

High-Profit Investments During COVID-19 in Stocks and Cryptocurrency

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Abstract

In this paper, we will be investigating several methods of investments that could have resulted in an outstanding yield during the COVID-19 outbreak. In particular, we will be analyzing two modes of investments, namely: stocks and cryptocurrency. In fact, great investment opportunities emerged out of some stocks and the field of cryptocurrency those days. Our approach will be in analyzing profit metrics for each mode, and then we will provide successful examples illustrating these metrics. We will investigate two main branches of stocks, specifically: growth and value stocks, and regarding cryptocurrency, we will elaborate more on some main concepts related to that field. We hope the reader will be attracted by the sequenced-style followed in this paper.

Keywords

Growth stocks, Value stocks, Cryptocurrency, Blockchains.

1. Introduction

At the end of 2019, COVID-19 virus started initially in Wuhan, China. Then, the virus started to spread out silently in all provinces of China due to the mass migration in the Chinese New Year. Ultimately, the disease started to spread out viciously in all countries and continents which lead the “WHO” to declare that COVID-19 is a global pandemic. Hence, governments took serious precautions and procedures including: curfews, social distancing, aborting international flights, etc. Almost all companies and institutions declared to their employees that work will be conducted from home. Moreover, the number of cases increased significantly in a short period of time; hence, these restrictions continued for most of 2020. Consequently, these governmental constraints and restrictions lead to social, political and economic catastrophes. Many companies suffered from this epidemic, especially the ones dealing with: airlines, travel services, tourism and entertainment, etc. However, there are some companies that thrived during the pandemic since their services were substantial and within the reach of people. In fact, some of these services were mandatory to compensate for the negative impacts of the governmental restrictions - on top of them is lack of physical interaction.

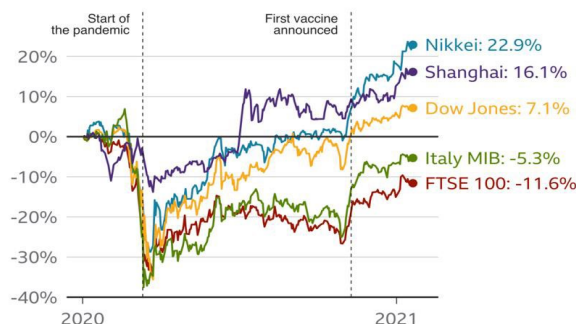


Figure 1. Market Indexes Behavior During the Outbreak (BBC)

Since the outbreak resulted in severe fluctuations in the stock prices, we will take advantage of these fluctuations by looking for outlier stocks that had a potential for growth. We will also be looking at stocks whose share prices plummeted during the pandemic, but one should be almost sure to have an exponential rise in the coming years. It is generally believed that major investment opportunities are almost always associated with global crisis. Our aim in this paper is to raise the general public awareness in this topic since these investments can mitigate some negative economic impacts caused by this pandemic.

1.1 Objectives

Firstly, one of our main objectives is to educate the public about some unique fundamentals that are commonly used when analyzing the feasibility of most investments - in order to select among different alternatives. Besides elaborating on some basic knowledge regarding cryptocurrency, we will be illustrating on how this field is playing a significant role in shaping modern economics; also, we will emphasize that blockchains are expected to be a revolutionary mean of collecting, storing and retrieving information with a high level of security that can be adopted by governments and institutions. Eventually, by the end of this paper, we anticipate that the reader will be more convinced that great rewards are usually associated with great risks.

2. Literature Review:

[1] Emna Mnif et al. (2020), How the cryptocurrency market has performed during COVID 19? A multifractal analysis, Finance Research Letters: The authors studied the *“the level of cryptocurrency efficiency through multifractal analysis before and after the coronavirus pandemic. The empirical results proved that COVID-19 has a positive impact on the cryptocurrency market efficiency.”*

[2] Louhichi, Waël et al (2021), Measuring the global economic impact of the coronavirus outbreak: Evidence from the main cluster countries, Technological forecasting and social change: The authors study measured the global economic impact of the coronavirus outbreak. Specifically, the study aimed to *“investigate its impact on currency markets, stock market performance, and investor fear sentiment.”*

[3] Padhan, et al. (2021). The economics of COVID-19 pandemic: A survey, Economic analysis and policy: A comprehensive study; of our interest was how the study *“explores the effects of the pandemic and proposes potential policy directions to mitigate its effects.”*

3. Methods

A) Stocks:

- Overview:

A Stock is an equity or a pledge that entitles the person who owns a share of that stock an ownership of a fraction of the corporation. In basic words, when you buy shares from any corporation, you own a part of that corporation equal to the amount of purchased shares; consequently, you will share the losses and profits of that corporation. Stocks come in three main types: dividend-paying stocks, growth stocks, and value stocks. Here, we will analyze growth and value stocks. In fact, we picked these two types of stocks in order to take advantage of the fluctuations that occurred during the pandemic as dividend-paying stocks are much less sensitive to the volatility of the market.

a) Growth Stocks:

It is a type of stock with a share price that is expected to grow and outperform the market significantly – the price growth rate is relatively high. These stocks usually do not pay dividends to their shareholders as these companies reinvest their earnings in order to grow with an accelerated rate that outshoots the overall market index. In addition, during the pandemic, there were some companies that grew significantly in a short period of time (e.g., 1 year); hence, our aim is to elaborate more on these stocks.

Our analysis to choosing growth stocks will be according to:

i) Share Price:

We will address the price of a specific stock starting from January/2020 till March/2021 in quarter periods along with the highest and the lowest prices during this period. Then, we will calculate the percentage of profit obtained.

ii) Performance:

There are many performance ratios; however, we will focus on the ROI Ratio, ROA Ratio and the Quick Ratio as indicators of company's performance during the outbreak.

- ROI "Return on Investment" Ratio: It is a performance measurement that evaluates the profitability of the company. It is calculated by dividing the net income by the cost of investment, and it is expressed as a percentage; hence, the higher the percentage the better the investment - but not always - as companies in a growing status usually tend to have a very low ROI.

$$\text{ROI} = \frac{\text{Total income from investment} - \text{Total initial investment}}{\text{Total initial investment}} \quad - \text{ Mariana Zamfir et al. (2016)}$$

- ROA "Return on Assets" Ratio: It is an indicator on the profitability of the company relative to its total assets; it also gives an idea on how good the management is at using the assets to optimize income and earnings. It is calculated by dividing the annual earnings by the total assets, and it is expressed as a percentage.

$$\text{ROA} = \frac{\text{Total annual net income}}{\text{Total assets}}$$

- Quick Ratio: It is a ratio that measures the liquidity of the company and its capabilities in meeting short-term obligations. It is calculated by dividing the amount of net current assets by the total current liabilities. Hence, a quick ratio above 1 is a safe investment in the short-term.

$$\text{Quick Ratio} = \frac{\text{Total net current assets}}{\text{Total current liabilities}}$$

iii) Beta "Volatility":

It is a measurement of the volatility of the stock price compared to the overall market.

- Beta = 1: The stock price is as volatile as the index.
- Beta < 1: The stock price is less volatile than the index.
- Beta > 1: The stock price is more volatile than the index.

b) Value Stocks:

This type of stocks refers to a share price that is lower than it is supposed to be relative to its fundamentals and ratios; hence, investors try to take advantage of the market's underestimation to the share's price, and predict that the price of this specific stock will go higher to its real value. A basic, yet efficient, method to detect a value stock is to spot a share price that is lower than the share prices of different companies in the same industry and sector.

During the pandemic, there are some sectors that had a plummet in their overall indexes due to the restrictions that were announced by the governments (e.g., aborting traveling between countries), and in that context, the affected sectors would be: airlines and tourism agencies. Consequently, we will detect the stocks that their share prices went down dramatically during the outbreak, and then we will try to predict the price recovery when restrictions are lifted - keeping in mind the share crash is just a bruise not an illness.

Our analysis in choosing value stocks will be according to:

i) "P/E" Ratio & "EPS" Ratio:

- P/E "Price to Earnings" Ratio: It is a ratio that indicates the value of the company's stock by measuring its current share price relative to its share earnings. A high P/E ratio means that the company's share price is relatively high to its current earnings. On the other hand, a low P/E ratio means that the company's share price is relatively low, and that will be our target in the analysis.

$$\text{P/E "Price to Earnings" Ratio: } \frac{\text{Current share price}}{\text{Earnings per share "EPS"}}$$

- EPS “Earnings per Share” Ratio: It act as a profitability measurement that is calculated by dividing the company’s profit by the number of outstanding shares. So, it gives an indication on the company profits for each share of its stock.

$$\text{EPS “Earnings Per Share”} = \frac{\text{Net Profit}}{\text{Number of outstanding share}}$$

ii) P/B “Price to Book” Ratio:

It is a ratio that compares a company’s market capitalization relative to its book value per share. It is calculated by dividing the company’s share price by its book value.

$$\text{P/B “Price to Book” Ratio} = \frac{\text{Current share price}}{\text{Book value per share}}$$

iii) Dividend Yield:

It is a financial measurement of the company’s periodic payments to its shareholder compared to its share price - expressed in percentages -. It can be quarterly or annually, and it is calculated by dividing the dividends per share by the current share price. Thus, a value stock tends to have a high dividend yield due to the relative low share price. Note that not all companies pay dividends; hence, this indicator will be taken into account only if the company pays dividends to its shareholders.

$$\text{Dividend Yield} = \frac{\text{Dividends per share}}{\text{Current share price}}$$

Alongside with these fundamentals, we will compare the share price of the company before the pandemic and after and provide a justification of the occurred plummet.

B) Cryptocurrency:

A cryptocurrency is a digital or virtual currency registered and secured by cryptography – which interprets the name. The distinguishing feature for cryptocurrency is that it is decentralized; this means that they are not issued or controlled by a central authority. This decentralization would have never been possible without the technology of blockchain which is a distributed ledger that records the provenance of digital assets. This field was established by Satoshi Nakamoto “pseudonym for the person / group of people who published the first whitepaper in this field (2008)”. The most common cryptocurrency these days is Bitcoin. This digital payment system is controversial; nevertheless, it is still prospering since people seemed to be comfortable with a decentralized, transparent, and a secure database governing their transactions. The following table illustrates some differences between classical (fiat) currency and cryptocurrency:

Table 1. Traditional Currency vs Cryptocurrency:

Traditional (Fiat) Currency	Cryptocurrency
centralized: financial institutions (e.g., banks) are a must	decentralized
no transparency	transparent - public database (blockchain)
subjected to inflation	almost all cryptocurrencies have limited number of “coins” – inflation is not expected
issued by governments	created by computers
most probably will charge high fees for international transfer, transfer time can take can take few days	relatively low fees for international transfer, transfer time is within an hour

In the beginning of the pandemic, there was a severe plummet in the cryptocurrency market since most investors liquidated their holdings into cash due to fear at that time. Nevertheless, the cryptocurrency sector is believed to be resistant and resilient; hence, the prices started to recover due to the fact that the pandemic created a need to have an accelerated digital infrastructure, and cryptocurrencies managed to help in filling that need. Therefore, people have started to have an appetite for trading in cryptocurrencies as they noticed a possible high profit since the market is dramatically volatile.

Our analysis in choosing cryptocurrency will be according to:

i) Cryptocurrency Price:

We will address the price of a specific cryptocurrency before, during and after the pandemic. Then, we will calculate the maximum possible profit in different periods.

ii) Cryptocurrency Predicted Future Price:

There are some cryptocurrencies which have future projects and a promising growth. Hence, we will pick a cryptocurrency which emerged during the outbreak which are used for other purposes other than safe transactions such as creating a decentralized financial system. Notice that each cryptocurrency has its own features and uses. Consequently, the chosen cryptocurrency is a one that we predict it has a promising future regarding its price.

When addressing the analysis and data obtained, we will consider Bitcoin and – as a sample –.

However, there are a list of a promising cryptocurrencies such as:

- 1 – Ethereum 2-Litecoin 3-Ripple XRP 4-Cardano (ADA) 5-BNB 6-Chainlink “LINK”

4. Results and Discussion

4.1 Numerical Results

1) Growth Stocks:

Selected Stock: Zoom Video Communications, Inc. (\$ZM):

- Market Capitalization: \$ 87.41B.

- We will assume that we invested in March/2020; then, we will calculate the profit in each quarter as if the shares were sold at that period.

Table 2. (\$ZM) Share prices:

Period	Mar/2020	June/2020	Sept/2020	Dec/2020	Mar/2021	52 Week-High
Price (\$)	114.3	207.6	383	410	337.4	588.84
Profit (%)	-	81.62 %	235.1 %	258.71 %	195.19 %	415.17 %

Table 3. (\$ZM) Performance:

Year	2019	2020	2021
ROI	8.41	1.51	26.82
ROA	2.66	2.65	20.39
Quick Ratio	-	-	3.8
Beta	5Y-Monthly		
	-1.48		

2) Value Stocks:

Selected Stock: SkyWest, Inc. (\$SKYW):

- Market Capitalization: \$ 2.47B.

- We will assume that we invested in March/2020; then, we will calculate the profit in each quarter as if the shares were sold at that period.

Table 4. (\$SKYW) Share prices:

Period	Jan/2020	Mar/2020	Sep/2020	Dec/2020	Mar/2021	52 Week-High
Price (\$)	66.2	20.23	34.66	44.97	60	61.16
Profit (%)	-	-	71.3%	122.4%	196.5%	202.3%

Table 5. (\$SKYW) Performance:

Year	2019	2020	2021
P/E	1.1	0.89	1.29
P/B	1.54	0.93	1.28
Dividend Yield	-	-	-

3) Cryptocurrency:

- Bitcoin (\$BTC):

- Market Capitalization: \$ 1.09T.

- We will assume that we invested in March/2020; then, we will calculate the profit in each quarter as if the shares were sold at that period.

Table 6. Bitcoin Prices:

Period	Jan/2020	Mar/2020	Jun/2020	Sep/2020	Dec/2020	Mar/2021	52 Week-High
Price (\$)	8037.54	5200.37	9475.28	10442.17	40254.55	49631	61243.1
Profit(%)	-	-	82.2 %	100.8%	674.1 %	854.4 %	1077.7 %

4.2 Graphical Results

- Price Behavior (March 2020 – March 2021):

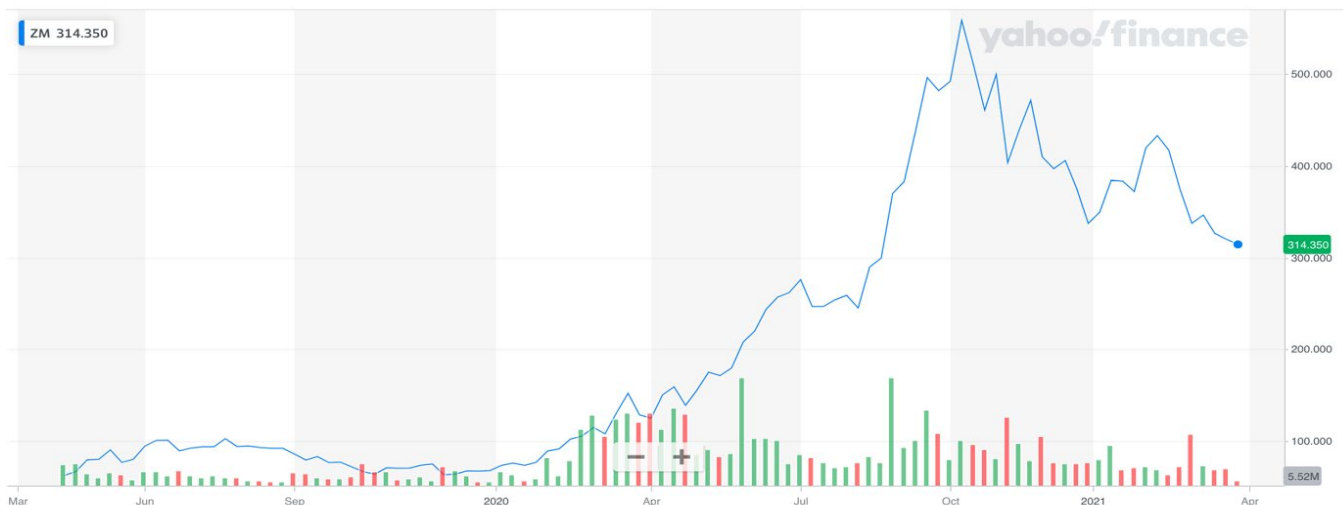


Figure 2. Zoom Video Communications, Inc. (\$ZM) Chart Price:

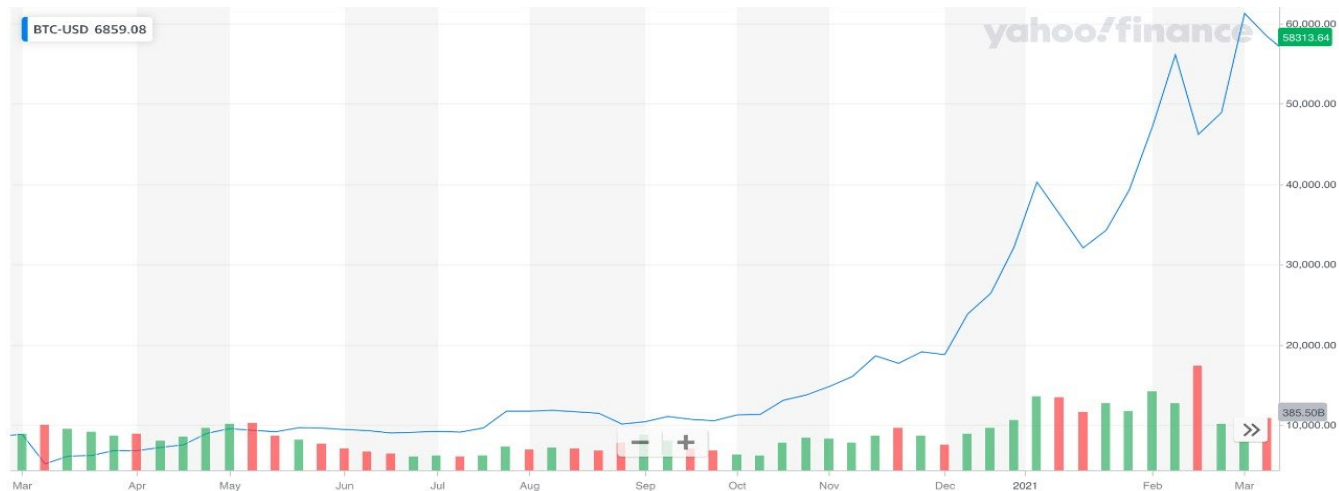


Figure 3. SkyWest, Inc. (\$SKYW) Chart Price:

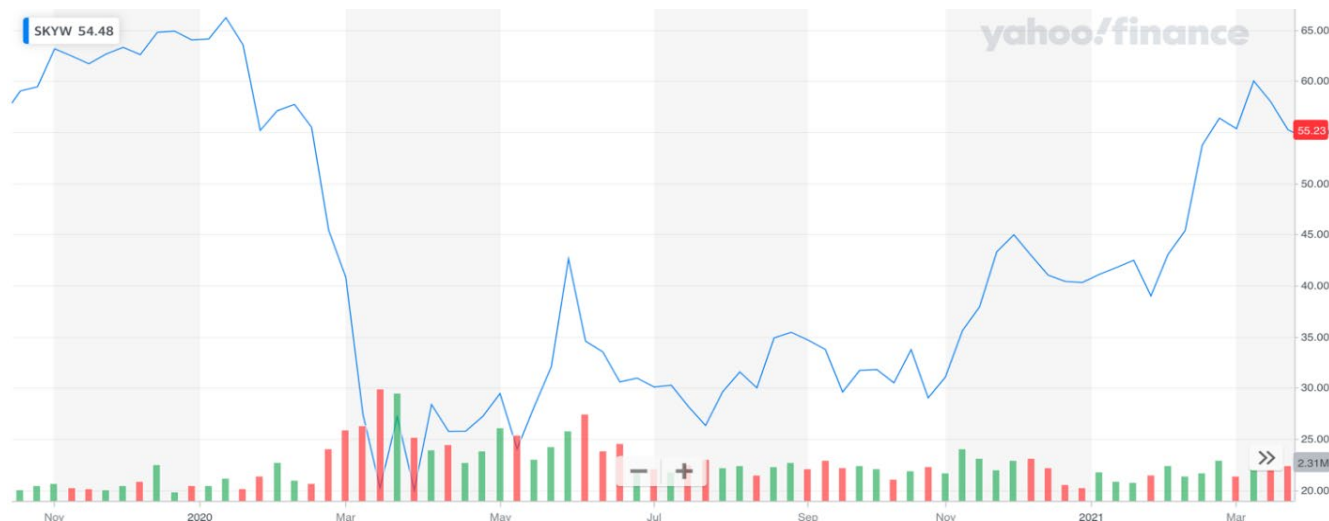


Figure 4. Bitcoin (\$BTC) Chart Price:

4.3 Comments

1) Growth Stock - Zoom Video Communications, Inc. (\$ZM):

As noticed from the data above, the price of \$ZM kept rising during the pandemic until October/2020 “reaching its peak at almost \$ 600”; then, the price dropped after the first vaccine was announced. However, overall, the price currently is almost 3 times the price when the pandemic started. The overall performance regarding the fundamentals is very satisfying, and in 2021, the ROI and ROA have gone 10 times the prior year which indicates how well \$ZM performed during the outbreak.

The main reason \$ZM skyrocketed is due to the consequences of the outbreak where the governmental restrictions had forbidden working on-site and all studies were conducted from home. Hence, \$ZM came to fill in this gap where most of the institutions, companies, schools and universities utilized this platform for conducting meetings, classes, etc.

2) Value Stock - SkyWest, Inc. (\$SKYW):

From the data above, it is clear how the covid-19 outbreak impacted the stock where it dropped 200% due to the aborting of all international flights. Then, the stock started to recover at the end of 2020 due to the announcement of the vaccine. Moreover, when the restrictions started to be lifted in early 2021, the price increased which resulted in profit of about 200%.

Besides the ratios, the reason this stock was chosen is to take advantage outbreak's impact on the stock in the sense that it should be bought believing that it will rise when international flights and airports are reopened back again. However, this stock behavior is applicable to many airlines and travel agencies.

3) Bitcoin (\$BTC):

Regarding the future price, most predictions and intuitions infer that the price will keep rising despite the immense volatility in the chart, and that is due to many reasons: firstly, Bitcoin is the first cryptocurrency that was ever created, and this fact boosts the status of this cryptocurrency between its competitors. Secondly, Bitcoin takes about 60% of the market capitalization of all cryptocurrencies. It is also the first peer-to-peer cash system where a third party does not exist; in analogy to buying from a vending machine. Furthermore, there is a limited supply of Bitcoin; now there are 18 million bitcoins, and it is believed that only in 2140 we will reach the maximum number of coins (about 21 million coins) when mining will end. This suggests that it is a rare currency, and this limited supply can result in a huge increase in the price. Moreover, mega companies are now adopting Bitcoin and allowing their customers to use it as a payment method; lastly, these companies, such as Tesla, also invested in Bitcoin which suggests that Bitcoin is a safe and a good long-term investment.

From the data above, it is clear that in March/2020 the price dropped since most investors liquidated their assets into cash due to fear at that time. Therefore, taking advantage of this panic seemed to be an excellent opportunity since the price went up violently by the end of 2020. The maximum profit was 10 times the investment in a timeframe of one year.

5. Conclusion

It is unnegotiable that the global pandemic of COVID-19 has impacted the world in many different aspects unfavorably, and the whole world suffered from the consequences this pandemic left behind causing: bankruptcy of many companies, increase the rate of unemployment, infecting and killing millions along with a worldwide panic. Nonetheless, it also originated a lot of investment opportunities that one can reap a very conspicuous and dramatic profit in a short time frame. An example of these investments is stocks; a profit of up to 700% is possible when investing in growth stocks, and up to 200-300 % when doing so in value stocks. In addition to stocks, investing in cryptocurrency would have also resulted in an enormous profit within the same time frame.

It is safer and smarter to diversify your investment portfolio and to invest in different types of stocks and different cryptocurrencies by having a part of your investments in a less volatile market and the rest in a volatile and vicious market such. Eventually, in order to build a fortune by investing in stocks, you must think out of the box and look closely to what is happening in the world around you. Also, patience is intrinsic when the market turns red; an investor must not panic, and he/she should trust his/her investment. Lastly, taking high risks is essential since high risks are just mirrors of high rewards.

References:

- * Morningstar, Available: <http://www.morningstar.com> , Accessed on February 18, 2021.
- * FINVIZ, Available: <http://www.finviz.com> , Accessed on February 22, 2021.
- * Derivative, Available: <https://www.financederivative.com/the-impact-of-coronavirus-on-cryptocurrency-and-its-future/> , Accessed on March 10, 2021.
- * The Block, Available: <https://www.theblockcrypto.com/linked/77604/crypto-exchange-vol-august> , Accessed on March 10, 2021.
- * BBC, Available: <https://www.bbc.com/news/business-51706225> , Accessed on March 18, 2021.
- * Investopedia, Available: [Investopedia.com](https://www.investopedia.com) , Accessed on March 20, 2021.
- * Yahoo Finance, Available: <http://www.finance.yahoo.com> , Accessed on March 22, 2021.

* Zamfir, Mariana, et al. (2016). Return On Investment – Indicator for Measuring the Profitability of Invested Capital, Valahian Journal of Economic Sciences, vol.7, 2016

Biography

Dr. Sobhi Mejjaoui, possess several years of progressive experience in the Industrial and Systems Engineering fields and their applications. He is serving now as an Industrial Engineering Assistant Professor at Alfaisal University. Sobhi earned a Bachelor and Master Degree in Industrial Engineering from Ecole National ed'Ingenieursde Tunis before joining the Systems Engineering Department at University of Arkansas at Little Rock, USA where he got his Ph.D. Sobhi qualifications and research are related to the fields of Engineering Economics, Operations Research and Optimization (Linear and non-linear programming, network and Dynamic Programming, heuristics...etc.), C/C++ Programming, supply chain Management, and software like CPLEX, LINGO, ARENA and MATLAB.