7	174.4
CPI		-65.4
C	13.1	15.3

Note: C: constant

Therefore, $Y = 174 * g - 65.4*CPI + 15.3$, $R^2 = 0.04$, SER = 7.04

We see between HOT stock price and G, there is positive correlation but btween Y and CPI: negative correlation.

Scenario 2 - regression model with 6 macro variables:

Running Eviews gives us results:

```
Dependent Variable: Y
Method: Least Squares
Date: 01/31/20   Time: 16:03
Sample: 1 10
Included observations: 10
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
G	-191.4908	552.5021	-0.346588	0.7518
CPI	-87.24618	166.8372	-0.522942	0.6372
R	434.8356	353.0319	1.231718	0.3058
VNINDEX	0.010740	0.025246	0.425426	0.6992
RF	-280.4960	203.2065	-1.380349	0.2614
EX_RATE	0.000591	0.006146	0.096217	0.9294
C	-10.78001	121.4753	-0.088742	0.9349

R-squared	0.647401	Mean dependent var	24.89400
Adjusted R-squared	-0.057796	S.D. dependent var	6.363003
S.E. of regression	6.544299	Akaike info criterion	6.791093
Sum squared resid	128.4835	Schwarz criterion	7.002902
Log likelihood	-26.95546	F-statistic	0.918043
Durbin-Watson stat	2.880813	Prob(F-statistic)	0.577235

$Y = -191*G - 87*CPI + 434*R + 0.01* VNINDEX - 280* Rf + 0.0005*EX\_RATE -10.7$, $R^2 = 0.64$, SER = 6.5

The above equation tells us that (stock price) and inflation and GDP growth and risk free rate, there is negative correlation. On the other hand, Y is much affected by GDP growth and lending rate, then risk free rate.

DISCUSSION AND FURTHER RESEARCHES

Under Covid 19, Hoi An tourism and our tourism industry might develop internal tours. Safe destination: open and fully exploit tourist destinations after a long stagnation; Attractive tour program (link The process of designing a tour program); The accommodation, dining and entertainment services ensure the quality of service and service.

CONCLUSION AND POLICY SUGGESTION

This study generate results showing us that Sate Bank of Vietnam and government agencies need to control inflation and GDP, not increasing too much to favor of stock price.

They also need to set up risk models in company management system.

We also imply that tourism companies need more transparency policy to deliver risk information to investors on stock market.

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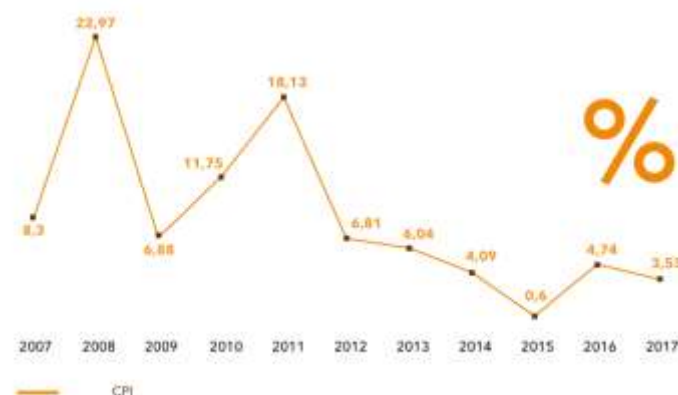
Exhibit

Exhibit 1: Inflation, CPI over past 10 years (2007-2017) in Vietnam