



# Stablecoin

## What are Stablecoins?

### Blockchain Introduction

Stablecoins are not a physical coin that have any characteristic of stability, rather Stablecoins are a digital cryptocurrency that have characteristics which are considered stable compared to prominent cryptocurrencies. Early 2015's brought cryptocurrencies to the sphere of major news outlets and mass public attention. Cryptocurrencies are a proponent of a network infrastructure known as a blockchain, the most well-known blockchain network is the bitcoin blockchain whose associated coin is Bitcoin. The blockchain idea was authored through a white paper in 2008 by an unknown author named Satoshi Nakamoto. A blockchain is a decentralized & distributed digital ledger that is used to record transactions that cannot be altered retroactively, without the alteration of all subsequent blocks. The alteration of all subsequent blocks is extremely difficult as it would require mutating every copy of the blockchain on every computer as well as regenerating all successors blocks and redoing the work they contain. This protects the block chain from tampering.

Bitcoin removes the use of a third party or an intermediary to verify the use of currency by a central authority. Traditionally, third parties such as central banks or other financial institutions have played an important role in verifying and solving many problems related to payments and transactions. Bitcoin's blockchain uses peer to peer networking to verify a transaction and the validity of a transaction. The biggest use case of Bitcoin blockchain is its ability to solve double spending, a process where the same digital currency is spent once over two transaction. With physical cash such as coins and notes, this simply isn't possible and therefore isn't an issue. An example of double spending would be if a bank had its own infrastructure to distribute and create digital currency, the bank could send the same digital coin to customer A and the very same digital coin to customer B; Creating two transactions for the same digital coin. When you make a transaction with digital currency, you are broadcasting the transaction to all the copies of the blockchain network (computers that run the software on which the currency is supported). These copies need to receive and confirm the transaction on their copy of the blockchain. There could be a difference in receiving time between the copies, which produces a problem: what's to stop someone copying a transaction and forwarding a coin before it's been confirmed on all copies of the blockchain network?

All transactions are publicly announced to all copies. The copies can agree on a single history of the order in which they were received. Bitcoin's solution to double-spending is that if most of the copies agree on which transaction was first to be received, later attempts to double-spend are irrelevant. The first transaction that occurs (computationally and timely) will be recorded in all ledgers and each ledger will be kept up to date. The dispute is solved by a method known as proof of work or proof of concept. This is the essence of decentralized, as there is not one single (third) party that records the transactions.

## Wire Example

Bitcoin could replace wire transfers as it is faster, cheaper, and a more efficient process to transfer value. A wire sent through a third party such as western union who verifies the transaction, they can charge a fixed cost plus up to 10% of the transfer amount in hidden fees. An international wire transfer on average takes 3-5 days to complete (Toronto Dominion Bank, 2020). The blockchain network on the other hand verifies the transaction using a peer to peer infrastructure. The blockchain takes fees in order to maintain the network as well as the cost of verifying (proof of work). In January 2020, the average transaction fee has hovered around \$0.5 USD (Bitcoin Avg. Transaction Fee historical chart, 2020). The blockchain network also functions as a faster way to transfer information, as soon as your transaction is hashed onto a block, the transaction is complete. The Bitcoin block interval time is on average 10 minutes, which is way faster than 3 days.

Let's suppose party A resides in Mexico and would like to send \$5000 CAD to party B who resides in Canada. Party A could purchase 0.432 Bitcoin (equivalent of \$5000 CAD) on November 8<sup>th</sup>, 2019 and transfer the Bitcoin to Party B in Canada. If party B kept the money in their crypto wallet (the digital address that stores cryptocurrencies) until November 24<sup>th</sup>, 2019, then their 0.432 Bitcoin would only be worth \$4048 CAD. The value of Bitcoin to CAD had declined significantly causing party B to lose nearly \$1000 CAD in value. If party B rides out the storm and had kept the bitcoin until the end of January 2019 then the 0.432 Bitcoin would be worth \$5000 CAD again. The massive fluctuations in the price of Bitcoin is a significant problem with public trust in cryptocurrencies. It is evident from this example, that Bitcoin is not a reliable store of value. Which begs the question:

***Does Bitcoin really have a fundamental value to fall back on? What really determines the price of bitcoin and is there an intrinsic value of a bitcoin, or more generally, any cryptocurrency?***

Well the short answer is, there isn't a consensus on the intrinsic value of Bitcoin. Practically, we would think the value is derived from faster and efficient means of transferring value from one person to another person. On the other hand, cryptocurrencies also function to store value, because you can purchase cryptocurrencies as an asset for a specific amount of cash.

For us, the question becomes:

***Is there a way to access the positive benefits of cryptocurrencies, such as cheaper transfer time and lower fees, while reducing or discarding the volatility of cryptocurrencies (such as Bitcoin's)?***

The answer is Stablecoins.

### What is a Stablecoin?

A Stablecoin is a special type of cryptocurrency. Stablecoins have all the advantages of a cryptocurrency as well as minuscule price volatility. This is because Stablecoins are backed by an asset and would mirror the volatility of the asset. In US, the most traded Stablecoin is known as Tether which is pegged to USD. For every dollar collateralized, a coin of Tether is issued; The amount of coins in the market should always be equal to the amount collateralized.

Unlike Bitcoin which does not have an intrinsic value, Stablecoins do. We know that a single Stablecoin is collateralized with a unit of an asset, the collateralized asset derives the intrinsic value of the coin.

By using an asset as collateral, the crypto currency shadows the price of the collateralized asset. For example, a stable coin backed by a gram of gold would always mean the stable coin is redeemable for the gram of gold at any time. The stable coin would store the value of the gold for you without you having to hold the gold.

It sounds very similar to an index or a gold-based future, the underlying asset is never held but the investor has exposure to gold. The purpose of an asset-based future or an index is different from a Stablecoin, firstly, Stablecoins are cryptocurrencies that help facilitate payments and transactions on the blockchain. Secondly, futures have an expiry date whereas a cryptocurrency has no expiry date.

### Who is the market?

The market for Stablecoins are primarily entities and people who participate in transactions using the blockchain or related to the blockchain. An online vendor in China would prefer receiving Stablecoins rather than Bitcoins because he can match the value of his product in US Dollars to the unit of Stablecoins. It is not possible for the Chinese vendor to sell his items using Bitcoin, the volatility of Bitcoin to any fiat currency leads to an extreme amount of uncertainty. If the vendor charges 12 Tether coins to buy a shirt, then he knows the intrinsic value of the coin *close to* \$12 USD. If the vendor charges 0.01 Bitcoin for a shirt, he knows that the value is not intrinsic, and his 0.01 Bitcoin could be way below or above the U.S Dollar notional value.

Currently, the most common use of Stablecoins is for crypto traders to move between investment positions seamlessly and create leveraged positions, without added volatility. For Stablecoins to be accepted as a viable alternative to fiat currencies, however, they must first intersect and integrate into our current financial infrastructure. Various use cases have been proposed, including mobile app payments, alternative currencies in emerging markets and global payment systems.

With larger adoption, Stablecoins could be used to facilitate faster transfers between people and entities. Another use case is settlements, legal and insurance. A Stablecoin escrow or trust account could result in faster transfers after resolutions have been reached. Currently, people wait several weeks to receive claim money from their insurance company. Stablecoins can be transferred from the insurance companies account immediately following a claims resolution.

## Functions

Most cryptocurrency issuers business model is B2B, they do not offer their coins directly to the public. When cryptocurrencies are created (minted), they are sold to crypto exchanges first; the public can purchase cryptocurrencies from exchanges or third-party individuals (investors).

### Cryptocurrency (Stablecoin) Issuer

To issue a crypto currency, you must create coins on a blockchain network, which requires a smart contract. A smart contract is a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a contract. Smart contracts allow the performance of credible transactions without third parties. Once the blockchain accepts your smart contract, you may issue your cryptocurrency (Blockchain Disruption and Smart Contracts, 2019).

Stablecoin issuers will receive a specific amount of collateral asset from their clients (crypto exchanges). The issuer would then create an equal amount, to the collateral, of Stablecoins on the blockchain network; this latter process is called minting. Deleting the coins off the blockchain is known as burning. Interestingly, Stablecoin issuers can control the supply and demand of the currency and therefore they create their own monetary policy.

### Crypto Exchanges

Crypto exchanges are companies that function as a marketplace for retail investors to buy and sell crypto currencies. For example, Coinsquare<sup>1</sup> has a huge offering of cryptocurrencies on its website. Most crypto exchanges offer at minimum the option to buy or sell Bitcoin and Ether, the two most popular crypto currencies. Crypto exchanges will arrange wholesale agreements with a crypto currency issuer (i.e Bitcoin.org for Bitcoin) to purchase large volumes of a crypto currency. The crypto exchanges will earn the spread between the cost to purchase the coin (wholesale from the issuer) and the price to sell the coin to a retail investor.

In addition, crypto exchanges set up a crypto wallet for their retail customers. Anyone can create their own wallet, but most customers appreciate convenience. Exchanges find customers creating their own crypto wallet would be a huge setback towards crypto investment (Cameron-Huff, 2020). Crypto currencies can be purchased with trading other crypto exchanges,

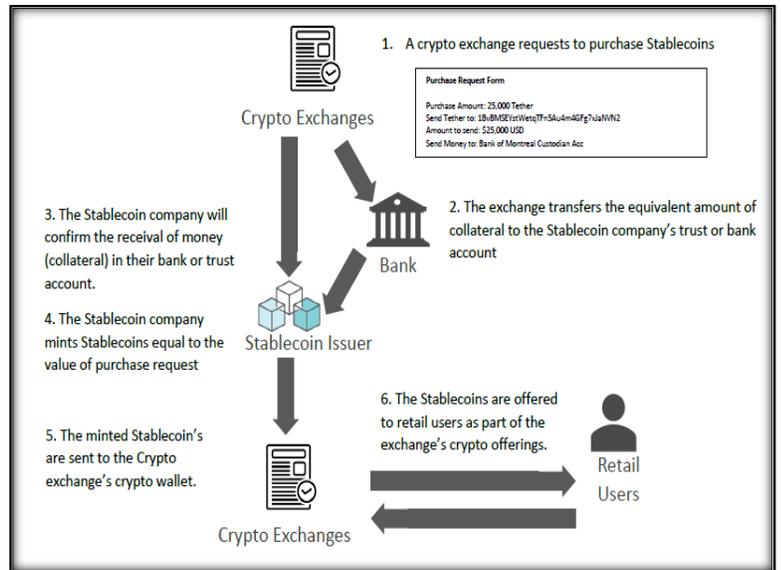
Crypto exchanges are under regulatory scrutiny and many may shut down business because of harsh regulations and guidelines from Canadian Securities Administrator (CSA), the national authority on securities. I discuss under Canadian landscapes the setbacks and issues with CSA and crypto exchanges.

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<sup>1</sup> Canada's largest crypto currency exchange

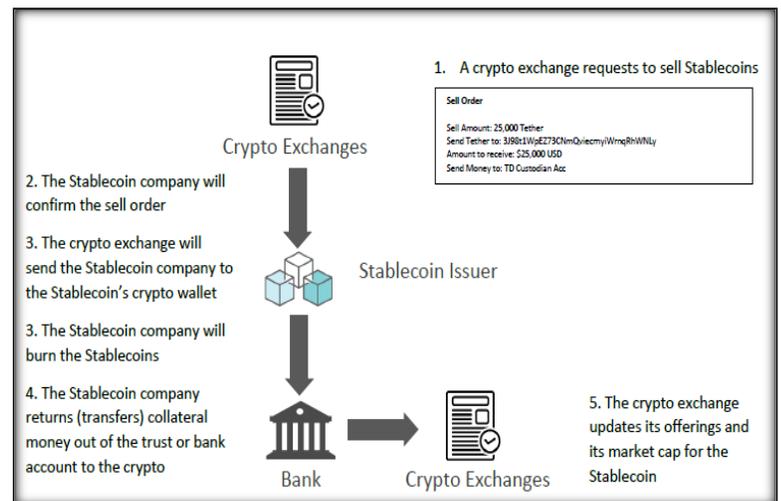
## How are Stablecoins issued

A crypto exchange will send a request to the cryptocurrency issuer to purchase a specific amount of the currency. For example, Coinsquare, would send a request to Tether's issuers to purchase 25,000 Tether for \$25,000 USD. Coinbase would also transfer \$25,000 USD to Tether's issuers bank account. Once the money is received, 25,000 Tether are minted and transferred to Coinsquare's crypto account.



## How are Stablecoins burned

If a currency can be minted, then it can be burned too. The process of burning is deleting an amount of coins off the blockchain network. The crypto exchanges will send a sell order to the Stablecoin issuer as well as transfer the amount of Stablecoins, they want burned, to the issuer's crypto wallet. The issuer will burn the Stablecoin off the blockchain, making them unusable and unavailable. The issuer will then send the collateralized amount back to the crypto agency.



## The Caveat

Above is the price of Tether (available to retail investors), USD backed Stablecoin, over a week in January 2020. The fluctuations immediately display the value of Tether as not stable; the price to purchase the coin has fluctuated between \$1.015 USD to \$0.997 USD. The truth is the prices on the graphs are the prices available to *retail investors*<sup>2</sup>. Retail customers must purchase Tether through a crypto exchange, they have no other means.



<sup>2</sup> Retail buyer/investor – These are investors who purchase a crypto currency at market price through a crypto exchange.

Crypto exchanges are *wholesalers*<sup>3</sup> who purchase or sell Stablecoins at a fixed price to/from the Stablecoin issuer. A crypto exchange would receive one unit of Tether from the *Stablecoin issuer* in exchange for \$1 USD. Vice versa, a crypto exchange can sell one unit of Tether back (burned) to the *Stablecoin issuer* for \$1 USD. **Only crypto agencies have access to purchasing and selling from the Stablecoin issuer.** Practically, Stablecoin is only stable for the issuers of the coin and the crypto exchanges, since they are guaranteed purchase or redemption at a fixed rate.

## Tether

Tether is a cryptocurrency pegged to U.S. Dollar.

The idea is that it's much more stable than most digital coins that have huge price swings. Tether has had the largest market cap for a crypto currency, dominating Bitcoin, for the last six months. According to data analysis firm's State of the Network "strong growth in Tether total supply can be almost all attributed to Ethereum. USDT-

Name	Market Cap	Price	Volume (24h)
 Tether	\$4,647,995,332	\$1.00	\$44,035,448,546
 Bitcoin	\$169,870,049,822	\$9,339.92	\$33,480,079,234

ETH active addresses." (Smith, 2019) In layman terms, the biggest use of Tether seems to be exchanges between Ether and Tether. Many hypothesize this is because of two reasons:

1. Major exchanges making the switch from Omni to Ethereum-based Tether tokens. Tether was a crypto currency started on the Omni blockchain network, the move to Ethereum network has created a massive jump in adoption. (Smith, 2019)

Crypto exchanges are notorious for hacking and scams, for example, Quadriga Cx was a very Canada specific case. On Quadriga, customers had a "fiat" account where they could store Canadian dollars to use at their convenience to perform a purchase of a crypto asset. The concerning thing was that Quadriga could run away with all the money in the fiat account. Let's suppose you invested in Ether through Quadriga and wanted to cash out, your cash would initially go to Quadriga's fiat account. You would then have to wire transfer the money from Quadriga's account to your bank account. In the meantime, Quadriga could have run away with your money. With stablecoins you could trade your Ether for Tether, which is relatively close to the price of USD. You could immediately transfer the Tether to your crypto wallet (outside Quadriga) and Quadriga would be unable to walk away with your coins.

2. As the most popular crypto asset pegged to the U.S. dollar, Tether offers a way to sidestep sanctions and capital controls without the volatility that can make life difficult when using cryptocurrencies.

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<sup>3</sup> Wholesale buyers/investors – These are crypto exchanges. They purchase large quantities of a crypto currency and facilitate the movement of those assets to retail customers or investors

## Canadian Affair of Stablecoins

Canadian regulations are not even at a point to be issuing statements on Stablecoins, however, there has been news releases and consultations that affect the business of crypto exchanges.

Crypto exchanges send Stablecoin issuers a purchase request, the issuers mint coins and transfer the Stablecoins to the exchanges. The exchanges sell the coins to the retail investors. The exchanges hold the coins until they are sold to retail investors. Once sold, the public can hold the stable coins in a wallet created on the exchanges platform or they can transfer the coins into a separate private wallet.

There are several regulatory bodies that monitor Stablecoin issuers and the activity of Stablecoin issuers clients.

### Regulatory Landscape

*FINTRAC (Financial Transactions and Reports Analysis Centre of Canada)*

The Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) is the agency that regulates the Money Service Business (MSB) industry. An MSB is a company that fits into any of these categories:

- Foreign Exchange Dealings
- Money transferring
- Issuing or redeeming money orders
- Dealing in virtual currency

By June 1, 2020, Businesses that exchange virtual currencies for funds or funds for virtual currency will need to register with FINTRAC as Money Service Business (MSB). Registration will subject businesses dealing with virtual currency to the same compliance requirements as existing MSBs.

Every virtual currency MSB must have a:

- Know Your Clients Policy and Procedure
- Anti Money Laundering and Counter Terrorism Financing Policy and Procedure
- Appointment of a compliance officer; and
- Maintaining transaction records, as well as, reporting receivables of funds or cryptocurrencies in the amount equal to CA\$10,000 or higher.

Since Stablecoin issuers & crypto exchanges have dealings in virtual currency, they both will be considered MSB's by June 2020. This requires the organizations to fulfil FINTRAC compliance requirements which include nonvoluntarily disclosures such as transaction reports. The new requirement sounds tedious, however, it legitimizes crypto exchanges and crypto currency issuers in the eyes of one federal regulator.

## AMF

The Autorité des marchés financiers (AMF) is the body mandated by the government of Québec to regulate the province's financial markets and aid consumers of financial products and services.

The AMF enforces Québec's Money-Services Business Act (MSB Act) and its enacted regulations. The MSB Act defines MSB's more broadly than the Canadian federal definition and includes provincial licensing and registration requirements.

## Canadian Securities Administrator

The Canadian Securities Administrator (CSA) is the federal organization that provides directives on securities to provincial regulators such as the Ontario Securities Commission. The CSA and the other provincial regulators sit on the board of the International Organization of Securities Commissions (IOSCO).

Here is a quote that describes CSA's view on cryptocurrencies:

*"The CSA wishes to remind market participants that any person or company advertising, offering, selling or otherwise trading or matching trades in crypto assets that are securities or derivatives, or derivatives that are based on crypto assets to persons or companies in Canada, or conducting such activities from a place of business in Canada is subject to securities legislation in Canada. ... although some crypto assets may be commodities, securities legislation may still apply to Platforms that offer trading of such crypto assets because the investor's contractual right to the crypto asset/commodity may constitute a security or derivative. Further, in most jurisdictions in Canada, the provisions of securities legislation relating to fraud, market manipulation and misleading statements apply not just to the trading of securities"* (Ron Segev, Segev LLP, 2020)

On January 17th, 2020 the Canada Securities Administrator issued "Guidance on the Application of Securities Legislation to Entities Facilitating the Trading of Crypto Assets" (Canadian Securities Administrator, 2020). The guidance sets out the views of Canada's securities regulators about how cryptocurrency exchanges deliver cryptocurrency to buyers. More specifically, the guidance explains the view that all cryptocurrency vendors/markets that don't deliver cryptocurrency "immediately" are likely dealing in securities and are thus on the wrong side of the law.

The guidelines say once a crypto asset is purchased through an exchange the crypto asset must immediately be transferred to a user wallet (a blockchain wallet belonging to the user and not the exchange). This can really change the way crypto exchanges operate, customers will no longer be able to store their purchased coins in the exchange's wallet. For consumers to receive crypto assets into their own wallets, a wallet independent of the exchange, will require a huge knowledge gap to be filled. Customers will have to become educated on setting up their own wallet and related matters such as private keys. Most exchanges offer to store purchased coins on their own wallets for their customers

convenience since most customers are not comfortable with the complexity required to set up and maintain their own wallet.

The International Organization of Securities Commissions (IOSCO) said that efforts to develop so-called global stablecoins — which are cryptocurrencies designed to minimize volatility by pegging their value to certain assets — need to be examined on a case-by-case basis to determine whether they attract global securities requirements. “Our analysis has shown that so-called ‘stablecoins’ can include features that are typical of regulated securities,” said Ashley Alder, chair of IOSCO’s board. (Canadian Securities Administrator, 2020)

#### *Bank Of Canada*

On January 20<sup>th</sup>, 2020, major central banks have partnered up to explore the possibility of issuing a crypto currency. These include European Central Bank, the Bank of Japan, the Bank of Canada, the Bank of England, the Swedish Riksbank and the Swiss National Bank. The group will assess central bank digital currency use cases; economic, functional and technical design choices, including cross-border interoperability; and the sharing of knowledge on emerging technologies.

#### Major Players

##### QCAD

The first fully compliant stablecoin with a 1/1 CAD equivalence.  
More can be found at [www.stablecorp.ca](http://www.stablecorp.ca)

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