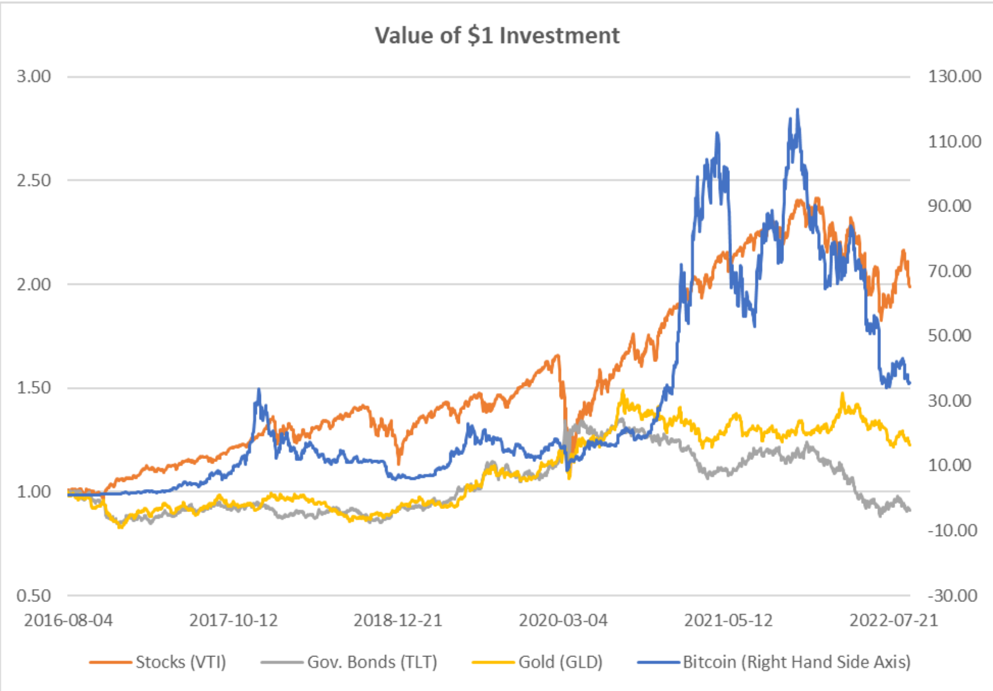
The Role of Bitcoin as a Diversifier (2022 Update)

We have said in the past that BTC can play a role in a portfolio of "traditional" assets as an effective diversifier of performance. Back in 2020 we looked at market data from Q3 2016 to Q3 2020 and put together a presentation which we shared with our investors at the time. A shortened version was also shared with the wider public on our website about a year later (see link: https://www.tyr.capital/the-role-of-bitcoin-as-a-diversifier-in-a-traditional-portfolio/) .

Our aim today is to revisit that idea and see if there is still a case for BTC as a diversifier in a traditional portfolio. We have refreshed our dataset of daily data which now covers the period from August 2016 to August 2022. We used, back then, three liquid Exchange Traded Funds (ETFs) as benchmarks of traditional assets: the first was VTI, as a benchmark of US Stocks, the second was TLT, as a benchmark of US Government Bonds, and the third one was GLD, as a benchmark of Gold. Below is a plot of the historical performance of the four instruments we will be looking at (the three liquid ETFs and Bitcoin):



Let's also look at summary statistics for the above instruments during that period of time:

	Bitcoin	Gold (GLD)	US Gov. Bonds (TLT)	US Stocks (VTI)
Annualized Return	80%	3%	-2%	12%
Annualized Risk (Std.Dev.)	76%	14%	15%	20%
Annualized Risk-Adjusted Return	1.05	0.25	-0.11	0.62

From August 2016 to August 2022 inclusive

After comparing the above with the results from our previous work from almost two years ago, we make two rather interesting observations: the first one is that the standard deviation, or "riskiness" of the above instruments is almost unchanged, even after expanding our dataset by almost 50% (adding two years to a dataset of four, originally). We also note that the annualised returns are very different this time around. All instruments show reduced performance, with US Government Bonds the most heavily affected. Bitcoin and US Stocks are the least affected.

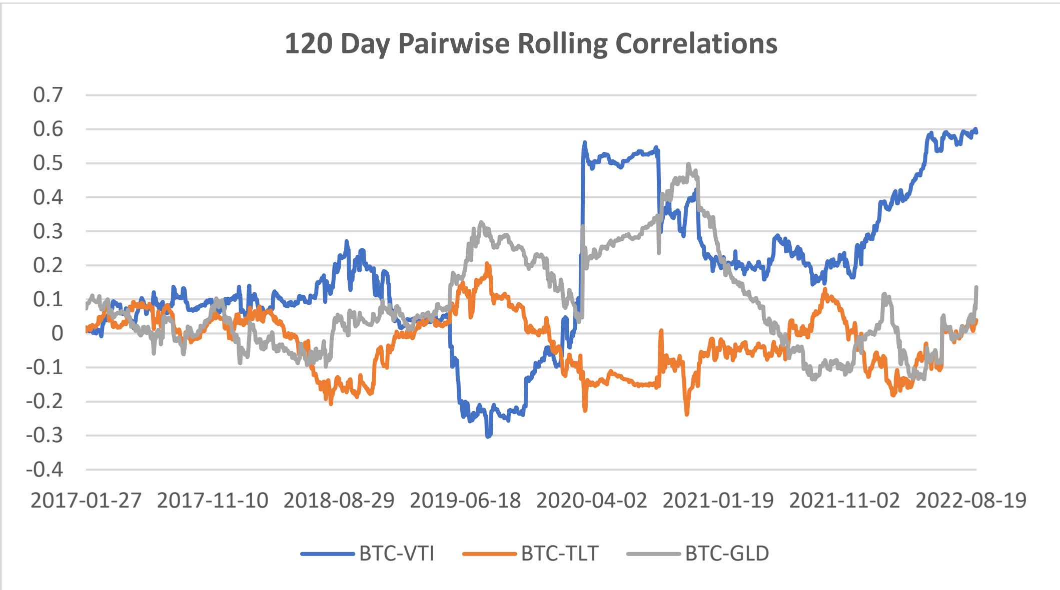
But before trying to read too much into the above let's look at the Spearman correlations over the period of interest:

Spearman Correlations

VTI			
0.18	BTC		
0	0.08	GLD	
-0.24	-0.03	0.35	TLT

From August 2016 to August 2022 inclusive.

In almost every case the above correlations are very similar to the ones we observed two years ago. The only exception is US Stocks and Bitcoin. It seems that Bitcoin is now more correlated to the US stock market, but the number is still rather small. In order to shed some light on these relationships let's now look at rolling correlations over the last six years:



In our previous work we looked at 90-day rolling correlations. But the results would have been very similar had we chosen a different timeframe. We encourage those of you who wish to reproduce our research to try this! With that in mind we have now chosen to look at 120-day correlations. What we see from the above is that the relationships between Bitcoin and US Government Bonds as well as Bitcoin and Gold have remained largely unchanged. But, as we noted from the Spearman calculations earlier, Bitcoin and US Stocks look now more correlated, especially since the pandemic. A sensible explanation of that seemingly more positive correlation could be the fact that some market participants treat Bitcoin as a "tech play" or a "risk on" asset.

However, despite that higher correlation between US Stocks and BTC it seems to us that Bitcoin still is a good addition to a traditional portfolio. Looking at the above we can think of two reasons why this idea makes sense: first, the correlation with other assets remains very low and, effectively, unchanged from our previous experience and second, the correlation between US Stocks and Bitcoin, although increased, are still low, on average.

In order to quantify the benefit of adding Bitcoin to a traditional portfolio we constructed two benchmark portfolios. One consists of 40% US Stocks and 60% US Bonds (Portfolio_1) and the other one of 40% US Stocks, 30% US Bonds and 30% Gold (Portfolio_2). To these we added a 2% allocation of BTC to come up with a 39% US Stocks, 59% US Bonds, 2% BTC (Portfolio_3) and a 39% US Stocks, 30% US Bonds and 29% GLD (Portfolio_4). The summary statistics of these portfolios are below:

	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4
Annualized Return	4.62%	6.16%	6.33%	7.84%
Annualized Risk (Std.Dev.)	9.86%	9.48%	10.00%	9.71%
Annualized Risk-Adjusted Return	0.47	0.65	0.63	0.81

From August 2016 to August 2022 inclusive

What we see is that even a small allocation in BTC has had quite a dramatic effect on risk-adjusted performance. The overall "riskiness" of the portfolios remained largely unchanged (as expressed by the standard deviation of returns) but the annualised returns increased significantly (from 4.6% to 6.3%, an increase of 37%, and from 6.1% to 7.8%, an increase of 28%).

The above benefits are in line with results we obtained from similar allocations we tried in the past (see for example pages 2 and 3 in the document found at: https://www.tyr.capital/the-role-of-crypto-in-central-bank-reserve-operations/) Once again, one can obtain similar results when using different weights and we invite interested readers to try for themselves.

So, our conclusion is that, given the above, Bitcoin remains a valuable diversifier in a traditional portfolio. We think that instead of trying to discount the future performance of Bitcoin a more humble and sensible approach would be to approach an allocation into Cryptocurrencies as a risk management problem, primarily. Once a decision on the desirable level of risk has been reached one can focus on managing his/her exposure to these known unknowns.