

The Effects of Corona on Swiss Listed Companies

A Simple Analysis Based on Historical Data of Stock

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Overview

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What is SMI?

Swiss Market Index (SMI) is Switzerland's blue-chip stock market index, which is made up of **20** of the largest and most liquid Swiss Performance Index (SPI) stocks. It is the Weighted average Stock Price of these 20 Swiss listed companies which cover the industries of "Food", "Pharmacy", "Finance", "Health" and so on, per se.

The Composition of SMI

Name(Stock Code)	Industry	Name(Stock Code)	Industry
Nestlé(NESN)	Food	Sika(SIKA)	Chemistry
Novartis(NOVN)	Pharmacy	Alcon(ALCC)	Pharmacy
Hoffmann-La Roche(ROG)	Pharmacy	Swisscom (SCMN)	Telecom -munication
Zurich Insurance Group(ZURN)	Insurance	Swiss Life Holdings(SLHN)	Insurance
ABB(ABBN)	Electrical	Credit Suisse(CSGN)	Banks
UBS(UBSG)	Banks	Partners(PGHN)	Private Equity
Lonza(LONN)	Chemistry	Swiss Re(SREN)	Insurance
Givaudan(GIVN)	Chemistry	SGS(SGSN)	Services
Richemont(CFR)	Luxury	Swatch(UHR)	Watches
LafargeHolcim (LHN)	Building Materials	Geberit (GEBN)	Sanitary Engineering

Table: Description of SMI Companies



Corona Situation in Switzerland

First Corona case in Switzerland appeared in the February and the number of cases was skyrocketing in March and April. Due to the lockdown by government, the distribution of population, and the temperature in summer time, the cases were going down after April very swiftly. However, with the approaching the winter which season the Coronavirus likes the most and the easing of virus-involved policies, the second-wave shocks came in October in a faster speed than we thought. The main difference is that for the second wave, the federal government did not issue nationwide lockdown policy and let cantonal government make the decisions by their own situation. So, with the recursive appearance of the situation:

- **What are the effects of this crisis? Especially on the Finance part.**
- **What is the difference in reaction of stock market between the first-wave and the second-wave shocks and between Industries?**

Hypotheses on the Corona situation

From (Abiad, Arao, & Dagli, 2020), we have noticed that there were big drop of retail sales and personal expenditure in the 2003 SARS situation, and that this situation also reappeared in China under the Covid-19 crisis. Meanwhile, from (Ashraf, 2020), we have found that there were negative relation between governments' social distancing policy and stock market returns.

Therefore, we set the following hypotheses:

Hypothesis 1: The Covid-19 has a negative effect on Swiss Stock market return;

Hypothesis 2: Governments' policies in response to the pandemic matter to stock market return;

Hypothesis 3: There are different trend of stock performance for different industries.

Here, we just use the historical data of 20 Swiss listed companies and Swiss Market Index itself, which includes stock price and the trading volume, and these two number can let us directly see reaction from the market.

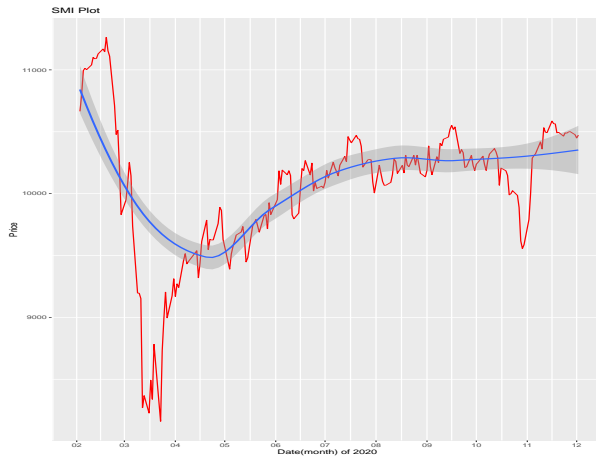
Data Sources

We have collected all of the data from "**Investing.com**"

Data Explanation

Historical data from February to December, which compose the reaction to two waves of virus shocks of the market.

Swiss Market Index Trend



plot.pdf

Figure: SMI Trend

SMI and Market activity

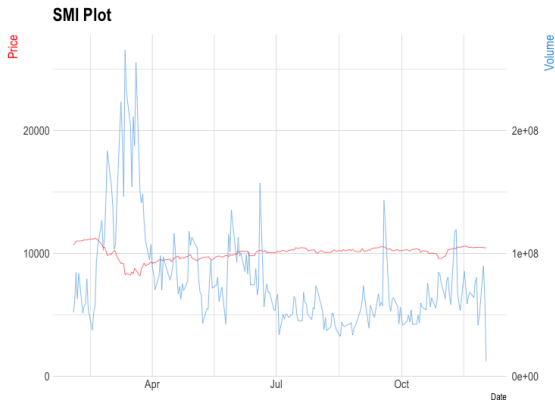


Figure: SMI Price and Volume

Basic Analysis on the General Market

From the two previous figures, we can find:

- The Corona crisis did influence the whole Swiss market, which is quite obvious;
- The crashing effect of the second wave pandemic crisis is smaller than the first wave;
- Based on the trading volume, People are less panic in the second wave of crisis than the first wave.

Visualization for Different Industry

After we plotting all of the data of listed companies, we can find that there exists a common trend for companies in the same industry and the trend differs in different industries.

Stock Price Trend in Pharmacy Industry

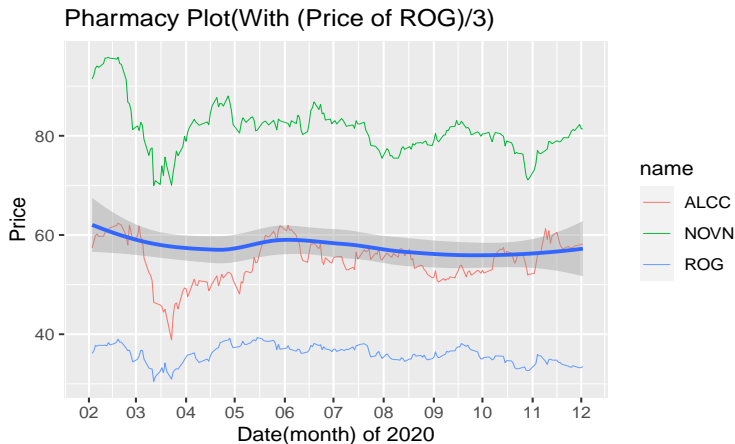


Figure: Plot of Pharmacy Industry

Stock Price Trend in Banks Industry

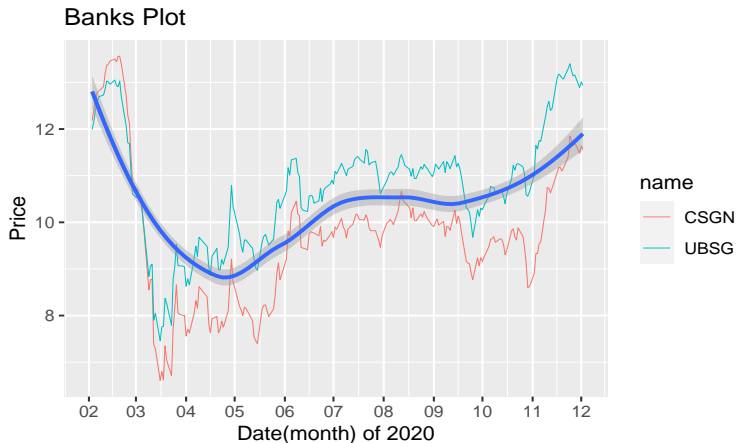


Figure: Plot of Banks Industry

Stock Price Trend in Chemistry Industry

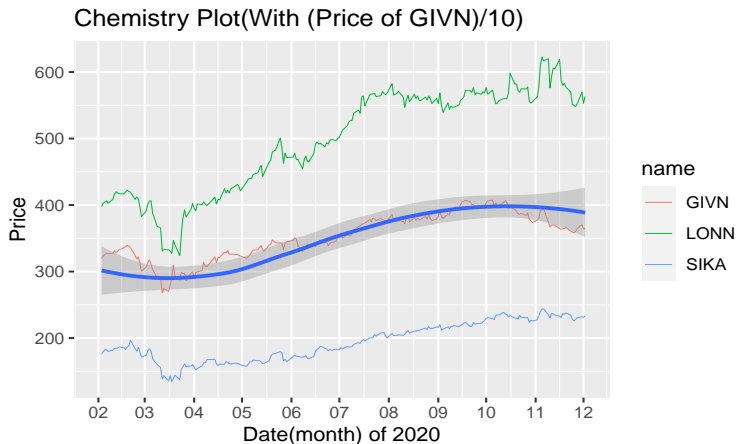


Figure: Plot of Chemistry Industry

Stock Price Trend in Insurance Industry

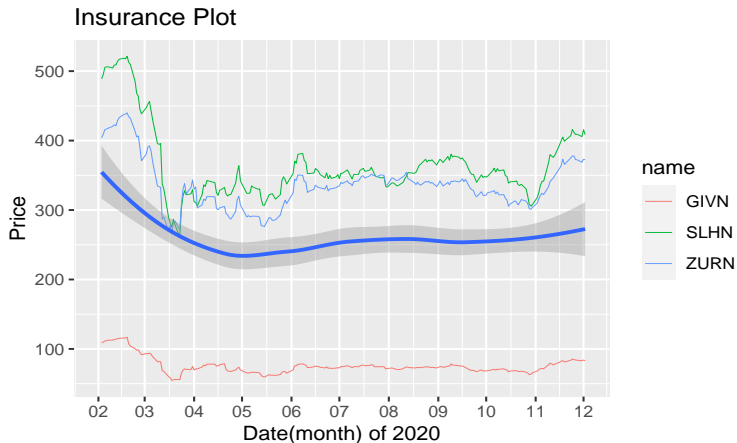


Figure: Plot of Insurance Industry

Basic Descriptive Analysis on different Industry

- We can firstly see that the Swiss listed companies which are in the same industry have the same pattern for the change of the stock price; however, due to the few numbers of companies, this may be biased ;
- Also, from four previous plots for different industry, we can clearly see that all of firms were heavily crashed by the coronavirus crisis, which we think that lack of information on coronavirus contributed a lot to this phenomenon and government's lockdown policies facilitated the downward trend. some of the industry got recovered from the crisis after the peak period , like Banks and Chemistry Industry, while other did not;
- We can also find that the all of Industry almost suffer less or even no obvious effects from the second wave crisis. We can know that this has something to do with Swiss governmental policy - avoiding second lockdown and virus became less mysterious.

Conclusions from the Simple Analysis

Based on our observations

- Hypothesis 1 accepted, Coronavirus genuinely has a devastating impact on Swiss economy, but a lot of effects can be attributed to information asymmetry, a fact which can be reflected by the trading volume for the approaching of second wave crisis ;
- Hypothesis 2 partially accepted(need further exploration), we can see from the comparison between the stock performance between the first wave pandemic crisis and the second wave pandemic crisis , in which government took different measures to tackle the problem. However, we can know that the phenomenon in the second wave has something to do with more information on Covid-19 for people. Therefore, we cannot say for sure and derive the magnitude of effects of the policy.
- Hypothesis 3 accepted, we can clearly see from the plots that there exist different patterns of stock performance between industries.

Abiad, A., Arao, R. M., & Dagli, S. (2020). The economic impact of the covid-19 outbreak on developing asia.

Ashraf, B. N. (2020). Economic impact of government interventions during the covid-19 pandemic: International evidence from financial markets. *Journal of behavioral and experimental finance*, 27, 100371.