

Living life purely with crypto

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# Introduction

## What is cryptocurrency?

A cryptocurrency, crypto-currency, or crypto is a digital currency designed to work as a medium of exchange through a computer network that is not reliant on any central authority, such as a government or bank, to uphold or maintain it.

Individual coin ownership records are stored in a digital ledger, which is a computerized database using strong cryptography to secure transaction records, to control the creation of additional coins, and to verify the transfer of coin ownership. Despite their name, cryptocurrencies are not considered to be currencies in the traditional sense and while varying treatments have been applied to them, including classification as commodities, securities, as well as currencies, cryptocurrencies are generally viewed as a distinct asset class in practice. Some crypto schemes use validators to maintain the cryptocurrency. In a proof-of-stake model, owners put up their tokens as collateral. In return, they get authority over the token in proportion to the amount they stake. Generally, these token stakers get additional ownership in the token over time via network fees, newly minted tokens or other such reward mechanisms. Cryptocurrency does not exist in physical form like paper money and is typically not issued by a central authority. Cryptocurrencies typically use decentralized control as opposed to a central bank digital currency (CBDC). When a cryptocurrency is minted or created prior to issuance or issued by a single issuer, it is generally considered centralized. When implemented with decentralized control, each cryptocurrency works through distributed ledger technology, typically a blockchain, that serves as a public financial transaction database. Traditional asset classes like currencies, commodities, and stocks, as well as macroeconomic factors, have modest exposures to cryptocurrency returns. The first decentralized cryptocurrency was Bitcoin, which first released as open-source software in 2009. As of March 2022 there were more than 9,000 other cryptocurrencies in the marketplace, of which more than 70 had a market capitalization exceeding 1 billion.



Figure 1: A logo for Bitcoin, the first decentralized cryptocurrency

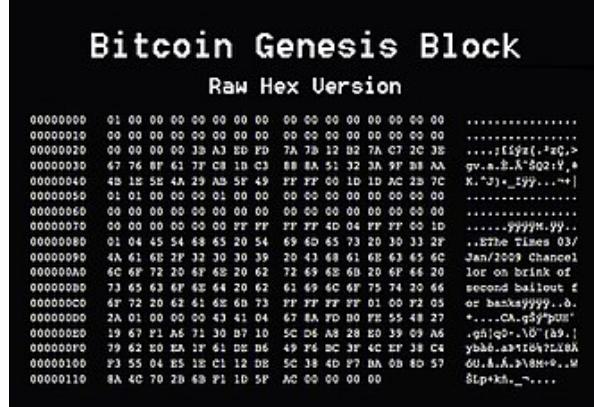


Figure 2: The genesis block of Bitcoin's blockchain, with a note containing The Times newspaper headline. This note has been interpreted as a comment on the instability caused by fractional-reserve banking.

## Purposes of this paper

Cryptocurrencies are a new asset class that is not yet widely used in the market. The purpose of this paper is to explore the potential uses of cryptocurrencies in the markets. How we can generate crypto assets and potentially use this currency in the market and in our life? Note this paper is written in a South African context, some of the ideas mentioned in the paper are not applicable to the rest of the world. Different countries have different laws and regulations on the use of cryptocurrencies. I have tested all methodologies in this paper and implemented code to automate my stock market investments. Source Code will not be provided for auto trading bots but resources and manuals will be provided for you to use them, To implement automation of trading.

## Paper Objectives

1. Introduce the concept of a crypto wallet.
  2. Introduce the concept of generating crypto assets by mining (Passive Income).
  3. Convert your crypto assets to fiat currency.
  4. Taxation laws for cryptocurrency in South Africa.
  5. Using cryptocurrency in selected stores without fiat currency.
  6. Converting crypto to fiat then using a debit order for stock market investments.

# Chapter 1

## Crypto Wallets

### 1.0.1 Introduction to cryptocurrency wallets

A cryptocurrency wallet is a software application that allows you to store and manage your cryptocurrency assets.

Consider the following example:

Your bank account has  $x$  amount of money. The bank manages the money in your bank account. You can withdraw money from the bank account. Deposit money. Borrow money (Loan,Credit Card). Transfer money to other beneficiaries. Earn interest on your money.

Now consider the crypto wallet is your bank account/crypto asset. Some crypto wallet provides you with the ability to store and manage your cryptocurrency assets. Some wallets have different features. But all wallets satisfy you transferring/withdrawing crypto and depositing crypto.

#### 1.0.1.1 What is a software (hot) crypto wallet?

Cryptocurrency software wallets enable crypto holders to securely store their digital currencies and tokens in one place. Cryptocurrency wallets often also allow users to buy, swap, lend and earn cryptocurrency, similar to how your bank account lets you access savings and loan products.

Now these wallets are software wallets. Meaning it is a computer program that you download and run on your computer. Your assets will be stored in some form of digital cloud exchange. Some software wallets store money on the device itself.

There have been cases where some digital exchange providers have been hacked and some assets/wallets have been stolen. There are some scam digital exchange providers out there. Make sure when you choose a good software wallet you do through research on picking a reputable exchange with the best security. Different brands of software wallets have different features and security also the user complexity of the software wallet is different throughout all.

Below is a list of software wallets I have tried that are available in the market.

#### Example of Software Wallets

1. Exodus
2. MetaMask
3. Crypto.com
4. Nicehash Exchange
5. Luno Wallet

#### Hot wallet advantages:

1. Great for regular payments and micropayments;
2. Convenient and easy to use;
3. Do not require physical media.

**Hot wallet disadvantages:**

1. Can be hacked more easily;
2. Requires an Internet connection to work;
3. If you uninstall the program, you may lose access to your cryptocurrency wallet forever.

**1.0.1.2 What is a hardware (cold) crypto wallet?**

A hardware wallet is a cryptocurrency wallet which stores the user's private keys (critical piece of information used to authorise outgoing transactions on the blockchain network) in a secure hardware device. The main principle behind hardware wallets is to provide full isolation between the private keys and your easy-to-hack computer or smartphone. All the assets are stored in a secure hardware device and have no access to your computer or smartphone.

**Example of hardware wallets:**

1. Ledger Nano S
2. Trezor
3. KeepKey

**Cold wallet advantages:**

1. Higher security; with little to no software requirements and no connection to the Internet.
2. No need to install any software.

**Cold wallet disadvantages:**

1. Poorly adapted for regular payments.
2. Requires a physical device to work.
3. Can be physically lost since it's stored on a piece of hardware;
4. Requires manual backup.
5. Requires a lot of time to setup and setup is not easy.

**1.0.2 What wallet should you be using?**

Consider the hardware wallets and software wallets.

Hardware wallets should be used to store your main assets such as lump sum of crypto assets.

Software wallets should be used for day to day transactions, automation projects and storing just the right amount in case of hacks on the exchange. You can never know what will happen in the world of hacking.

With some time in the future i will experiment making my own hardware wallet.

## Chapter 2

# Mining cryptocurrency (Generating passive income)

We have come to the best part of the paper. Making money. Many people you see in reality taking poses by their huge mansions and supercars. Majority of it is all fake. There have been many people that actually made money investing in bitcoin when it was not even known to the public. Some guys back in the day mined  $x$  amount of bitcoin to buy a slice of pizza. In today's time that  $x$  amount of bitcoins are worth millions of dollars. There is no theoretical way of getting a huge Return on investment (ROI) greater than 7% in few hours (getting a ROI of 7% could take months/days/years to gain in a stock market) but in crypto the ROI ranges  $\% \in [0, 100]$  in days ,weeks or months. A ROI of 7% is a good enough ROI to make a good profit in trading. When you see bitcoin mining pools offering a ROI of 200% or unrealistic gains you can be sure that is a scam. Let us say if we buy some bitcoin? As bitcoin is highly volatile maybe we can make money? I will prove to you below you wont make much money trading crypto currency. Mining is the best way to get into crypto.

In this chapter you will learn how to make money by mining bitcoin.

1. Basic calculations of crypto
2. What is crypto mining?
3. What equipment is required to get started?
4. Converting our crypto assets to fiat money.

### 2.0.1 Basic calculations of crypto

Consider the market chart for Bitcoin to South African rand:

You can get this chart just typing the following search query in Google:

$C_1 to C_2$

where  $C$  is a currency unit.

Example:

BTC to ZAR

to produce the market graph in Google.

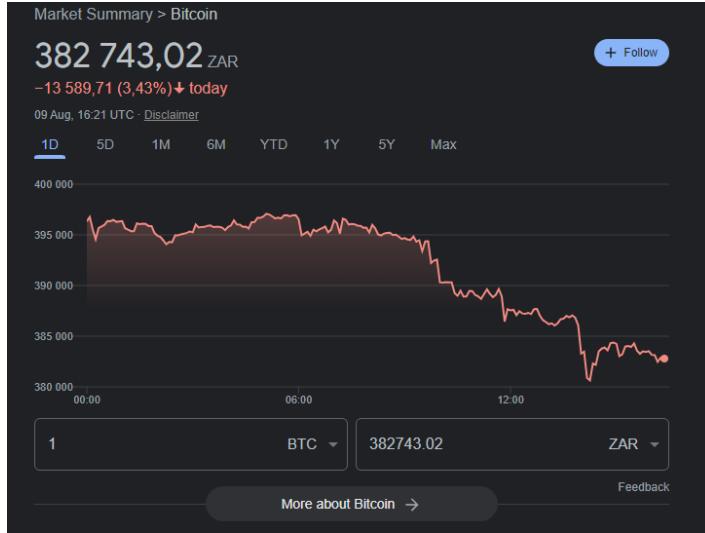


Figure 2.1: The market chart for BTC to ZAR

Given:  $x$  is the amount of bitcoin you have.

R382742.02 is the current price of 1BTC to ZAR.

Let us assume you have  $x = 0.0026$  bitcoins.

Our value in ZAR will be  $= 0.0026 * 382742.02 = \text{R}1000$

Let us now denote 1BTC is R500000 for a given day as it is volatile.

Our ZAR Wallet balance is determined by  $0.0026 * 500000 = \text{R}1300$

Our ROI is given by the formula:

$$ROI = \frac{\text{InvestmentGains} - \text{InvestmentCost}}{\text{InvestmentCost}} \quad (2.1)$$

$$ROI = \frac{1300 - 1000}{1000} = 30\% \text{ gain}$$

While your ROI is high you can also lose your money like that.

As you can see we have made a 30% gain in our ZAR wallet as crypto is volatile we have our good days and bad days but you the owner of the wallet can sell anytime as you please.

### 2.0.2 What is crypto mining?

Cryptocurrency mining, or cryptomining, is a process in which transactions for various forms of cryptocurrency are verified and added to the blockchain digital ledger. Also known as cryptocoin mining, altcoin mining, or Bitcoin mining (for the most popular form of cryptocurrency, Bitcoin), cryptocurrency mining has increased both as a topic of interest and an activity as cryptocurrency usage itself has grown exponentially in the last decade.

Bitcoin mining is the process by which new bitcoins are entered into circulation. It is also the way the network confirms new transactions and is a critical component of the blockchain ledger's maintenance and development. "Mining" is performed using sophisticated hardware that solves an extremely complex computational math problem. The first computer to find the solution to the problem receives the next block of bitcoins and the process begins again.

Cryptocurrency mining is painstaking, costly, and only sporadically rewarding. Nonetheless, mining has a magnetic appeal for many investors who are interested in cryptocurrency because of the fact that miners receive rewards for their work with crypto tokens. This may be because entrepreneurial

types see mining as pennies from heaven, like California gold prospectors in 1849. And if you are technologically inclined, why not do it?

The bitcoin reward that miners receive is an incentive that motivates people to assist in the primary purpose of mining: to legitimize and monitor Bitcoin transactions, ensuring their validity. Because many users all over the world share these responsibilities, Bitcoin is a "decentralized" cryptocurrency, or one that does not rely on any central authority like a central bank or government to oversee its regulation.

In this paper I will be introducing you to NiceHash that connects sellers or miners of hashing power with buyers of hashing power. Buyers select the crypto-currency that they want to mine, a pool on which they want to mine, set the price that they are willing to pay for it, and place the order. This order is then forwarded to everyone who is connected to NiceHash with NiceHash Miner or other mining hardware (like ASICs). The computing power you provide will fulfil the buyer's order and you get paid for this service. You are basically selling processing power to companies.

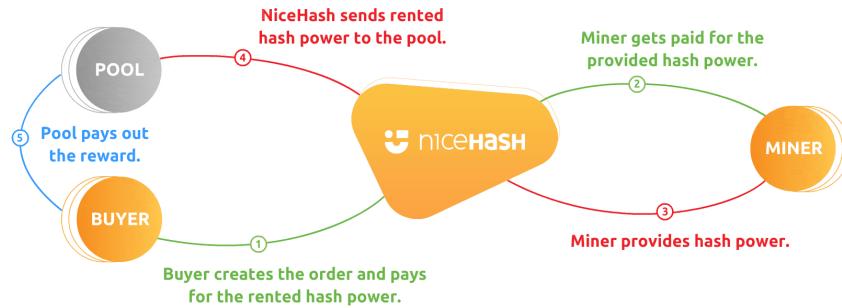


Figure 2.2: NiceHash Business Model

### 2.0.3 Mining with NiceHash

#### 2.0.3.1 Getting started with your computer and NiceHash

Consider a typical computer what does it consist of? I have indicated with a \* the bare minimum to get a running computer.

1. **CPU\*** (A central processing unit, also called a central processor, main processor or just processor, is the electronic circuitry that executes instructions comprising a computer program. The CPU performs basic arithmetic, logic, controlling, and input/output operations specified by the instructions in the program.)
2. **RAM\*** (Random Access Memory, also called Random Access Memory (RAM), is a computer memory device that stores data in main memory. RAM is volatile, meaning that it is not preserved when a computer is shut down or rebooted. RAM is used to store data that is needed by the CPU to execute instructions. RAM is also used to store data that is needed by the CPU to execute instructions.)
3. **Motherboard\*** (The motherboard is the main part of a computer that connects the CPU and other components to the computer's main power supply. The motherboard contains the main power supply, the CPU, and other components that make up a computer.)
4. **Hard Drive\*** (A hard drive is the hardware component that stores all of your digital content. Your documents, pictures, music, videos, programs, application preferences, and operating system represent digital content stored on a hard drive. Hard drives can be external or internal.)
5. **Graphics Card** (A graphics card is a computer peripheral that is used to display graphical images on a computer screen.)

6. **Operating System\*** (An operating system is a computer program that manages the overall operation of a computer.)

7. **Power Supply\*** (A power supply is a device that supplies power to a computer.)

For mining you need a GPU (Graphical Processing Unit). A GPU is a computer peripheral that is used to perform graphics processing but in this case for mining it is used to solve algorithm problems for a reward.

Theoretically, the more processing power you have, the more you can process therefore the more money/reward/crypto you make.

So you can get started if you have a computer with a CPU, RAM, Motherboard, Hard Drive, Graphics Card, Operating System and Power Supply. Most importantly you need a GPU.

Now in a typical computer setup you can only have one/two GPU's at a time. That is your constraint.



Figure 2.3: Gaming PC Rig

Different GPUs yields different rewards. For example a GeForce RTX 3080 has a higher reward than a GeForce RTX 3060ti.

If you want to play around and experiment with your own PC mining. Install NiceHash and run the miner tool. NiceHash provides you with a GUI that you can use to set up your mining and also provides you with a crypto wallet.

You also need a stable internet connection.

When you have done experimenting with your system. You can move on building a rig to support 8 GPUs+ at once.

#### 2.0.3.2 Building a mining rig and working out profitability

For a mining rig you dont need a strong CPU at least 4GB/8GB of RAM. A small ssd where  $g \in [100, 240]$  where  $g$  is a gigabyte.

The most important components for the rig is your GPU, Motherboard, Power Supply also a chassis to hold everything in place.

First of all before picking your parts you should know what you are getting. We start off by picking a motherboard. Our question how many cards do you want to hold in this rig? My rig can take 8 cards. My mining motherboard has 8 PCIE X16 slots. Each slot can hold a card.



Figure 2.4: PCIE X16 slots

You could use PCIE 1x risers to hold the cards in a normal computer but that would be messy and harder to manage power.



Figure 2.5: PCIE 1x risers



Figure 2.6: RTX 3080ti

To connect the cards to the motherboard you need a PCI-E slot. The PCI-E slot is a computer peripheral that is used to connect a card to a motherboard. You just connect the card into that PCIE slot.

Now a mining motherboard looks like this.

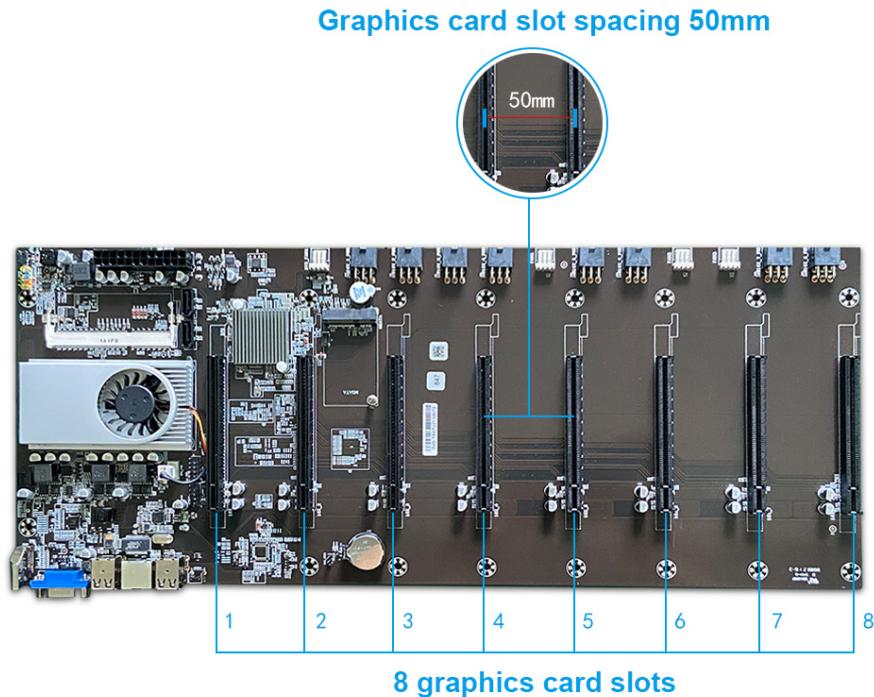


Figure 2.7: Mining Motherboard

As you can see the motherboard has 8 PCIE X16 slots. Meaning it can hold 8 cards. A normal computer can only hold one/two cards due to the size of the cards.

Let us assume the motherboard comes with a SSD, RAM , CPU built on it.

Once you have picked your motherboard you can pick your GPUs.

You could run a mixed configuration of GPUs and check out your predicted profits for each configuration.

Since we are selling our processing power to NiceHash Marketplace we will use their tool to decide our profits.

You can use this link to build your configuration of GPUs.

<https://www.nicehash.com/profitability-calculator>

It will tell you your profit  $R$  which is volatile each given  $t$  time.  $ElectricityCost$  is the cost of electricity which is fixed.

Let us say we are building a rig for 8x RTX 3060ti cards.

As our  $ElectricityCost$  is fixed we can calculate the profit for each configuration for the current BTC price. But profit changes all the time as BTC is volatile.

Note: Our rig produces a fixed hashpower for our rig. When we are mining we are mining fixed coins. Beauty of this is that we can sell our coins anytime we want for a even bigger profit.

I am going to work your through this example of a 3060ti rig which i have worked out is the most effective rig to produce.

The screenshot shows the NiceHash mining calculator. At the top, there are fields for 'Currency' (za ZAR - R), 'El. costs' (2.4 ZAR/kWh), and a 'Number of devices' selector set to 8. Below these are fields for 'Device' (NVIDIA RTX 3060 Ti) and a '+ Add Another Device' button. A large orange 'CALCULATE' button is centered at the bottom, with a 'Clear All' link below it.

Figure 2.8: 8x 3060ti Mining Rig

NVIDIA RTX 3060 Ti  
**Your approx. income** with NiceHash  
**153.97 ZAR** /Day

**START MINING WITH NICEHASH**

\*Please note that values are only estimates based on past performance - real values can be lower or higher. Exchange rate of 1 BTC = 382053.33 ZAR was used.

	1 DAY	1 WEEK	1 MONTH
Income	0.00054023 BTC 206.40 ZAR	0.00369570 BTC 1411.96 ZAR	0.01491906 BTC 5699.88 ZAR
El. costs	0.00013723 BTC 52.43 ZAR	0.00096785 BTC 369.77 ZAR	0.00415742 BTC 1588.35 ZAR
Profit	<b>0.00040299 BTC</b> 153.97 ZAR	<b>0.00272785 BTC</b> 1042.19 ZAR	<b>0.01076164 BTC</b> 4111.52 ZAR

Figure 2.9: Profitability for rig per month

We normally use the DaggerHashimoto algorithm to mine, As it yields the best reward as per this time of writing the paper.

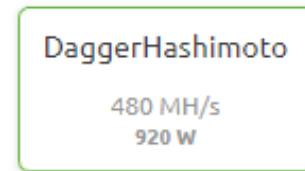


Figure 2.10: DaggerHashimoto

How do we determine what PSU we should use? As you see NiceHash predicts the power usage is 920W for the rig.

If you go online you have to check the power usage the GPUs you are using.

In this case we used all 3060ti's. As the peak power the 3060ti uses is 200W. The PSU we should go for is worked out like this.  $(8 \times 200\text{W} = 1600\text{W})$  for GPU's and we could leave 400W for the motherboard and other components.

We would take a PSU that is 2000W.

Our final mining rig once done completed should look like this below. Note Nicehash had a 10 Card Rig setup.



Figure 2.11: NiceHash Mining Rig - <https://www.nicehash.com/blog/post/the-most-profitable-mining-rig-parts-list>

#### 2.0.4 Is it cheaper to buy a rig or build one?

Let us use our rig of 8x Nvidia RTX 3060ti's as described earlier.

Building a 8x Mining Rig	
Component	Price
Motherboard,CPU,RAM Combo	R5500.00
Power Supply	R3000.00
Chassis	R1500.00
8x Nvidia RTX 3060ti @ R8800.00 each from Wootware	R70400.00
Total Cost of Rig	R80400.00

Now lets see what we would pay to buy that rig.

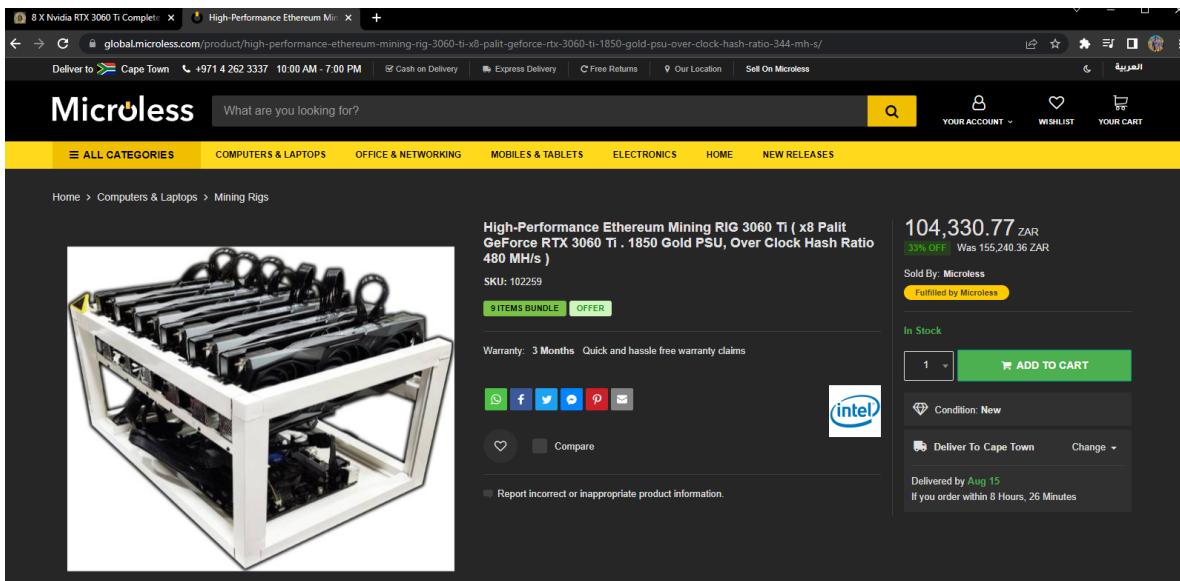


Figure 2.12: Rig Website A Cost

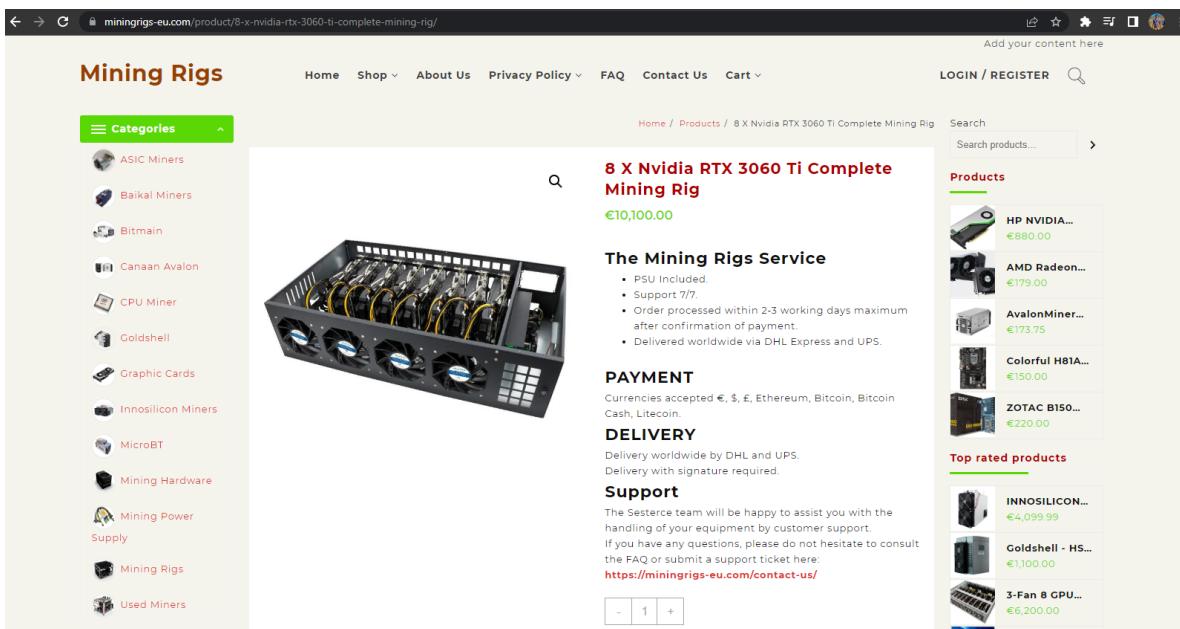


Figure 2.13: Rig Website B Cost

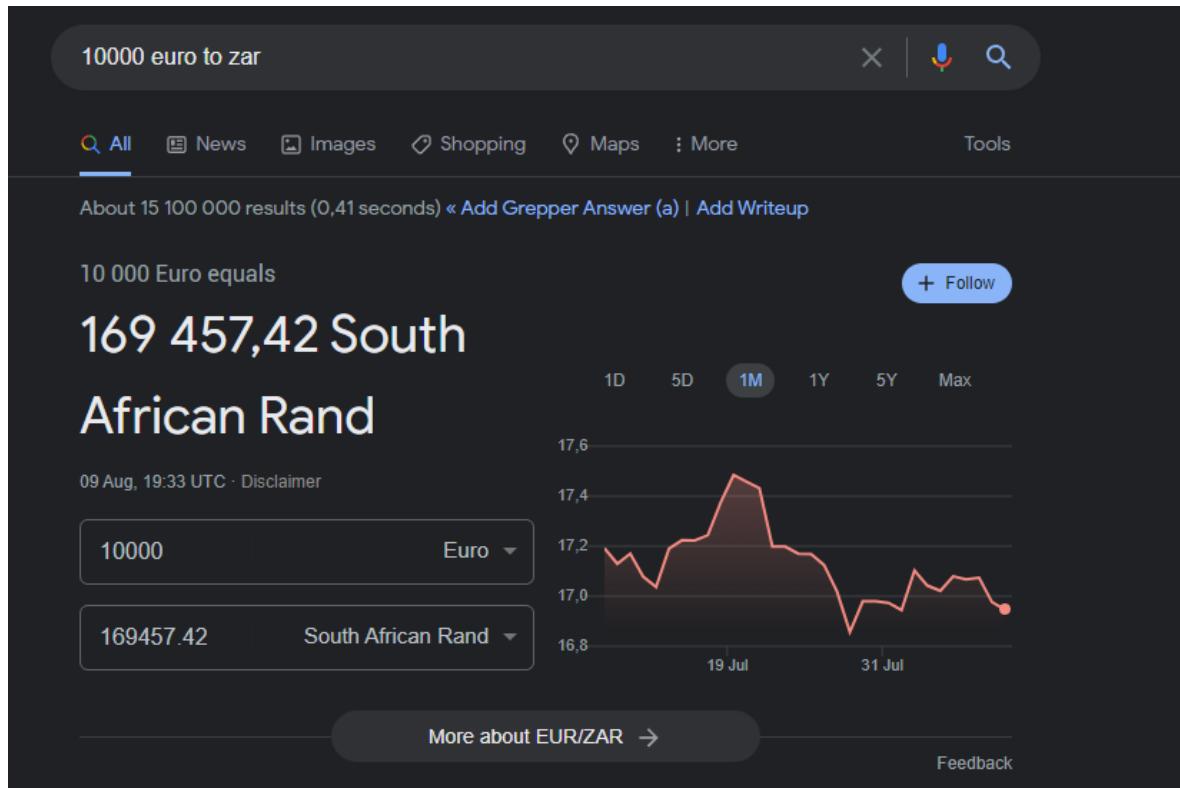


Figure 2.14: 10000 Euro to ZAR

Its shocking to see Website B charge a markup of 110% extra compared to our built rig cost. So here we are we have concluded that we should build our rig as it is way cheaper.

## 2.0.5 Profit and Breakeven Analysis

Let us go back to our rig with 8x 3060ti's and see how we can break-even and make our profit.

We got 2 options for our rig.

Option A: We do nothing with the rig we just earn passive income and break even also.

Option B: We reinvest our money into new components to increase profit per month.

Let us talk about Option A first. I will assume we sell the BTC at R500000

Month	BTC in Account	Rand Value
1	0.01076164	5380.82
2	0.02152328	10761.64
3	0.03228492	16142.46
4	0.04304656	21523.28
5	0.0538082	26904.1
6	0.06456984	32284.92
7	0.07533148	37665.74
8	0.08609312	43046.56
9	0.09685476	48427.38
10	0.1076164	53808.2
11	0.11837804	59189.02
12	0.12913968	64569.84
13	0.13990132	69950.66
14	0.15066296	75331.48
15	0.1614246	80712.3
16	0.17218624	86093.12

As you can see it takes us 16 months to break even with our rig.

Option B: I took (BTC = R383376.91)

Month	Miner Income (R)	Electricity Costs (R) @ R2.4 per kWh	Current Profit per month (R)	Miner Produced (R)	Wallet Account	Purchases (R)	Description of Purchase
1	5722.93	1588.59	4134.34	4134.34	4134.34	0	-
2	5722.93	1588.59	4134.34	8268.68	8268.68	0	-
3	5722.93	1588.59	4134.34	12403.02	2403.02	10000	Miner Rig
4	5722.93	1588.59	4134.34	16537.36	6537.36	0	-
5	5722.93	1588.59	4134.34	20671.7	1871.7	8800	RTX 3060ti
6	6440.62	1787.79	4652.83	25324.53	6524.53	0	-
7	6440.62	1787.79	4652.83	29977.36	2377.36	8800	RTX 3060ti
8	6440.62	1787.79	4652.83	34630.19	7030.19	0	-
9	7153.67	1985.74	5167.93	39798.12	3398.12	8800	RTX 3060ti
10	7871.87	2185.07	5686.8	45484.92	284.92	8800	RTX 3060ti
11	8587.48	2383.72	6203.76	51688.68	6488.68	0	-
12	8587.48	2383.72	6799.69	58488.37	4488.37	8800	RTX 3060ti

With this analysis we can see that we will grow our monthly profits by expanding and later on in life we need to own a crypto warehouse or even solar power this operation to cut electricity costs.

## 2.0.6 Constraints in South Africa for crypto mining

If you look in this country, Eskom always have load shedding. That will disrupt few hours of this operation. Some money will be lost. Later on it is necessary to get out of the grid. Get into solar power. That will offset costs and gain higher profits per month for your operation. Then as you gain more money per month it is taxable by the tax man.

## 2.0.7 What can i do if cryptocurrency fails?

Well you can sell/list your GPUs to gamers. I believe cryptocurrency is here to stay i dont think it will fail.

## 2.0.8 Mining Conclusion

In conclusion, for starting a mining business you can start small and expand operations slowly by time. You do not need to buy a rig immediately start small and grow over *t*-time. You can even start with one card at a time. The growth is up to your start up capital,investment and equipment.

# Chapter 3

## Taxation on cryptocurrencies

### 3.0.1 Does SARS regard cryptocurrency as a real currency?

No - SARS does not regard cryptocurrency as a currency, but rather as an intangible asset. In fact, the annual tax return (ITR12) refers to 'Crypto Assets' and not Cryptocurrency. As there are currently no laws or regulations governing the use of cryptocurrency in South Africa, crypto traders or users have limited legal protection according to the general common law. In other words, if you choose to use or trade cryptocurrency you do so at your own risk.

### 3.0.2 How does SARS treat crypto?

SARS has made it clear that crypto transactions will be taxed according to the existing South African tax laws. This means that crypto profits will either be taxed based on capital gains tax principals, or as revenue transactions (i.e as normal income, like your salary or freelance income). This will depend on the situation of the taxpayer and their intention for purchasing the crypto in the first place.

### 3.0.3 Are crypto traders subject to tax based on the income they earn?

Currently, profits earned on crypto trading is subject to normal tax. If the total taxable profits earned is higher than the tax threshold for that particular financial year, then the taxpayer will be liable to register as a provisional tax payer.

### 3.0.4 If I receive cryptocurrency as payment for goods or services, will I be taxed on it?

Yes, this type of income will be subject to normal tax.

### 3.0.5 If I am paid in crypto for contract work performed, will I be taxed on it when I receive it? Or only when I sell it one day?

Yes, the crypto you receive will be subject to normal tax. If the total taxable income earned is higher than the tax threshold for that particular financial year, then you will need to register as a provisional taxpayer. You will be able to deduct business related expenses against the crypto income, in exactly the same way that you can deduct business expenses against other independent contractor / freelance work. When you later sell the crypto asset for fiat (i.e non-digital, 'normal' currency), you will have to pay tax on any increase in value from the date you received the crypto to the date of sale. The tax will be calculated on revenue or capital gains tax principals, dependent on your circumstances.

### 3.0.6 If my employer pays my salary in crypto, how will I be taxed?

This type of income will be treated just like other remuneration and will be subject to normal tax at the earlier of receipt or accrual. It is important to point out that when you convert the crypto to fiat currency at a later date, this will trigger another taxable event and you will need to declare the

gain/loss in your tax return. This will be the change in value from the date you originally received it as salary, to what you eventually sell it for.

### **3.0.7 Will I be subject to penalties if I don't treat crypto transactions in a way that complies with South African tax laws?**

Yes, you may be subject to penalties for all act of tax non-compliance, crypto included!

### **3.0.8 What would the acceptable proof of purchase and sale price be for cryptocurrencies?**

Conventional receipts, invoices and/or trading statements from the relevant exchange would be considered acceptable.

### **3.0.9 When crypto is sold, what method is used to work out the cost? LIFO, FIFO or weighted average cost?**

SARS has made it clear that cryptocurrency is not considered a share, which means the average cost cannot be used. The correct approach is to use the first in first out (FIFO) method.

Let's look at a quick example:

2019: John buys 1 BTC for R100

2020: John buys 1 BTC for R200

2021: John sells 1 BTC for R400

Based on FIFO, the cost of the BTC sold will be R100 (i.e 1 BTC purchased in 2019).

The gain will therefore be R300 (R400-R100). This gain will either be treated as revenue and added to the taxpayer's taxable income, or it will be taxed as a capital gain. This will depend on the circumstances of the transaction and the taxpayer's intention when they bought the BTC. In their latest guide however, SARS did mention that due to their extreme volatility, crypto assets are most likely to be purchased for speculative purposes and therefore crypto transactions would be likely to be of a revenue (i.e trading) nature.

If I trade one crypto asset for another crypto asset, do I need to pay tax?

Yes, there will be a taxable event at the date of the asset swap.

Let's look at an example:

2019: Nina buys 1 BTC for R100

2020: Nina buys 1 BTC for R200

2021: Nina sells 1 BTC for 2 ETH. The market value on this date is 1 BTC = R350

The cost of the BTC sold will be R100. There will therefore be a taxable gain of R250 (R350-R100) which will be taxed according to revenue or capital gains principals. It's important to note that it's the sale of the BTC which results in the taxable event, and not the purchase of the ETH. The tax on the ETH transaction will happen only later when it is converted to fiat currency.

### **3.0.10 What if I receive crypto assets for mining or staking - how does the tax work?**

The receipt of these assets must be treated as revenue and will be taxed accordingly. This means if you mine and receive 1 BTC on 31 January 2022 which has a market value of R200 at this date, you must add R200 to your taxable income in your 2022 tax return. If you later sell the 1 BTC for R400, this will trigger another taxable event and you will need to report the R200 gain (R400-R200) in your tax return as either a revenue or capital gain transaction depending on your intention and circumstances of the disposal.

### **3.0.11 How are air drops and rewards treated for tax?**

Air drops are a marketing strategy to raise awareness about a new crypto asset. It involves sending crypto assets for free to numerous wallet addresses. There is no clear guidance as to how this type of transaction should be treated for tax, but it makes sense to treat the same way as crypto assets received for mining (see previous FAQ).

### **3.0.12 I am earning a yield (i.e interest) on the storage of my crypto assets. Is this taxable?**

Yes, this is just like earning interest on a bank account and therefore would be taxable. It should be treated the same way as Bitcoin earned from mining. Because exchanges don't issue IT3bs for this 'interest', the interest exemption (i.e R23 800 for under 65 year olds) would not apply.

### **3.0.13 How will SARS track cryptocurrencies like Bitcoin?**

SARS has many powers as stipulated in the Income Tax Act. These enforcement and auditing processes are highly confidential and therefore not shared with the public. However, in June 2021, the three largest South African exchanges (AltCoinTrader, Luno and VALR) confirmed that they were approached by SARS to provide information on a selection of customers, which they were obliged by law to do.

### **3.0.14 Will expenses incurred in generating Bitcoin income be tax-deductible?**

If you treat your crypto activity as revenue transactions (i.e trading) and declare in the local business section of your tax return, then yes, all business expenses incurred in generating the crypto income would be tax-deductible.

### **3.0.15 How should I declare cryptocurrency trading on my IRP6 (i.e Provisional Tax Return)?**

Profits from cryptocurrency trading (such as Bitcoin) should be declared in the total taxable income for the financial year.

### **3.0.16 How and where on the ITR12 should I declare my cryptocurrency income?**

Your cryptocurrency profit will either be taxed as a capital gain or it will be subject to normal tax, depending on the specific details of the case. If it is taxed as a capital gain, you would need to declare in the capital gains section of the ITR12. If it is taxed as normal income, you would declare the income and related expenses in the local business section of the ITR12.

# Chapter 4

## Living life with crypto

Now that we earned our crypto assets, let us see how we can use it in real life. I will provide some use cases, in reality there is so much you can do with crypto even there is online casinos.

### 4.1 Converting crypto to fiat currency

In South Africa, the main currency is the South African Rand (R). We have a main crypto exchange called Luno.

When i drove to Cape Town CBD I saw the Luno building.



Figure 4.1: Luno cryptocurrency exchange skyscraper in South Africa

Assumptions: Let us say we mined our currency in NiceHash.

We move the crypto from NiceHash to Luno by doing a crypto transfer. Some network fees might be involved.

Then from Luno to our local bank account. (Note Luno captures your ID Number) I think they submit reports to SARS on its clients.

## 4.2 Using crypto in stores

Methodology: We use bitrefill to convert our crypto into a cash voucher.

Note: NiceHash dont capture our ID number to create a wallet nor does bitrefill. Interesting!

You can use the bitrefill website to purchase stuff from selected stores. Converting  $x$  BTC or other coins to a cash voucher to its provided store.

I will show you a screenshot of the bitrefill website.

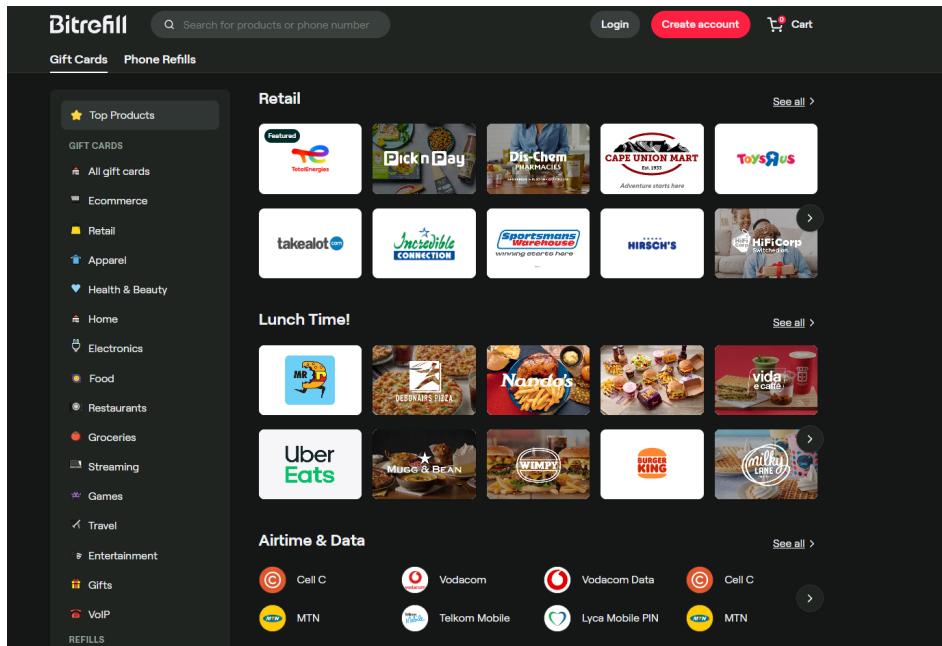


Figure 4.2: Bitrefill website

I did try it to buy airtime for my MTN phone number also i bought a item from amazon which i will attach below.

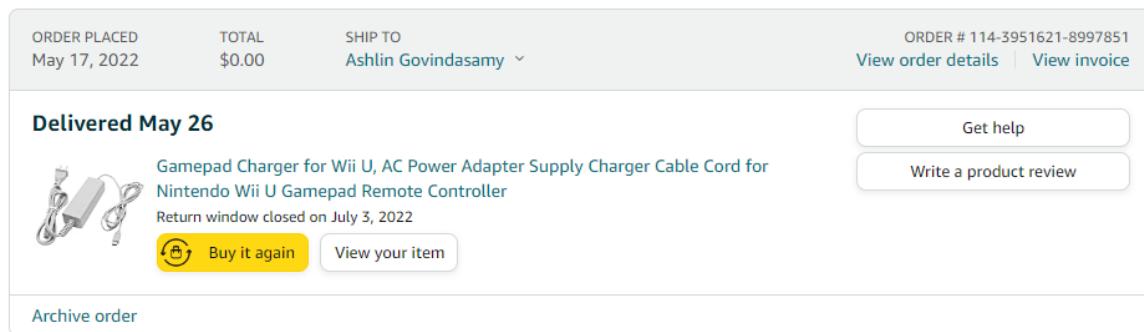


Figure 4.3: Amazon Purchase

I would try to purchase my fuel next using crypto its quite cool.

## 4.3 Crypto Visa Card

Crypto.com is a crypto exchange. They give customers who has  $x$  amount of money with them a crypto visa card. If you would like to use your crypto in stores you can use the crypto.com visa card.



Figure 4.4: Crypto.com Visa card

## 4.4 Crypto ATM's

Crypto ATM's are very cool. They allow you to convert cryptocurrencies to fiat physical cash currency conversely they allow you to convert fiat currency to cryptocurrencies.

Around South Africa there are some Crypto ATM's in cities.

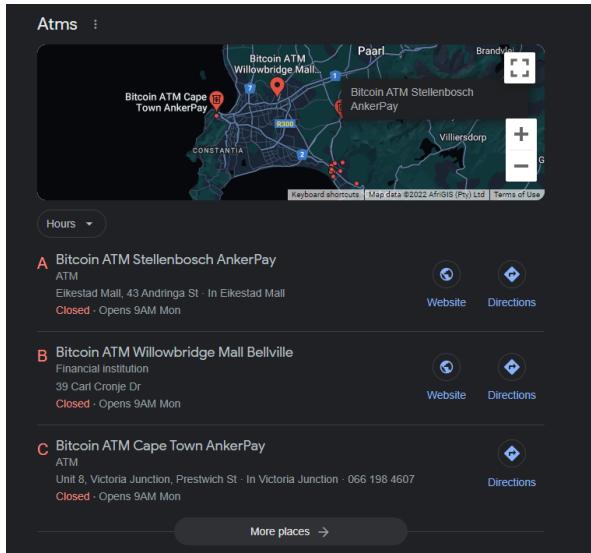


Figure 4.5: Crypto ATM's around Cape Town



Figure 4.6: Ankerpay ATM in Stellenbosch

## 4.5 Using crypto to do debit order investments

Let us assume you pay for a debit order at *ABC Investments* per month.

We could write a script to automate this. Lets say end of the month we need  $x$  amount to pay the  $x$  amount debit order investment amount.

Two places offer APIs to transfer crypto funds.

- Luno
- NiceHash

Pseudo code:

```
// NiceHash API
function transfer_crypto(amount, from, to)
    from.transfer(amount, to)
end

// Luno API
function transfer_fiat(amount, BankAccountDetails)
    BankAccountDetails.transfer(amount, BankAccountDetails)
end
```

```
function debit_order_investment(amount, from, to, BankAccountDetails)
    transfer_crypto(amount, from, to)
    transfer_fiat(amount,BankAccountDetails)
end

//our code starts here
public main()
    debit_order_investment(x-amount, from,to, BankAccount)
end
```

**NiceHash DeveloperAPI**

<https://www.nicehash.com/docs/>

**Luno DeveloperAPI**

<https://www.luno.com/en/developers/api>

# Conclusion

I think that crypto is the future of finance. We will use it to gain freedom from the financial system. It is quite exciting to see how we can use crypto to do this. I think cryptocurrency is here to stay considering we have a huge Luno wallet skyscraper here says it all. At the moment majority of people want to get rich over night with cryptocurrency. People dont understand the value of cryptocurrency. As the  $t$  progresses i will be amazed to see what the future holds for cryptocurrency. For starting the crypto farm start small and progress yourself over  $t$ . That is my advice if you have cash problems. One card is good enough for starting to earn passive income with crypto. My golden rule of crypto dont buy it mine it.