

VIETNAMESE STOCK MARKET ANALYSIS

I. INTRODUCTION

Vietnam finished 2021 with a 2.58% GDP growth rate, despite witnessing one of the harshest COVID lockdowns in the world during the second half of 2021. Yet, Viet Nam is also one of the rare economies to post two consecutive years of growth since the start of COVID-19 globally. However, 2022 is a difficult time for economic growth. Recently, we can follow the news in the press and seen that the financial situation of Vietnam, particularly, and the world in general, has become chaotic and complex. We can see that the economic crisis is approaching, and state banks continuously increase interest rates. This leads to a significant impact on the stock market. These are tough times for all businesses, but it's also an opportunity for those who can.

Who will be the millionaire? Is this the game for us?

II. PROBLEM DEFINITION

This assignment will be done by groups as we formed in the class. We separated into two main partitions: Odd group (A) & Even group (B) as shown in the [Link](#). The tasks are as follows:

Odd group (index)	Even group (index)
1. Collect Vietnam's stock indexes (VNINDEX, HNINDEX) during the past 1 years (07/2021-07/2022). You can choose the period (day/week/...).	
<i>Suggestion: multiple periods for analysis</i>	
2. Analyze the movement of the stock indexes in the A/B period of all exchanges. Does it follow any well-known distributions? (e.g. normal, poison, gamma, exponential,...).	
3. Build a predictive model for the next 3 months (week or day period) for stock indexes (prices):	
A: from 01/07/2021 to 31/12/2021	B: from 01/01/2022 to 31/07/2022
<ul style="list-style-type: none">- VNINDEX- 3 stocks in three different sectors (VNINDEX): transportation, construction, services.- 3 stocks with the strongest drop rate on VNINDEX in the period from July to December 2021- 3 stocks with the highest growth rate on VNINDEX in the period from July to December 2021	<ul style="list-style-type: none">- HNINDEX- 3 stocks in three different sectors (HNINDEX): tourism, finance, F&B.- 3 stocks with the strongest drop rate on HNINDEX in the period from January to July 2022- 3 stocks with the highest growth rate on HNINDEX in the period from January to July 2022
<i>Note: it is possible to use many different models (e.g., linear regression) or use machine learning tools, deep learning....</i>	
4. Testing & model analysis, influencing factors, and cross-model usability among indicators or groups of indicators (for instance, we apply the model train by tourism data for finance inference). Which model is the best and closest to reality?	
5. Which stock index sectors are most affected (negative meaning) by the Economic Crisis (maximum 3 stocks), use the collected data and analysis to prove your conclusion. How do you think about their growth ability of them?	

III. SOME REFERENCES

- [1] <https://vietstock.vn/>
- [2] <https://trade.vndirect.com.vn/chung-khoan/danh-muc>
- [3] <https://ncov.moh.gov.vn/>

IV. ADDITIONAL REQUIREMENTS

1. All acts of copying and exchanging reports are strictly prohibited.
2. Submit all collected data/document + 1 report slide + 1 report + related demos/source code. Each group must answer all the above assignment's questions. The second page of the report should be the %contribution of each member (the total of all members should be 100%)
3. Presentation time should not exceed 20 minutes per group.
4. Each group prepares at least two questions for the other groups.
5. The score is based on how much you contribute to the assignment. What we have learned is important.
6. Team norm: maximum 5 members; duration: 5 weeks.