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SAFE HAVEN ASSETS: ARE THEY STILL SAFE DURING COVID-19 PANDEMIC PERIOD?

Musaed S. AlAli[i]
Department of Insurance and Banking,
College of Business Studies,
The Public Authority for Applied Education and Training (PAAET),
Kuwait

Abstract:
During political, financial, and economic turmoil periods investors tend to flee toward what is called safe haven assets such as gold, Swiss franc and lately, Bitcoin. While previous literature supports such assumption, these studies were based on crises that faced certain geographic locations. The coronavirus pandemic on the other hand is a global crisis that affects the whole world. This study aims to examine the validity of the assumption that Swiss franc, gold, and Bitcoin would still act as safe haven assets during Covid-19 pandemic period. Results obtained from this study shows that Swiss franc and gold had a positive returns during the study period which is in line with safe haven assets characteristics, but these returns were not caused by the stock markets negative returns. Bitcoin on the other hand showed negative returns during the study period and statistically significant positive relation with S&P 500 returns indicating that Bitcoin cannot be used as a safe haven asset.

JEL: G10; G11; G15

Keywords: COVID-19, Coronavirus, safe haven assets, financial crisis, Gold, Swiss franc, Bitcoin, stock markets performance, pandemic period.

1. Introduction

With confirmed Coronavirus cases exceeding 2.07 million and a death toll of more than 134 thousands, as of April 15th 2020, spreading all around the world causing a lockout in large number of countries to contain the spread of the virus. The containment measures enforced by governments and the uncertainty regarding the future caused a huge confusion to the global economy leading to economic slowdown. Counties such as France reported a decline in its GDP for the first quarter of 2020 of around 6% while Germany is

[i] Correspondence: email ms.alali@paaet.edu.kw

reporting a decline of around 5% for the same period. Literature has shown that during crisis periods money flow from capital markets to safe haven assets triggering a spike in their prices and returns. This characteristic is amplified in severe crises episodes during which safe haven assets particularly gain in value. Baur and Lucey (2010) and Baur and McDermott (2010) define a safe haven asset in general as "*an asset that is uncorrelated or negatively correlated with another asset or portfolio in times of market stress or turmoil*". This definition would indicate that for an asset to be labeled as a safe haven asset it should have a zero or negative beta with risky assets such as stocks.

Swiss franc has always been known to act as a safe haven currency during crisis periods. Ranaldo and Soederlind (2010) find a systematic relation between risk increases, stock-market downturns, and the appreciation of safe-haven currencies. They concluded that Swiss franc is a safe haven currency because it provides a hedge in normal times and a positive returns during global turmoils. Auer (2015) stated that during the 2008−2009 global financial crisis and the concerns about some European countries government solvency, the Swiss franc rapidly appreciated in late 2010 and throughout the first three quarters of 2011 as the euro area debt crisis became increasingly severe. During the European solvency crisis, the IMF (2012) stated that safe haven capital inflows from the euro zone turmoil pushed the Swiss franc exchange rate to new heights that summer. In examining safe haven currencies during the 2008-2009 global financial crisis, Fatum and Yamamoto (2016) found that the Japanese yen was the "safest" safe haven currency during that period followed by the Swiss franc and then the U.S. dollar. Hossfeld and MacDonald (2015) evaluated safe haven currencies during the period spanning from Jan 1986 to Sept 2012 and concluded that Swiss franc and the U.S. dollar qualify as safe haven currencies during that period.

Gold has always been synonyms with safety, Gorton and Rouwenhorst (2006) found that during the recession periods, a balanced index of commodity futures yields positive returns, contrary to stocks. Baur and Lucey (2010) found that gold tends to hold its value if stock markets experience extreme negative returns in Germany, the U.K. and the U.S.. McCown and Zimmerman (2006) found in their study that gold has an inflation-hedge ability and that gold has a zero beta with capital markets making it suitable for hedging. They also found that over the period of 33 years (1970-2003), gold showed a slightly higher mean return than Treasury Bills. In their study over the period 1979 to 2009, Baur and McDermott (2010) found that gold can be used as both a hedge and a safe haven for major European stock markets and the U.S. but not for Australia, Canada, Japan and large emerging markets such as the BRIC countries.

Bitcoin was first introduced by Nakamoto (2008) as a digital currency and payment system that is fully decentralized and depends on a sophisticated protocol. Since its introduction in 2009, the value of Bitcoin grew rapidly to more than $128.68 billion in 2020 (coinmarketcap.com). There are only 21 million bitcoins that can be mined in total. Yermack (2013) argues that Bitcoin appears to behave more like a speculative investment than a currency because its market capitalization is high compared to the economic transactions it facilitates. Despite its high price volatility, Molnár et al. (2015) found that including Bitcoins into a diversified portfolio would enhance its profitability.

Using data spanning from July 18th 2011 to Dec 22nd 2015, Bouri, et al. (2017) found that Bitcoin can serve as an effective diversifier and that it has safe haven properties in some cases. Examining the hedging capability of Bitcoin, Dyhrberg (2015) found that it can be used to hedge against U.K. equities and the U.S. dollar.

2. Methodology

The aim of this study is to examine whether historical safe haven assets can still be a valid asset during the Covid-19 pandemic period. The results of the research are based on the financial performance of 6 stock markets which are the S&P 500, Shanghai SE, Nikkei 225, DAX, Australian ASX and FTSE 100 as independent variable and safe haven assets which are Swiss franc, gold, and Bitcoin as dependent variables over the period spanning from Feb 12th to April 9th 2020. In order to examine that effect, OLS regression is performed as follow;

$$R_{sha} = \alpha + \sum \beta \, (RX_{1 \to n}) + \varepsilon \qquad (1)$$

Where R_{sha} is the return on safe haven asset, RX is the return on stock markets, and ε is the error term.

3. Data and Empirical Results

The results of the research are based on the financial performance of the S&P 500, Shanghai SE, Nikkei 225, DAX, Australian ASX, FTSE 100, Swiss franc, gold, and Bitcoin over the period Feb 12th to April 9th 2020. The data for this research were obtained from Yahoo finance website.

As illustrated in table 1, it can be seen that out of the safe haven assets under study only Bitcoin showed negative mean return while both Swiss franc and gold had a positive return. On the other hand, all 6 stock markets showed negative mean returns which verifies the validity of safe haven assets assumption for both gold and Swiss franc. Gold was the best performer during the study period with an average gain of 0.246% while Australia ASX index was the worst performer with an average return on -0.596%. In terms of return volatility, Bitcoin showed the highest volatility of 6.629% while the Swiss franc was the most stable asset with standard deviation of only 0.747%.

In order to avoid false regression results, the data should be normally distributed. According to Klein (1998) who stated that for data to be normally distributed, skewness value should be less than ± 3 and kurtosis should not exceed ± 10. By looking at the descriptive analysis in table 1, it can be seen that the data is normally distributed.

Table 1: Descriptive Analysis

	CHF/USD	Gold	Bitcoin	S&P	Shanghai SE	Nikkei 225	DAX	ASX	FTSE 100
Mean	0.024%	0.246%	-0.376%	-0.370%	-0.098%	-0.461%	-0.560%	-0.596%	-0.572%
Standard Deviation	0.747%	2.360%	6.629%	4.692%	1.628%	2.960%	3.423%	3.783%	3.734%
Kurtosis	1.755	1.487	14.419	0.250	-0.126	1.490	3.255	0.021	2.162
Skewness	-0.079	0.721	-2.577	0.011	-0.227	0.793	-0.147	-0.139	-0.318
Count	40	40	40	40	40	40	40	40	40

The regression output results are presented in table 2. Results shows that returns on Swiss franc and gold can't be explained or linked to the stock markets returns and that such returns are affected by other factors. The Swiss franc was the least effected by stock markets returns since the *R* square of the model was only 4.9% and it was not statistically insignificant. The same thing can be said for the gold model, even though the model had an *R* square of 0.466 the model cannot be labeled as a "good fit" since the significance *F* of the model was higher than 0.05. On the other hand, the Bitcoin model showed that returns on stock markets were only able to explain 30.6% of Bitcoin returns at the 95% confidence level. When it comes to the effect of stock markets returns on Bitcoin returns, it can be seen that Bitcoin returns only had statistically significant positive relation with S&P 500 returns and this would indicate that Bitcoin cannot be labeled as safe haven asset since safe haven assets should have a zero or negative beta especially during turmoil periods.

Table 2: OLS Regression Output

	Swiss Franc		Gold		Bitcoin	
R Square	0.049		0.466		0.306	
Standard Error	0.008		0.023		0.070	
Significance F	0.942		0.201		0.047	
	Coefficients	**P-Value**	**Coefficients**	**P-Value**	**Coefficients**	**P-Value**
Intercept	0.001	0.972	0.004	0.3127	0.006	0.5882
S&P	-0.0019	0.952	0.082	0.3828	0.799***	0.0073
Shanghai SE	0.0902	0.373	0.114	0.6974	0.634	0.4702
Nikkei 225	0.0309	0.613	0.292	0.1062	0.356	0.5036
DAX	0.0213	0.872	0.220	0.5698	-1.074	0.3552
ASX	-0.0142	0.783	0.023	0.8762	-0.005	0.9918
FTSE 100	-0.0612	0.662	-0.355	0.3848	0.742	0.5429

*,**,*** correspond to the 90%,95%, and 99% confidence levels respectively.

4. Conclusion

The aim of this study is to examine whether or not Swiss franc, gold, and Bitcoin can work as a safe haven assets during the Coronavirus pandemic period. One of the major characteristics of safe haven assets is that the return on these assets should have a zero or negative beta with stock markets returns during turmoil periods. Results obtained from this study showed that Swiss franc and gold had positive returns during the Coronavirus pandemic period indicating that they can be labelled as safe haven assets but these returns were not caused by stock markets negative returns rather by other variables.

Bitcoin on the other hand showed negative returns and statistically significant positive relation with the S&P 500 returns and that would indicate that Bitcoin cannot be labeled as a safe haven asset during Covid-19 pandemic period.

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Appendix

Figure 1: Stock Markets and Safe Haven Assets Returns

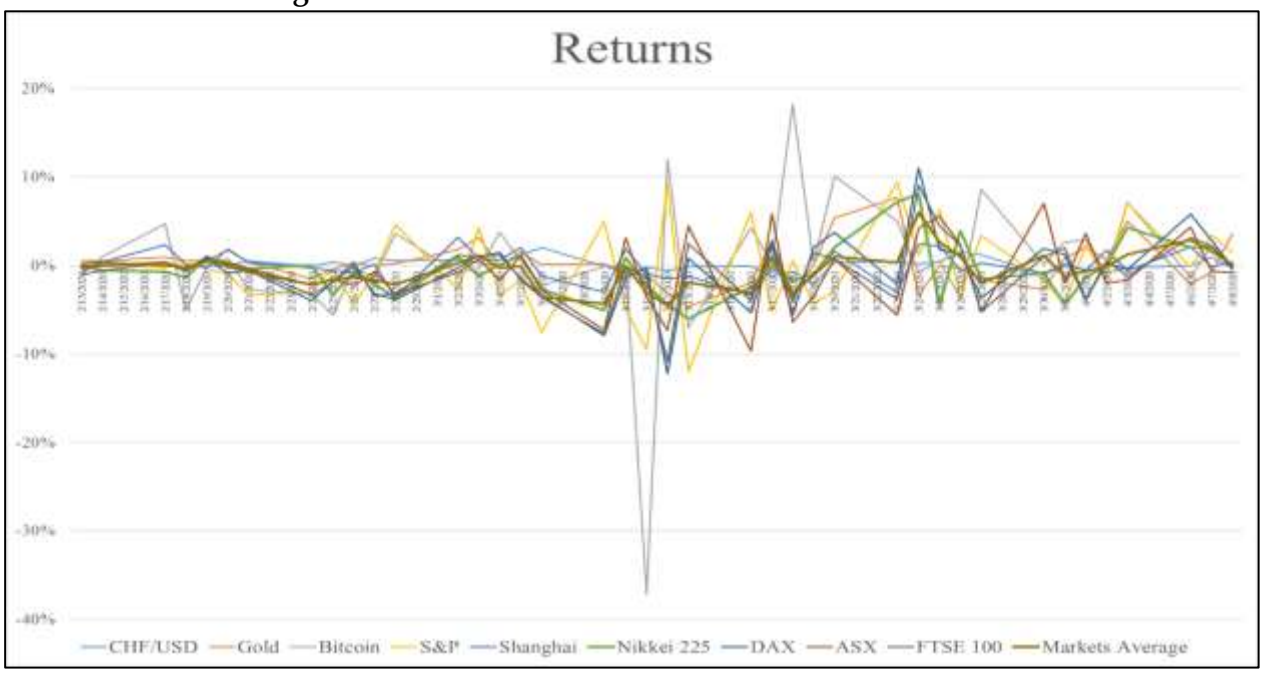

Figure 2: Stock Markets and Safe Haven Assets Performance