

Cryptocurrency and My Retirement Plan

Anchor Protocol

It's no secret that I'm into mathematics and cryptocurrency if you follow my socials. I thought I'd look at my long term finances recently and well I found some good options. The basis of my strategy revolves around using the Anchor Protocol. For simplicity, they utilize a 19.5% staking APY for stablecoins. This can go as high as 20.5% or as low as 19.4, but 19.5% is the average I've seen in the year or so I've used it. If you don't know what a stablecoin is here is a definition I typically use to explain it: a cryptocurrency tied/pegged to another asset. In my case it is pegged to USD and Anchor Protocol utilizes Terra USD (UST) as its stablecoin.

Mining Rigs

In addition to my typical income from my job I do have 3x mining rigs giving me more supplemental, passive income. My main rig consists of 6x ASUS TUF RX 6700XT¹ yielding 270 - 285 MH/s. The second rig has an EVGA RTX 3070² and AMD RX 5700XT which consistently reports 110 MH/s. My last rig (also functions in my personal PC) is a NVIDIA RTX 3090³ yielding 120 MH/s. Combined my rigs should achieve (on average) 510 MH/s.⁴ If you want to see what settings I used for my GPUs I'd suggest looking at NiceHash's "NVIDIA and AMD graphics cards OC Settings for Mining" article.⁵

Estimating Future Capital

So, here it is ... the math portion of this article. I estimate that by Jan 2022 I should have at least \$10k principal capital to use. I get paid 2x a month and expect to be able to deposit \$500 - 600 from that towards my UST balance. As it currently stands 510 MH/s equates to roughly 40.5 USDT (USD Tether) per day, but a more realistic output pre ETH 2.0 is 35 - 40 USDT/d. To be conservative let's use 30 USDT/d. Using Coinbase I can swap my USDT for UST instantly for a small 0.5% fee. Essentially I'd still have the whole amount after the conversion. Given a year is roughly 365.25 days and I have 24 major income events means that every 15.21875 days I should deposit my UST to Anchor. The approximate cost of moving my UST to Anchor is going to be around 20 UST every time and will cost far more to take out to the point that I can make it into everyday cash.

Putting the numbers together, I have \$500 - 600 and roughly 456.5 UST from mining to add at each event. To create some scenarios I'll use a couple numbers. 500, 550, 600, 700, 800, 900, and 1000 UST deposited per event are the "numbers." After 10 years at each yields: 437.4k, 474.1k, 510.9k, 584.4k, 657.9k, 731.4k, and 805k UST.⁶ Each of these scenarios can be strongly correlated ($r^2 = 0.9998$) using a cubic equation just to explain how quickly these values rise over time. For me I personally think 700 UST per deposit event is the most realistic so I'll stick with that one. To show you how to model this yourself here is the general recursion formula I used in MS Excel:

$$\alpha_0 = P_i ; \alpha_{n+1} = [\alpha_n \cdot (1 + r)] + d$$

¹<https://www.amazon.com/gp/product/B08YX8D8ST>

²<https://www.amazon.com/gp/product/B08L8L9TCZ>

³<https://www.amazon.com/dp/B08HR6ZBYJ>

⁴Note that this estimated hashrate is based on the Ethash Algorithm.

⁵<https://www.nicehash.com/blog/post/nvidia-and-amd-graphics-card-oc-settings-for-mining>

⁶All values rounded to nearest 0.1k.

In my case $\alpha_0 = 10000$, $r = \frac{0.195}{24} = 0.008125$, and $d = 700$. This particular set of parameters can be modeled by the cubic $y \approx 0.0362x^3 - 3.8536x^2 + 1236.6x + 10000$.⁷ Using this equation I should have 1M UST by deposit 299 (4550 days from start), however running the actual formula in MS Excel reveals it should be by deposit 300 (4563 days from start). So, my formula is pretty damn accurate even with the small amount of decimals in each constant. My goal is to be a millionaire by the time I'm 40 years old if you can't tell.

Moving it to Anchor

First, I'll be depositing some of my typical income into Coinbase⁸ where I'll use it to buy UST. Second, my mining income will come in as USDT which I'll convert to UST for a 0.5% fee. Third, I'll send the total UST to my MetaMask⁹ account. Fourth, using Terra Bridge¹⁰ I'll move my UST over to the Terra Network from the Ethereum Network. Fifth, I'll finally deposit my UST onto Anchor¹¹. In all the fees should be 10 to 80 UST. It mainly depends on the ETH gas fees as the Coinbase and Terra fees are very low comparatively. If you want to read more on Anchor here is their white paper¹² and official technical documents index¹³. For a final note, once you reach a sufficient income (you no longer add UST to Anchor) just know it'll take approximately 3.89 years to double your UST at 19.5% APY.

⁷ y in this equation is the total amount of UST I have and x is the deposit event number. $x = 240$ would be 10 years from the start as an example.

⁸<https://www.coinbase.com>

⁹<https://chrome.google.com/webstore/detail/metamask/nkbihfbeogaeaoehlefnkodbefgpgknn>

¹⁰<https://bridge.terra.money>

¹¹<https://app.anchorprotocol.com>

¹²<https://anchorprotocol.com/docs/anchor-v1.1.pdf>

¹³<https://docs.anchorprotocol.com/protocol/overview>