

BRZ
TOKEN

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1 INTRODUCTION

Purchasing power stability is a central component of any mainstream currency. Without it, currency cannot be relied on as a store of value, as the value of one's savings could plummet overnight. Price volatility is also unacceptable for mediums of exchange for a similar reason, as it introduces a risk of appreciation on the part of the purchaser and a risk of depreciation on the part of the merchant. Finally, volatile price currencies cannot be used as a unit of account, as the purchasing power implied by contractual obligations and balance sheets would become unpredictable.

Traditional cryptocurrencies, such as Bitcoin, excel at being a borderless digital asset that can last over time and is virtually impossible to be confiscated by tyrannical governments. While modern liberal democracies set on paper the fundamental freedoms for society, none of this can be ultimately achieved without the existence of an easy-to-hold asset that is not controlled or overseen by any government. In this sense, Bitcoin has given the power for citizens to hold assets utilizing a purely private method.

We acknowledge and support all the disruption put forward by Satoshi Nakamoto with the Bitcoin protocol and the ethos presented in his great whitepaper [2], but we cannot overlook some of its fundamental barriers to becoming a widely used currency, being the main reason behind its volatility. Its inflexible scarcity is fundamental from a macroeconomic point of view, but in practice has given Bitcoin an asset-like behavior that has vastly enriched early investors and alienated late-comers in a sequence of short-term bubbles since its inception.

To overcome this limitation, many economists and blockchain developers have been partnering with investment firms to develop a cryptocurrency that keeps its purchasing power relatively stable over time. Different approaches have been tried, from pure stable cryptocurrencies to tokens fully backed by fiat and fiat-like instruments. The former case is an attempt to design the scheme of contraction and expansion of currency's supply by creating open markets for bonds denominated in the underlying cryptocurrency. Although this mechanism is widely used by central banks to control inflation, the small scale of the so-called "stablecoin" projects makes it highly vulnerable to speculative attacks and, consequently, the failure of the intended monetary policy. The latter case, on the other hand, was so far successful in maintaining price stability for cryptocurrencies pegged to certain currencies such as the US dollar. The existence of arbitrage opportunities when negotiated prices in the secondary markets are below or above parity is enough to keep the price of the token hovering at the targeted parity.

We recognize that in a world of privately issued and “pure” stable digital currencies, the role of governments in controlling monetary policy might be alienated and the ability of nations to influence economic activity in times of overheating or economic downturn puts it in jeopardy. However, mainstream “fully-backed” stable cryptocurrencies would still find space in economies plagued by explicit or implicit capital controls without impacting the government mandate in conducting monetary policy.

Furthermore, despite our awareness that a privately created protocol might increase the idiosyncratic risk for the whole economy and trying to reproduce a process that already exists can be seen as pouring limited resources into creating an overly complicated solution for a problem that is already tackled by Central Banks, we understand that issues related to price-stability, freedom of capital flows and monetary policy are present in most parts of the world despite the intervention of these governmental entities.

A blockchain-powered cryptocurrency, backed by fiat money, is not new, with several similar projects claiming to have the best and more trusted solution. Currently, the most used protocol is the USD Tether, though other projects have increased in importance in recent years, such as True USD and Gemini Dollar. These projects are listed on established digital assets exchanges, thus providing a fiat-like instrument for traders that is to a certain degree independent from traditional banking mechanisms.

Commingling the perceived benefits of State oversight over the pegged-currency purchasing power stability – made possible using monetary policies executed by Central Banks and fiscal policies executed by the Government — and citizens’ control over assets that can be exchanged online — features allowed by blockchain technology – can be a viable solution for promoting larger adoption of cryptocurrencies.

Currently, our financial system lies on the ingenuity of Central Banks to operate monetary policies, while the infrastructure that allows degrees of free trade in society depends on the Inter-Bank Payments Network operated by Financial Institutions and their management of a Fractional Reserve System. Current electronic payments infrastructure is making it easier for people to buy and sell goods and services, but governments and private companies are gaining unfair access to citizens’ consumption behavior. In this sense, a blockchain-based currency gives us, the crowd, an insurance policy against an Orwellian future [3].

2

MACROECONOMIC CONSIDERATIONS

Multiple cases for stable cryptocurrencies can be made for addressing different levels of problems in different jurisdictions. A short statement would be that not all banks bank equally, not all currencies transact equally, and not all economies function equally. We propose three categories to further illustrate this statement: 1) Hard currency-based stablecoins; 2) Soft currency-based stablecoins; 3) Cryptocurrency-based stablecoins.

2.1

HARD CURRENCY-BASED STABLECOINS

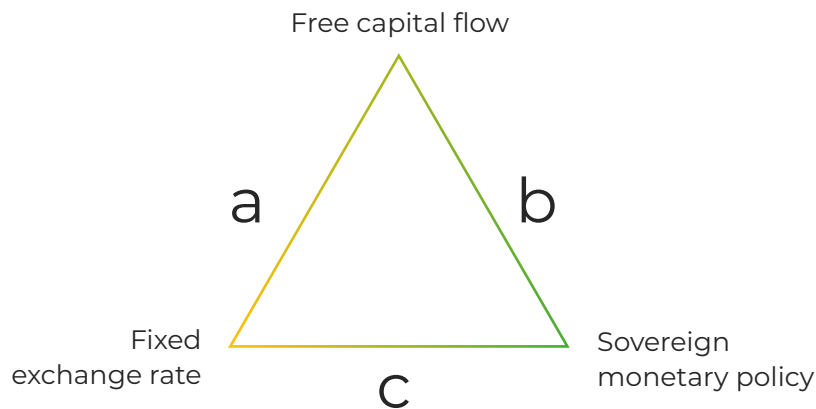
Not all banks bank equally. This is why stablecoins such as the USD Tether, TrueUSD and, USDC, and other cryptocurrencies pegging their value to hard currencies emerged. Although we can agree with Austrian School adepts that there is a lot to be fixed with the world's major economies, more specifically when it comes to the underlying financial system based on money created ex nihilo (ref. Lord Adair Turner), the majority of the population would still fail to see a reason to exchange their perfectly liquid United States Dollars for a crypto-equivalent issued by a third-party company.

This led to the popularization of hard currency-backed stablecoins which allows users to hold and transfer “fiat-like” positions between different platforms without having to worry about slow SWIFT transfers, crypto-compliance-related account blocks, and costly multi-jurisdiction fiat remittances.

2.2

SOFT CURRENCY-BASED STABLECOINS

Not all currencies transact equally. We propose in this paper that currencies from developing economies can be improved upon by their tokenized form. We draw that assumption from the famous Mundell-Fleming model, which is an extension of the IS-LM model that aims to portray the relationship between nominal exchange rates, interest rates, and output in a given economy. From this model is derived the principle often referred to as the “Mundell-Fleming trilemma”, which states that an economy cannot simultaneously maintain **free capital flows**, a **fixed exchange rate** and an **independent monetary policy**.



The “unholy trinity” depicted by the Mundell-Fleming trilemma posits that countries can pursue somewhat successfully two of the variables at the expense of the third. If we take Hong Kong as an example, we can observe that the Hong Kong Dollar is pegged to the US Dollar at a ratio determined by the HK Currency Board, while maintaining free capital movements. This means that Hong Kong is forgoing its independent control over monetary policy to sustain the peg and the capital flows. Hong Kong is a jurisdiction fully integrated into global capital markets and this is reflected in the cryptocurrency industry as it is home to some of the largest exchange platforms in the world in terms of liquidity, such as Okx, ANX Pro, OSL, and OkCoin.

On the same note, we can take the example of Brazil and the heavily-protected Brazilian Real, the underlying fiat currency of the BRZ Token. According to the Mundell-Fleming trilemma, Brazil directs more efforts toward a sovereign monetary policy and while the exchange rate is not pegged to a specific currency, the Central Bank performs frequent interventions to stabilize fluctuations. Despite claims from the Central Bank of Brazil that there are no capital controls in effect, in practice, we can observe indirect mechanisms that limit capital flows such as high taxes over foreign currency transactions, non-existent resident bank accounts in foreign currencies, major bureaucratic bottlenecks to perform international money transfers, the dominance of domestic banks with poor international presence and a general mindset that correlates foreign currency exchange with criminal activities.

The Brazilian example provides a clear picture when we observe the local cryptocurrency market. The exchange between Brazilian Reals and Bitcoin historically presented an arbitrage opportunity with price spreads versus foreign market prices easily going over 20% in 2016-17, coming down to an average of 10% in 2018 and stabilizing around 3-5% in 2019 due to the creativity of arbitrators to bring liquidity from external sources. Other markets that presented similar scenarios were South Korea, Venezuela, and any other country with restrictions on the free flow of capital.

The introduction of the BRZ Token aims to provide better access to international liquidity due to the inherent borderless nature of digital asset exchanges worldwide, with the upside of providing a price-stable mechanism for users to hedge their positions in international platforms as if they were using the local currency. International platforms can also expect a larger influx of Brazilian users, virtually entering the Brazilian market without jurisdiction-specific frictions.

From a macroeconomic perspective, the BRZ Token forgoes an independent monetary policy to pursue the peg to the Brazilian Real and better international capital flow arrangements. We believe that this can be a successful use case for Soft Currency- based stablecoins in jurisdictions facing similar challenges as Brazil.

2.3

CRYPTO CURRENCY-BASED STABLECOINS

Not all economies function equally. Some of them barely function properly and these can be the best use-case scenarios for Cryptocurrency-based stablecoins which, as the name suggests, are backed by cryptocurrencies themselves. Initiatives such as the Maker DAO network are based on a Decentralized Autonomous Organization (DAO) that functions as a virtual “central bank”. It issues a stable token named DAI which is not collateralized by any fiat currency but instead relies on the management of an overcollateralized position of ETH deposited into a smart contract.

Critics are quick to point out that a badly written smart contract is still as bad as a badly managed currency, using as an example the USD 50 Million loss suffered by the first DAO in 2016 due to a security exploit present in its code. Another underlying weakness would be the value of the underlying asset, in this case, the value of ETH. In any specific event that leads to a sharp devaluation of the ETH to zero, the DAO fails.

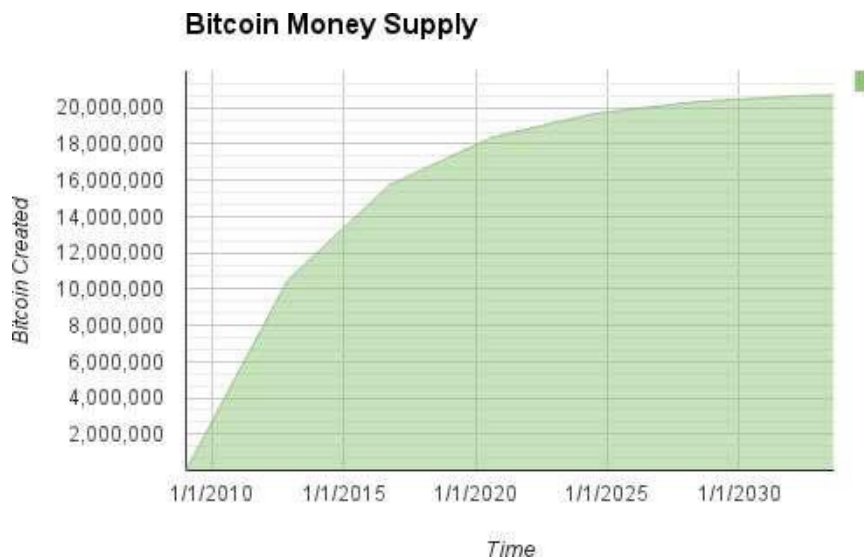
Such experiments are not proposing a fix to some aspect of the fiat-based financial services infrastructure or even improving upon an existing fiat currency, but instead, they challenge the philosophical concepts of State-controlled institutions in their management of the economy and its underlying currencies. Without any assumptions about the success or failure of such crypto-based models, it is sufficient to admit that proposing a shift from a human-controlled system based on political motivations to a smart contract system based on decentralized consensus can shed some light on countries plagued by instability factors that prevent the emergence of minimally stable and trustable institutions.

3

SCARCITY IN THE DIGITAL ENVIRONMENT

Although the decentralization of applications is one of the driving concepts that will be established with the emergence of blockchain technology, it is a second crucial element that truly revolutionized the digital environment: Scarcity. By presenting an entirely new way of dealing with algorithmic validation of peer-to-peer transactions, Bitcoin made it possible to attribute value to tokens in the digital world.

Unlike an e-mail or a file, which will remain as a copy with the sender once it is sent to a third party, an individual Bitcoin that is spent will no longer be available to the individual who spent it. Just like a metal coin, a digital asset can be owned and spent on the blockchain. In the physical world, an item is defined by its integrity; its value by supply and demand. This economic principle applies to physical as well as digital goods. However, the internet and its abundance of data, information, and other content have created a problem of value and validation. Where everything can effortlessly be reproduced, value is at stake. For what it was worth, large companies running centralized platforms have tried to address this issue by curating, filtering, bundling, or selecting content, and, by doing so, controlling the supply and demand of a market they were in charge of. With blockchain and cryptocurrencies, their function will change significantly as scarcity will become a feature of the algorithm.



Supply of bitcoin currency over time based on a geometrically decreasing issuance rate, via Antonopoulos [4].

It is the inherent logic of 'programmable money', that the number of coins, tokens, or assets is limited or defined by design. This is where cryptocurrencies derive their value; their current and future supply is known beforehand. All monetary assets of open and public blockchains, just like Bitcoin, have a finite and controlled supply and a mathematically defined issuance schedule.

4

LAUNCHING SCARCE ASSETS ON TOP OF A BLOCKCHAIN INFRASTRUCTURE

Using this concept of smart contracts, which are effective applications running atop a decentralized network, scarce tokens can be created and allocated to users and made to be easily tradable. “This process of creating tokens and distributing them to users in return for a network’s primitive digital token (cryptocurrency) is called an ICO process and can be seen as a novel distribution channel for assets.” [6]

Smart contracts allow anyone to create their token system for the transfer of value on the blockchain or within their decentralized application. This way Ethereum has not only drastically simplified access to funding capital by allowing companies to offer their issued tokens for sale but also created new opportunities for innovative business models. Transactions triggered by decentralized applications are settled on the native Ethereum blockchain, making use of the underlying token of the network and its existing infrastructure.

In ICOs (Initial Coin Offerings), tokens are sold in exchange for established cryptocurrencies, fiat money, or given away in other ways. It is worth noting that tokens created on the Ethereum blockchain are issued by one smart contract, which is controlled and established by one address (in most cases belonging to one person, group or organization) literally “printing money” of uncertain value when issuing the tokens.

This model to create tokens has been proven to be comparably stable and reliable. Issuance, allocation, and transferability are programmed into an immutable smart contract. On Ethereum, several standards have been established to create individual token systems to store or represent value, the most common one being the ERC-20 standard.

The ERC20 standard supports the creation of fungible tokens on the Ethereum blockchain. This means that the tokens can be issued in a defined, thus limited number by a smart contract. These tokens are identical and interchangeable, and they can be used as a unit of account, as a store of value, or means of exchange of value of the same amount.

The aforementioned characteristics of the Ethereum blockchain make it the best candidate currently to serve as an infrastructure for the issuance of fiat-backed stablecoins. The fungible aspect of the tokens is similar to that of paper and electronic money.

5

GLOBAL LIQUIDITY FOR AN NDF CURRENCY

An NDF currency has limited spot markets against other currencies due to exchange controls. As a manner to circumvent this situation, derivative contracts are used to speculate or hedge against the targeted currency. The Non-deliverable forward (NDF) is the main contract used for that and when it is settled no real exchange of the underlying currency takes place. The NDF is usually used by investors who buy assets in emerging markets to hedge currency risk.

List of currencies with NDF market

ASIA PACIFIC	EUROPE, MIDDLE EAST AND AFRICA	LATIN AMERICA
CNY Chinese renminbi IDR Indonesian rupiah[4] INR Indian rupee[4] KRW South Korean won[4] MYR Malaysian ringgit[4] PHP Philippine peso[4] TWD Taiwan dollar[6] VND Vietnamese đồng[4]	EGP Egyptian pound KZT Kazakhstani tenge NGN Nigerian Naira	ARS Argentine peso[4] BRL Brazilian real[4] CLP Chilean peso[4] COP Colombian peso[4] CRC Costa Rican colon[4] GTQ Guatemalan quetzal [4] PEN Peruvian nuevo sol[4] UYU Uruguayan peso[5] VEF Venezuelan bolívar[4]

A (non-exhaustive) list of currencies where non-deliverable forwards are traded [5]

The creation of a synthetic decentralized electronic version of an NDF currency, however, is an elegant solution that will allow market participants to speculate and hedge against the intended currency with the possibility of physical delivery of the asset. This will enable the existence of decentralized spot markets for the tokens, thus reducing the opportunity cost of hedging.

In the specific case of assets being negotiated through a blockchain infrastructure such as the Ethereum Blockchain, multiple pairs against other electronic assets are possible, including cryptocurrencies, other fiat-backed tokens, and security tokens.

6 BRZ DIGITAL TOKEN

To address the challenges posed in the last sections of this paper, we propose the use of cutting-edge technology to create a fully-backed digital token that, in practice, can be explained as an independent token-based payments system, powered by a well-established blockchain, that allows people to hold digital assets backed by Government-issued fiat currency, thus pegging these digital assets or tokens to cash and cash-equivalent reserves.

Even for utility token projects, it is difficult to build an economy on tokens that are inherently subject to price speculation. In this sense, the development of a price-stable cryptocurrency is a massive opportunity. Adding to the fact that the BRZ project is aimed at providing not only stability but also international liquidity to a current private market, the potential is even more significant.

6.1 TECHNOLOGY

The BRZ is an ERC-20 token based on the Ethereum blockchain. The RESERVE to the BRZ tokens will be mainly denominated in Brazilian Reals (BRL), thus inducing market agents to value the token according to the management of the such reserve.

MAX CAP	TOTAL BRL RESERVES
SOFT CAP	NOT SPECIFIED
TOKEN PROTOCOL	ETH - ERC 20
ACCEPTED CURRENCIES	USD, EUR, CHF

6.2 LIQUIDITY AND MARKET AGENTS

Market agents acting in their best interest will cause the convergence of total BRZ token market capitalization to the perceived underlying value of the reserve, which will cause the unitary value of the token to turn to a close parity with the Brazilian Real (BRL). Ultimately, arbitrage opportunities for agents — whenever the token price is below or above the perceived parity — will close temporary gaps.

Although theoretically, the price should stay around parity, the existence of some transaction costs creates friction, allowing some small deviations in the natural price for prolonged periods depending on supply and demand.

6.2.1 BRZ MINT

The Administrator company, which acts as a mint for the BRZ token, will be solely responsible for controlling the BRZ token supply according to the reserves kept by separate entities known as Reserve Managers.

The entity behind the BRZ Mint is incorporated in the Bahamas under the name of Transfero Asset Management LTD.

6.2.2 RESERVE MANAGERS

A group of separate firms is responsible for managing the reserve used to back the token. The summation of liquid funds in the balance sheet of these entities is at least equal to the number of outstanding tokens in the market. A periodical proof of funds shall be disclosed for checking the existence of enough funds to back the tokens.

In the primary market for BRZ tokens, the issuer/administrator is the sole responsible for buying and repurchasing BRZ tokens via Reserve Managers (RM). In that sense, RM's are also the last provider of liquidity to market agents who are buying and selling BRZs in secondary markets.

In case market agents observe a price difference between the negotiated price in any given exchange and the price offered through Reserve Managers, an arbitrage opportunity will arise, and prices will converge back to the intended parity.

6.2.3 TELLERS

Tellers will be the qualified agents able to trade directly via Reserve Manager accounts. To maintain a healthy market environment, it will be possible that multiple Tellers will act as intermediaries in the BRZ purchase process, granting competitive BRZ prices for smaller purchase volumes. Tellers can be crypto-exchange platforms, OTC trading desks, or any other player that foresees benefits in dealing BRZ tokens to the retail market.

6.2.4 EXCHANGES

Exchanges will provide a market environment for BRZ negotiation, benefiting owners, as well as other interested parties such as Traders and Market Makers by providing a trading platform. BRZ will be negotiated in multiple exchanges, which will create an adequate market environment for BRZ trading, thus creating a greater volume and contributing to the asset's liquidity.

6.2.5 TRADERS

Traders will also act independently in the exchange platforms, by taking advantage of BRZ price fluctuations. By assuming the BRZ price will converge to its original price parity in BRL, the Traders will take advantage of natural market price fluctuations within the exchange environment, therefore contributing to the asset's price stability, promoting a greater influx of transactions (volume) and preventing greater variation in prices.

6.3

FLOW OF FUNDS AND MARKET STABILITY MAINTANANCE MECHANISM

Every BRZ token is always fully backed by liquid BRL-denominated assets managed by independent entities known as Reserve Managers (RM). Ours publicly audited smart contract mints BRZ Tokens whenever Brazilian Reais clears the RM accounts and burns BRZ Tokens when Brazilian Reais are withdrawn, ensuring therefore at least a 1:1 parity between the outstanding BRZ Tokens and the BRL-denominated assets held by RM's.

In other words, upon the deposit in Brazilian Reais into any of the Reserve Manager's accounts, an equal amount of BRZ Tokens will be minted, and immediately thereafter available for trades, transactions, and transfers easily and without friction to/with the exchanges and token dealers around the globe.

The BRZ Administrator will not take any action or measure to maintain the price stability of the BRZ Token after the conclusion of the minting process, besides ensuring that the reserves are always secure with the Reserve Managers.

However, we do not expect price fluctuation after the issuance of the BRZ Tokens due to arbitrage opportunities that will appear between negotiated prices in the secondary market and prices being offered in the primary market – as defined by the issuer, meaning the price of the BRZ Token would always tend to converge to the target price by the independent action of market agents.

6.3.1 PURCHASE AND MINTING PROCESS

The cycle begins when a Purchaser interested in acquiring a certain amount of BRZ tokens makes a purchase order through a Teller or directly via a Reserve Manager. The Teller runs a thorough KYC process, to verify the identity of the person or entity with whom they will be entering into a customer relationship.

To avoid the principal-agent problem in this process, the KYC process is not conducted by the Administrator since, theoretically, it would be in its best interest to onboard as many Purchasers as it can regardless of the AML risks assumed by the Reserve Managers – entities who ultimately own the reserves.

Once the KYC process is completed and the purchaser is approved, the Purchaser will then send the funds directly to the Teller or Reserve Manager. The Tellers will be responsible for handling the payments and sending the corresponding funds to the Reserve Manager's account. Upon the receipt of those funds, the Reserve Manager will issue a Mint order to the Administrator, who will then mint an amount of BRZ tokens in correspondent quantity to the value established in the purchase process and send them to the assigned Purchaser's wallet.

6.3.2 BRZ BURNING PROCESS

As the aforementioned process guarantees fiat currency reserves in BRL are equal or greater to the amount of outstanding BRZ tokens, whenever a BRZ owner decides to sell their balance there will be independent parties interested in acquiring those tokens, either to convert them back to fiat money or to execute trades within the exchange environment.

In case a market agent decides to sell their BRZ balance, it will send the tokens to a Teller that is responsible for exchanging BRZ tokens for fiat currencies. After that, the Teller sends the tokens to the Administrator which in turn burns the BRZ tokens and issues a payment order to the Reserve Manager, who will then transfer the equivalent amount of funds to the Teller, maintaining the outstanding BRZ tokens versus BRL reserves parity.

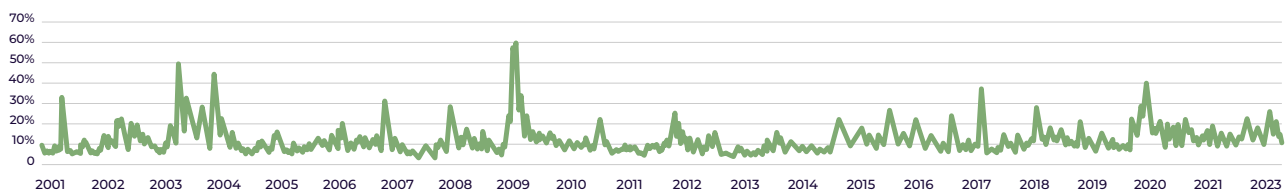
7 BRAZILIAN MARKET

7.1 DIGITAL ASSETS MARKET

In Brazil, the number of traders increased substantially in the last 2 years due to the boom in the Bitcoin price. As of 2018, Foxbit, the largest Brazilian retail exchange in volume at the time, had around 400,000 different Brazilian social security numbers registered on their platform.

Mercado Bitcoin, the second-largest retail exchange by volume, reported having 500,000 different users in 2018. As a matter of comparison, the Brazilian stock exchange has around 700,000 distinct individual investors whereas the total Brazilian population surpasses 200 million inhabitants.

With that said, the cryptocurrency market has become one of the most popular and essential markets for retail investors in the country. Daily volume traded at Foxbit alone reached almost \$ 150 M Brazilian Reais (40 Million Dollars) at the end of 2017. Most Brazilian cryptocurrency investors also looked at alternative cryptocurrencies to leverage gains. However, one of the main constraints faced by these investors was the impossibility of locking short-term gains in their native fiat currency when accessing different cryptocurrency exchanges, due to the inherent lack of liquidity of the Brazilian Real (BRL) outside of Brazil. The usage of USD Tether is limited to Brazilians due to the relatively high volatility of BRL against USD. Figure 2 illustrates that.



In the last year, The BRL/USD pair ranged from BRL 3.16 to 4.16 and then closed at 3.70. By using USD Tether, Brazilian traders are challenged in their ability to lock up gains when trading cryptocurrencies in international exchanges, and unnecessary currency risk is added to their strategies. In Figure 3 it is possible to observe the monthly appreciation/ depreciation of BRL against USD.

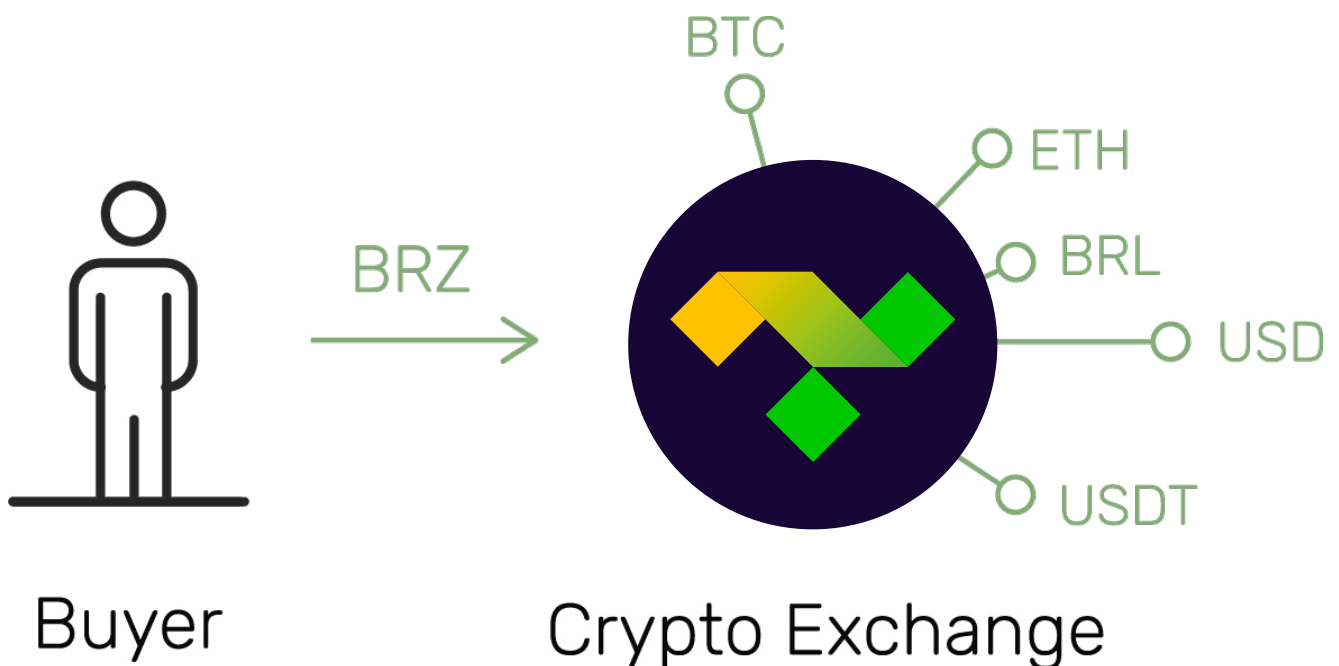
7.2

FOREX MARKET IN INTERNATIONAL EXCHANGES

The BRZ token will allow trading against different pairs of cryptocurrencies and also permit trading against other stablecoins such as USD Tether and True USD. The existence of pairs of stablecoins being traded in crypto exchanges will also attract currency traders to these exchanges creating a whole new market.

The forex market is the largest financial market in the world and has the potential to increase the daily volumes substantially in exchanges trading pairs with different stablecoins. The creation of the BRZ token will virtually integrate the Brazilian cryptocurrency market with the global financial market.

Furthermore, the current Brazilian financial system does not provide for checking or savings accounts in foreign currencies, thus isolating Brazil from foreign markets. This means that the fiat BRL/BTC pair is virtually inaccessible to foreign investors due to liquidity limitations of the Brazilian Real, an issue that will be addressed by the creation of the BRZ token.



8 TEAM

The BRZ team brings together decades of previous experience in research institutions and top financial and auditing firms such as the UK Institute of Economic Affairs, UBS Bank, BSI Bank, BTG Pactual, BNY Mellon's Pershing, and Ernst & Young. Also, the academic background of our human capital includes top international schools such as the Wharton School, University of London, Oxford Brookes, and Université de Genève.



THIAGO CESAR
CHIEF EXECUTIVE OFFICER

- Pioneer in the crypto industry since 2013
- MSc Business & Economics, University of London
- Former researcher of Institute of Economics Affairs



CARLOS EDUARDO RUSSO
CHIEF FINANCIAL OFFICER

- Bachelor's degree in Industrial Engineering and a MSc from Coppead (UFRJ) with extension at Wharton Business School (UPENN)
- Worked at BTG Pactual and VC fund Criatec



CLAUDIO JUST
CHIEF BUSINESS DEVELOPMENT OFFICER

- Over 20 years of experience in innovation
- Specialized in crypto payments



GUILHERME MURTINHO
CHIEF MARKETING OFFICER

- Specialized in Branding
- Over 20 years of experience in Business, Strategic Planning, Communication, Marketing and Advertising



MARLYSON SILVA
CHIEF STRATEGY OFFICER &
CHIEF TECHNOLOGY OFFICER

- Experience in Banking, Insurance, Electronic Payments and Blockchain & Bitcoin
- Developed the first crypto payment gateway in a POS machine

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