Enhancing Leadership Roles under Effects of Micro and Macro Economic Factors in Vietnam – A Case of Cotecons in Construction Industry

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Abstract
In Vietnam construction industry, Cotecons Group (CTD) established fifteen years ago, got brand name with big projects and became one of leading corporations. In our study, We will use OLS regression on CTD net profit to draw discussions. Research results present that CTD Net profit (Y) has negative correlation with lending rate, inflation, VNIndex and exchange rate. We imply that we need to reduce CPI and exchange rate to be in favor of net profit of CTD. Next, a policy of reducing lending rate and increasing risk free rate also push CTD net profit. There is management implications from this discussion.

Key-words: Leadership, CTD Net Profit, Risk Free Rate, Better Management.
JEL: M21, N1.

1. Introduction

It can be seen that the Cotecons construction Group, stock code: CTD, has formed and developed very strongly in recent years, proving that the projects of this group are deployed from North to South of Vietnam, diverse in big projects and construction projects, from commercial centers, educational establishments, high-end apartments, resorts, condotels... to iconic projects like Landmark 81,... all are CTD very well constructed and completed. The company received lots of merits/awards such as achievements in the work of occupational safety; Certificate 500 largest
enterprises in Vietnam; Gold cup for construction quality in Vietnam; The 50 most effective businesses in Vietnam; The best 30 company annual reports…

Looking at the below chart, we find out that CTD net profit moves in the same trend with VN Index and GDP growth, even S&P500, although it fluctuates in a smaller range.

![Chart showing CTD stock price, VN Index, S&P500, and GDP growth over time]

We organize The paper with introduction, issues, literature review and methodology, main findings, discussion and conclusion.

2. Body of Manuscript

2.1. Research Issues

Authors will address The scope of this study covering:

Evaluate the impacts of above 10 micro and macro economic factors including but not limit to: net sale, cost, interest rate, exchange rate, inflation, VNIndex, S&P 500,… on CTD net profit?

In addition, we will test hypothesis that: An increase in inflation can increase pressure in CTD net profit.

2.2. Literature Review

First of all, research shows that between bank return of stock and inflation rate change and supply for money: there is positive but insignificant relation (Lina, 2012).
Next, Huy, D.T.N (2015) identified roles of corporate governance standards in corporations that can be applied for most of listed companies in various markets including Vietnam.

Moreover, research on Kosovo banks profitability impacts, (2016) mentioned that Bank loans increase will enlarge profitability of commercial banks in Kosovo.

Beside, in a paper about Macroeconomic factors and micro-level bank risk, Claudia et al (2010) said that As ease of monetary, increase in risk of about a third of US banks.

Then, in a study on Macroeconomic Factors on Banking Index in Pakistan, Saeed và Akhter (2012) stated that In Karachi stock market, Between Banking index and exchange rate: there is effect, significantly.

Last but not least, research also found out profitability of the banking sector will be affected by many variables (Hirindu, Kishanu, 2017).

3. Methodology and Data

First of all, this is equation of CTD net profit:

\[ Y (VNM \text{ Net profit}) = f (x1, x2, x3, x4, x5, x6, x7, x8, x9, x10) = ax1 + bx2 + cx3 + dx4 + ex5 + fx6 + gx7 + hx8 + ix9 + jx10 + k \]

With: x1: GDP growth rate (g), x2: inflation, x3: VNIndex, x4: lending rate, x5: risk free rate (Rf), x6: USD/VND rate; x7: S&P500; x8: cost; x9: net sale; x10: stock price

We use above equation with OLS regression supported by Eview. All data from reliable sources such as: stock exchange, commercial banks, USA Stock exchange, and Bureau of Statistics.

4. Main Results

4.1. Overall Analysis

First of all, we analyze from the below charts:

- Between Y and cost, VNindex and G: there is positive relation.
- Between Y and CPI, R: there is negative relation.
Chart 1 – CTD Net Profit (Y) vs. Cost (c.o)

Chart 2 – CTD Net Profit (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. GDP Growth (g)
Next we see:

- Highest values of standard dev: exchange rate and SP500 - see table 1.
- Correlation between Y and net sale higher than that between Y and R - see table 2.
Table 1 – Statistics for Macro Economic Factors

|                        | Unit: % |
|------------------------|---------|
| Net sales              | 13.63   |
| Mean                   | 12.69   |
| Median                 | 0.715   |
| Maximum                | 101.2   |
| Minimum                | 0.0047  |
| Standard dev.          | 0.0552  |
| Risk free rate         | 0.0063  |
| USD/VND rate           | 0.0728  |
| S&P 500                | 17.6483 |

Table 2 – Correlation matrix - macro-economic variables

|                        | Y       | SP500   | VNINDEX  | STOCKPRICE | RF       | R       | NETSALE | G        | EX_RATE  | CPI      | COST     |
|------------------------|---------|---------|----------|------------|----------|---------|---------|----------|----------|----------|----------|
| Y                      | 1.00000 | 0.966220| 0.796970 | 0.913949   | -0.962990| -0.99106| 0.925030| 0.519900 | 0.797982 | -0.503928| 0.912349 |
| SP500                  | 0.966220| 1.00000 | 0.922210 | 0.476242   | -0.810876| -0.8928122| 0.702947| 0.619498 | 0.802271 | -0.701982| 0.986443 |
| VNINDEX                | 0.796970| 0.922210| 1.00000  | 0.827498   | -0.806088| -0.836851| 0.943541| 0.729879 | 0.200219 | 0.622392 | 0.951781 |
| STOCKPRICE             | 0.913949| 0.476242| 0.827498 | 1.00000    | -0.426849| 0.627091 | 0.751701| 0.500010 | 0.637094 | -0.510994| 0.733944 |
| RF                     | -0.962990| -0.810876| 0.827498 | 1.00000    | -0.99106 | 0.925030 | 0.519900| 0.797982 | -0.503928| 0.912349 |
| R                      | -0.99106 | -0.8928122| 0.702947| 0.619498   | 1.00000  | -0.888976| 0.722911| 0.731404 | 0.601012 | -0.711000| 0.737295 |
| NETSALE                | 0.929033 | 0.672843 | 0.943541 | 0.729879   | 0.622392 | 1.00000  | 0.869653| 0.756693 | 0.502991 | -0.310687| 0.950320 |
| G                      | 0.651900 | 0.651900 | 0.651900 | 0.651900   | 0.651900 | 0.651900 | 1.00000 | 0.502991 | 0.756693 | 0.502991 | 0.950320 |
| EX_RATE                | 0.757662 | 0.090219 | 0.090219 | 0.090219   | 0.090219 | 0.090219 | 0.090219 | 1.00000 | 0.502991 | 0.756693 | 0.502991 |
| CPI                    | 0.503833 | 0.701382 | 0.310984 | 0.310984   | 0.310984 | 0.310984 | 0.310984 | 0.310984 | 1.00000 | -0.591905| 1.00000  |
| COST                   | 0.912349 | 0.912349 | 0.912349 | 0.912349   | 0.912349 | 0.912349 | 0.912349 | 0.912349 | 0.912349 | 1.00000 | 0.00000  |

Table 3 – Covariance-macro economic variables

|                        | Y       | SP500   | VNINDEX  | STOCKPRICE | RF       | R       | NETSALE | G        | EX_RATE  | CPI      | COST     |
|------------------------|---------|---------|----------|------------|----------|---------|---------|----------|----------|----------|----------|
| Y                      | 0.298525| 21.75428| 0.944619 | 0.304640   | -0.007645| -0.013965| -0.013965| 0.002105 | 0.641420 | -0.013269| 0.438600 |
| SP500                  | 21.75428| 0.944619| 0.304640 | -0.007645  | -0.013965| -0.013965| 0.002105 | 0.641420 | -0.013269| 0.438600 |
| VNINDEX                | 0.944619| 0.304640| -0.007645| -0.013965  | -0.013965| -0.013965| 0.002105 | 0.641420 | -0.013269| 0.438600 |
| STOCKPRICE             | 0.304640| -0.007645| -0.013965| -0.013965  | -0.013965| -0.013965| 0.002105 | 0.641420 | -0.013269| 0.438600 |
| RF                     | -0.007645| -0.013965| -0.013965| -0.013965  | -0.013965| -0.013965| 0.002105 | 0.641420 | -0.013269| 0.438600 |
| R                      | -0.013965| -0.013965| -0.013965| -0.013965  | -0.013965| -0.013965| 0.002105 | 0.641420 | -0.013269| 0.438600 |
| NETSALE                | 0.002105| 0.641420 | 0.002105 | 0.641420   | -0.013269| 0.438600 | 0.002105 | 0.641420 | -0.013269| 0.438600 |
| G                      | 0.002105| 0.641420 | 0.002105 | 0.641420   | 0.641420 | 0.641420 | 0.002105 | 0.641420 | -0.013269| 0.438600 |
| EX_RATE                | 0.641420| 0.641420 | 0.641420 | 0.641420   | 0.641420 | 0.641420 | 0.641420 | 0.641420 | -0.013269| 0.438600 |
| CPI                    | 0.002105| 0.641420 | 0.002105 | 0.641420   | 0.641420 | 0.641420 | 0.641420 | 0.641420 | 0.641420 | -0.013269| 0.438600 |
| COST                   | 0.438600| 0.438600 | 0.438600 | 0.438600   | 0.438600 | 0.438600 | 0.438600 | 0.438600 | 0.438600 | 0.438600 | 0.438600 |

4.2. Regression Model and Main Findings

We see:
- Between Y and cost: positive correlation - see figure 1.
- Between CTD Net profit (Y) and Cost (c.o) and with inflation (CPI) and lending rate (i): positive correlation.
- See Figure 3.
4.2.1. Case 1: Regression Model with Single Variable

Run OLS give us:

Figure 1

| Variable | Coefficient | Std. Error | t-Statistic | Prob.  |
|----------|-------------|------------|-------------|--------|
| COST     | 0.056641    | 0.008986   | 6.302961    | 0.0002 |
| C        | -0.003775   | 0.138552   | -0.027249   | 0.9789 |

R-squared          0.832381  Mean dependent var 0.715000
Adjusted R-squared 0.811429  S.D. dependent var 0.573028
S.E. of regression 0.248363  Akaike info criterion 0.232613
Sum squared resid   0.495356  Schwarz criterion 0.293330
Log likelihood      0.835336  F-statistic 39.72732
Durbin-Watson stat  1.107711  Prob(F-statistic) 0.000232

Hence, \( Y = 0.05 \times \text{COST} - 0.003, R^2 = 0.83, \text{SER} = 0.24 \)

4.2.2. Case 2 - Regression Model with 2 VARIABLES

Run OLS give us:

Figure 2

| Variable | Coefficient | Std. Error | t-Statistic | Prob.  |
|----------|-------------|------------|-------------|--------|
| COST     | 0.058702    | 0.011845   | 4.955371    | 0.0016 |
| CPI      | 0.626419    | 2.130899   | 0.293969    | 0.7773 |
| C        | -0.068802   | 0.255710   | -0.258937   | 0.8031 |

R-squared          0.834425  Mean dependent var 0.715000
Adjusted R-squared 0.787118  S.D. dependent var 0.573028
S.E. of regression 0.264390  Akaike info criterion 0.420643
Sum squared resid   0.489315  Schwarz criterion 0.511319
Log likelihood      0.897285  F-statistic 17.63848
Durbin-Watson stat  1.084737  Prob(F-statistic) 0.001847

Therefore, \( Y = 0.05 \times \text{COST} + 0.6 \times \text{CPI} - 0.06, R^2 = 0.83, \text{SER} = 0.2 \)
4.2.3. Case 3 - Regression Model with 3 Variables

Run OLS give us:

Figure 3

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|-------|
| COST     | 0.063032    | 0.017052   | 3.696538    | 0.0101|
| CPI      | 0.004439    | 2.806193   | 0.001582    | 0.9988|
| R        | 1.856235    | 4.909808   | 0.378474    | 0.7161|
| C        | -0.310473   | 0.698711   | -0.444358   | 0.6724|

R-squared: 0.838286
Adjusted R-squared: 0.757429
S.E. of regression: 0.282225
Sum squared resid: 0.477905
Log likelihood: 1.015251
Durbin-Watson stat: 1.044689

Hence, \[ Y = 0.06 \times \text{COST} + 0.004 \times \text{CPI} + 1.8 \times R - 0.31, \quad R^2 = 0.83, \quad \text{SER} = 0.28 \]

4.2.4. Scenario 4 - Regression Model with 5-8 Macro Variables

| Coefficient | 5 variables | 7 variables | 8 variables | 8 variables |
|-------------|-------------|-------------|-------------|-------------|
| Cost        | 0.08        | -0.6        | -0.1        | 0.1         |
| CPI         | -1.4        | -0.2        | 2.2         | -3.1        |
| Lending rate| -3.09       | -2.3        | 1.5         | -5.7        |
| Risk free rate| 10         | -0.7        | -6.9        | 7.3         |
| VNIndex     |             |             |             | -0.003      |
| GDP growth  | -10         | -20.9       |             |             |
| Stock price |             |             | 0.0004      | 0.0004      |
| Exchange rate| -0.0001    | -0.0001     | -1.67E      |             |
| Net sale    | 0.6         | 0.2         | 0.04        |             |
4.2.5. Scenario 5 - Regression Model with 8 Macro Variables: Adding S & P500

Running Eviews gives us results:

| Variable     | Coefficient | Std. Error | t-Statistic | Prob.  |
|--------------|-------------|------------|-------------|--------|
| COST         | 0.625550    | 0.200648   | 3.119639    | 0.1975 |
| CPI          | -6.773640   | 1.129601   | -5.996756   | 0.1062 |
| R            | -9.137658   | 1.474401   | -6.319469   | 0.1018 |
| EX_RATE      | -0.001151   | 0.002021   | -5.731061   | 0.1100 |
| RF           | 15.52001    | 2.800396   | 5.542077    | 0.1135 |
| NETSALE      | -0.250424   | 0.144081   | -1.807489   | 0.3217 |
| VNINDEX      | -0.009302   | 0.001696   | -5.485465   | 0.1148 |
| SP500        | 0.000045    | 0.000240   | 3.521956    | 0.1761 |
| C            | 25.15423    | 4.408663   | 5.932598    | 0.1063 |

R-squared     | 0.999477    | Mean dependent var | 0.715000 |
Adjusted R-squared | 0.995290    | S.D. dependent var | 0.673028 |
S.E. of regression | 0.039315    | Akaike info criterion | -4.136454 |
Sum squared resid | 0.001547    | Schwarz criterion   | -3.896129 |
Log likelihood  | 29.68227    | F-statistic        | 230.7375 |
Durbin-Watson stat | 2.228199    | Prob(F-statistic)  | 0.050015 |

\[ Y = 0.6 \times \text{COST} - 6.7 \times \text{CPI} - 9.1 \times R - 0.001 \times \text{EX\_RATE} - 0.009 \times \text{VNINDEX} + 15.5 \times R_f - 0.26 \times \text{NETSALE} + 0.0008 \times \text{SP500} + 26, \]
\[ R^2 = 0.99, \text{SER} = 0.03 \]

5. Discussion and Further Researches

We recognize that, from above regression:

- CTD Net profit (Y) has negative correlation with lending rate, inflation, VNIndex and exchange rate
- Between Y and with cost, SP500, Rf and net sales: there is positive correlation.

6. Conclusion and Policy Suggestion

Firm Management implied: CTD management need to have better sale and cost management plans (used as effective mechanisms to stimulate profit)
Because CTD Net profit (Y) has negative correlation with lending rate, inflation, VNIndex and exchange rate, we imply that macro policies with reducing exchange rate will push net profit.

Huy, D.T.N et al (2020) also mentioned important roles of commercial banks going parallel with corporations to achieve better business management strategies.

Limitation

We need to propose more management strategies.

Acknowledgements

I would like to send warm thanks to Board of Editors and friends, Mr Huy, D.T.N (dtnhuy2010@gmail.com) and brother in assisting convenient conditions for my research paper.

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Exhibit

Exhibit 1 – Inflation, CPI over Past 10 Years (2007-2017) in Vietnam