USDX: A Decentralized Monetary Policy Protocol

Based on Blockchain Technology and Artificial Intelligence

New Money Labs Foundation

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Abstract. Bitcoins and other cryptocurrencies draw much attention from speculators recently for their significant price volatility. Despite the massive innovations in decentralized governance and trustless peer-to-peer transactions [1], volatile prices have hampered the mainstream adoption of these cryptocurrencies. Behind the price fluctuations are the contradiction between uncertain demand and deterministic supply of coins and tokens [2]. Without price stability, cryptocurrencies like Bitcoin can never be widely used as a medium of exchange, let alone a financial system or economy based on them.

In this whitepaper, we propose a solution to price volatility by introducing USDX, a decentralized monetary policy protocol in which the token can be pegged to any specific value indicator via automatic supply adjustment based on blockchain technology and artificial intelligence. USDX protocol could be understood as implementing monetary policy without human discretion. To strengthen the resilience of the system, we also introduce USDX Reserve as a fallback mechanism.

There are two phases in this protocol, divided by the pegging day. In the first phase, the Genesis Phase, the supply of USDX token is fixed and the price will be volatile. In the second phase, the Stable Phase, the supply is adjustable so that the price can be stable. Our first goal is to peg a USDX token to USD. We name this token USDX as X represents the uncertainty in price before the pegging day. After USDX is generally accepted by the market, the protocol can also be used to generate new tokens pegged to other value indicators, such as CNY, a basket of currencies and even a basket of goods.

Keywords: price stability, stable token, monetary policy, decentralization

1 Introduction:

The Next Generation of Cryptocurrency

Blockchain technology is undoubtedly a significant breakthrough. As a blockchain-based cryptocurrency, Bitcoin enables trustless peer-to-peer transactions without the intervention of any third-party. Despite this massive innovation in decentralization, Bitcoin has two crucial flaws that hampered its mainstream adoption as a medium of exchange. One is limited block size, and another one is predetermined supply. Although limited block size can prevent DOS (Denial of Service) attacks, it also restricts Bitcoin from scaling up. Within the current block size limit of 1MB, only 4-7 transactions can be handled per second, which pales compared to Visa's transaction speed of more than 40,000 transactions per second. With such a limit, users have to pay higher transaction fees to get their transactions processed more quickly. Other cryptocurrencies have been created to solve slow transaction confirmations and high transaction fees, take IOTA as an example, but they have fixed supply like Bitcoin. Fixed supply, combined with uncertain demand, leads to the volatility of price. When the price is expected to go up, the demand will increase correspondingly. Since supply is predetermined, the change in demand will be translated into the change in price. As a matter of fact, the price of Bitcoin surged from about $7,000 to $20,000 in the last two months of 2017[1]. Cryptocurrencies nowadays are used more like digital gold for speculation rather than medium of exchange in daily transactions.

The price volatility greatly limits the use of cryptocurrencies in daily payments. If merchants accept Bitcoin payments, their sales denominated in fiat currency will be subject to the volatility in Bitcoin market, which is definitely undesirable. The price volatility also exposes contracts involving future payments to extreme risk. To be more specific, imagine the monthly payment for your student loan is 0.1 BTC. It would be good news for you while bad news for the bank if the price of Bitcoin falls. But what if it rises? Then the opposite would be true. Either way, one side of the contract gets hurt. Moreover, cryptocurrencies cannot be used as a store of value because of the price volatility. Imagine you save up Bitcoins for future uses. If the price falls significantly, what can be exchanged for a fancy sports car now may only be exchanged for a motorbike in the future. Hence, price stability is essential for cryptocurrencies to be accepted as a medium of change, a unit of account and a store of value, which are the three functions of money.

Our vision is to create a stable token, with fast transaction speed, low transaction fees and stable price, so as to be widely used in daily transactions. The price of stable token can be pegged to any specific value indicator via automatic supply adjustment enabled by smart contracts. **We deem stable**

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[1] https://coinmarketcap.com/currencies/bitcoin/

token as the next generation of cryptocurrency in the general trend of moving towards disintermediation and decentralization.

2   The Quantity Theory of Money:

How to Maintain Price Stability in Theory?

Having explained the importance of price stability and shared our vision of creating stable token, we should now consider how to maintain price stability in theory.

Most cryptocurrencies are like gold for they both have intrinsic limitations on money supply. When the growth of economy outpaces the growth of money supply, deflation would occur and there would be no way to counteract it because of the supply limitations. This is the reason why most monetarists oppose the gold standard and also the reason why most cryptocurrencies today cannot really be used as currencies. Monetarists believe that changes in the money supply have major influences on the price level. The quantity theory of money is the cornerstone of monetarism. It shows a direct relationship between the quantity of money in an economy and the price level, and can be the basis of elastic supply in our protocol.

$$M \times V = P \times Y$$
M: total quantity of money in the economy
V: the velocity of money
P: the price level
Y: aggregate output

In a book called *The Purchasing Power of Money*, Irving Fisher gave a clear exposition of the equation of exchange[2] [3]. The equation of exchange shows the link between the total quantity of money and nominal GDP in an economy by introducing a concept called the velocity of money, which refers to the average number of times per year a dollar is used to buy goods and services produced in the economy. This equation is true by definition as V is defined as $P \times Y$ divided by M. Institutions and technology can determine the velocity of money by affecting the ways in which people conduct transactions. Since institutions and technology change slowly, it is reasonable to assume V is relatively constant in the short run. With $V = \overline{V}$, the equation of exchange can be transformed into the quantity theory of money.

$$P \times Y = M \times \overline{V}$$

As Y is relatively constant in the short run, we can write the price level as:

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2 The original equation formulated by Fisher is actually $M \times V_T = P_T \times T$, where V_T = transaction velocity of money, P_T = average price per transaction, and T = number of transactions per year. As T is difficult to measure and is assumed to be proportional to Y, the equation of exchange can be rewritten as $M \times V = P \times Y$.

$$P = (M \times \overline{V}) / \overline{Y}$$

Thus, the changes in the quantity of money will lead to proportional changes in price level [4]. So when the price level is lower than what we desire, we can push up the price level by X% through increasing the money supply by X% and vice versa. We can also understand this in a more intuitive way. Falling prices indicates that people are not willing to spend money. To restore prices, we can give people more money to spend by expanding the money supply.

Using some knowledge of mathematics, we can rewrite the equation of exchange as:

$$\%\Delta P + \%\Delta Y = \%\Delta M + \%\Delta V$$

As Y and V are assumed to be constant, $\%\Delta P = \%\Delta M$, which leads us to exactly the same conclusion as above.

Now let's consider the exchange rate between a stable token and the value indicator it pegged to. **It is this exchange rate that is the price of stable token we have been discussed.** Here we call the economy denominated in stable token the inside economy and the economy denominated in the peg the outside economy. Inside goods and outside goods are same items. To further simplify our explanation, we will take USDX (one possible stable token in USDX Protocol) and USD (peg) as an example in this section.

$$e = (\varepsilon \times P^{*}) / P$$

e: nominal exchange rate, the relative price of USDX in terms of USD

ε: real exchange rate, the relative price of inside goods in terms of outside goods

P^{*}: the price of outside goods denominated in USD

P: the price of inside goods denominated in USDX

Using some knowledge of mathematics, we can rewrite the equation as:

$$\%\Delta e = \%\Delta\varepsilon + \%\Delta P^{*} - \%\Delta P$$

According to the law of one price, same items should have same price.

$$e \times P = P^{*}$$

$e \times P$: the price of inside goods denominated in USD

P^{*}: the price of outside goods denominated in USD

Therefore, $\varepsilon = 1$, $\%\Delta\varepsilon = 0$ and $\%\Delta e = \%\Delta P^{*} - \%\Delta P$

If P^{*} is constant, to push e up by X%, P needs to go down by X% through contracting the supply by X%. **In other words, we can achieve price stability**

of stable token by targeting e through adjustment of M. Here our targeted e is 1 so that the stable token will have the same value as its peg.

3   Towards Decentralized Monetary Policy

As we have explained earlier, the predetermined money supply and the lack of built-in monetary policy lead to the price volatility of many cryptocurrencies. There is no doubt that monetary policy is indispensable to keep price stable and maintain purchasing power. In real economies around the world, monetary policy is conducted by central bank and is thus centralized. This centralization, while being effective, could also be a problem.

Since monetary policy is controlled by officials in the central bank, it is impossible to eliminate human discretion even with the existence of guiding rules. A discretionary policy is subject to time-inconsistency problem, which refers to the tendency to deviate from long-run plans while making short-run decisions. Apart from price stability, maximum employment is also an important objective of monetary policy in the real world. Policymakers are always tempted to pursue an expansionary policy to boost output and reduce unemployment in the short run so that they are more likely to win in the next election. But this is done at the expense of inflation in the long run. Besides, the monetary policy formed in a centralized way is also susceptible to single point of failure.

Therefore, it is important for the monetary policy to be decentralized and overseen by the whole community. The only goal in the built-in monetary policy of USDX protocol is price stability, precluding the tradeoff in dual mandates. Following is how USDX protocol enables decentralized monetary policy:

3.1 Decentralized Oracle Feed
Instead of using single trusted feed or delegated decentralized feed that is not fully decentralized, we will use trusted Oracle service with authenticity proofs to retrieve price data from multiple exchanges. The foundation will maintain an off-chain infrastructure to automatically check the authenticity proofs for each oracle data feed. And the authenticity proofs will also be published to IPFS for public auditing.

We will also research the feasibility to utilize the following decentralized mechanism to further enhance and prevent manipulation secure data feed:
1. Decentralized Oracle Network such as ChainLink, Witnet and Concurrence
2. Decentralized Exchange's on-chain transaction data

3.2 Decentralized Governance for Parameter Changes
When new challenges occur with the rapid development of the blockchain, USDX protocol should be able to evolve and absorb new thoughts from the

community. For instance, if the community come up with better schemes for the expansion and contraction of token supply, the protocol should be enable to adjust and improve accordingly. Therefore, it is vital to use decentralized governance protocol (DGP) to allow for parameter changes on the blockchain without disruptive forks. We are going to work closely with Qtum Foundation to establish DGP that can guarantee the utmost security and decentralization, to create an ownerless yet alterable monetary policy protocol. Here is an excerption about DGP from a blog post of Qtum [5]:

> The way the DGP works is relatively straightforward. First, a governing party for the DGP makes a proposal to change a parameter. Afterwards, all the governing parties for the DGP can vote on the proposal, and if it receives enough approval votes, then the parameter change proposal becomes active. The proposal data is then placed in a standardized format and a particular storage space so that the blockchain software can easily access it without needing to execute the DGP contract directly.
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> ...
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> However, the end goal is much more ambitious than a traditional governance system. Because a smart contract can also be a governing party of the DGP, it is possible to create significantly more complicated structures. In the future, we could also require a certain number of community votes or votes from token holders. Beyond even that though, it is also possible to create a smart contract which monitors the blockchain's status and health. And this monitoring smart contract could be made capable of creating and approving its proposals. With this technology, it is possible to make the blockchain self-regulating, self-modifying, and self-aware.

4 USDX Protocol

USDX protocol is used for the creation of stable tokens that can be pegged to any value indicators such as fiat currencies and financial indices.

4.1 Genesis Phase and Pegging Day

There are two phases in this protocol, divided by the pegging day. The first phase is called the Genesis Phases and the second phase is called the Stable Phase. In the Genesis Phase, an initial generation of USDX tokens will be held by the community as a token generation event. **20 billion Genesis USDX tokens will be created, of which 30% will be provided for ICO, 20% will be kept as reserve, 20% will be rewarded to contributors in the community and the rest will be saved for future development.** As the supply of tokens is fixed in the Genesis Phase, the price will be volatile and reflect the

expectations of the market towards this token. Rising token price will indicate the optimism the market holds towards the future of this token. Holders of Genesis USDX tokens can not only benefit from the rise of token price in the Genesis Phase, but also enjoy the network effect as newly-generated tokens will be distributed to them when more participants enter and the token supply expands.

On the pegging day, the supply of USDX token would be adjusted to peg the price to the selected value indicator. Specifically, for USDX token pegged to USD, if the price of USDX is $10 on the pegging day, the current supply would be expanded to 10 times of the initial supply. As a result, instead of having 1 USDX worth $10, you will have 10 USDX worth $1 each after the supply adjustment.

For every new kind of token generated under USDX protocol, a new token generation event will be held. The length of different Genesis Phases will not be the same. The first Genesis Phase, for USDX token pegged to USD and USD equivalents, will be one year to give the market enough time to react. As for later Genesis Phases, this phase will be shortened according to market responses.

4.2 Stable Phase

In the Stable Phase, the supply of token is adjustable to keep price stability. Having explained how to maintain the exchange rate via adjusting supply in theory, we can now elaborate the details in USDX protocol. There are three steps in the process of pegging:

o **A peg is defined by the protocol.** The peg can be fiat currencies, economic and financial indices, a basket of currencies (like SDR allocated by IMF), or even a basket of goods. In the first stage, we aim to replace USDT by pegging our token to USD and USD equivalents.

o **The exchange rate is measured in a decentralized way.** This is enabled through the cooperation with Bodhi, the next generation decentralized prediction market.

o **The supply of USDX token is expanded or contracted in response to exchange rate changes.** If the exchange rate is larger than 1, the blockchain will generate new USDX and distribute them in a predetermined way according to the protocol. If the exchange rate is smaller than 1, the blockchain will create non-transferrable SDRs (Special Drawing Rights, which will be elaborated later). These SDRs will be sold with an interest rate to give token holders incentives to take their tokens out of circulation.

4.2.1 Measuring the Exchange Rate:
Decentralized Oracle Feed that Provides Reliable Exchange Rate
Since some exchange rates are external to the blockchain, an Oracle system will be needed to upload the outside information. This is how the Oracle system supposed to operate:

To start with, third-party Oracle will give an exchange rate. Then randomly selected token holders will decide whether the given exchange rate is acceptable. Among these randomly selected token holders, the ones with more tokens will be given more voting right as they have higher incentives to maintain the stability of the whole system. If affirmative votes exceed a certain percentage, this exchange rate will be used. If not, the third-party Oracle will give a new exchange rate and the voting process will continue until consensus is achieved. With the development of Artificial Intelligence, we believe the exchange rate provided by the third-party Oracle will be more and more accurate and the number of loops will be reduced, improving the efficiency of the process.
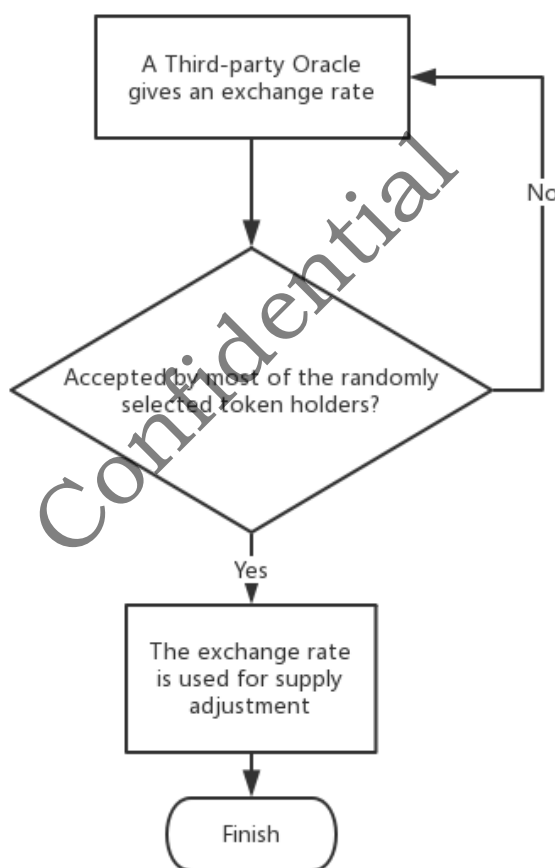

We are also considering using other stable tokens as a medium so that we can have direct on-chain source of exchange rates. New stable tokens are emerging and have their own ways of uploading the off-chain information. By relying on them, we can get the off-chain information that we need indirectly. For example, if we know the exchange rate of Basecoin to USD, and also USDX to Basecoin, which can both be obtained on the blockchain, then we can calculate the exchange rate between USDX to USD. By using different stable

tokens as a medium and giving them different weights, we can get a more reliable exchange rate. And our references can be enriched as more and more stable tokens are created.

4.2.2 Expansion and Contraction

There are three existing forms of USDX token:

o **USDX Token** It is a stable token and can be used as a medium of exchange, a unit of account and a store of value. Its value is pegged to a specific value indicator by automatic supply adjustment. The USDX token pegged to USD and USD equivalents is named USDX. Similarly, the USDX token pegged to CNY and CNY equivalents will be named CNYX. New token generation event will be held for every new token pegged to different value indicator. For example, Genesis CNYX will be generated to bring in the token CNYX.

o **Genesis USDX Token** The USDX tokens generated in the token generation event are called Genesis USDX tokens. As the price of this token is volatile in the Genesis Phase, holders of Genesis USDX tokens can profit from the increase in price.
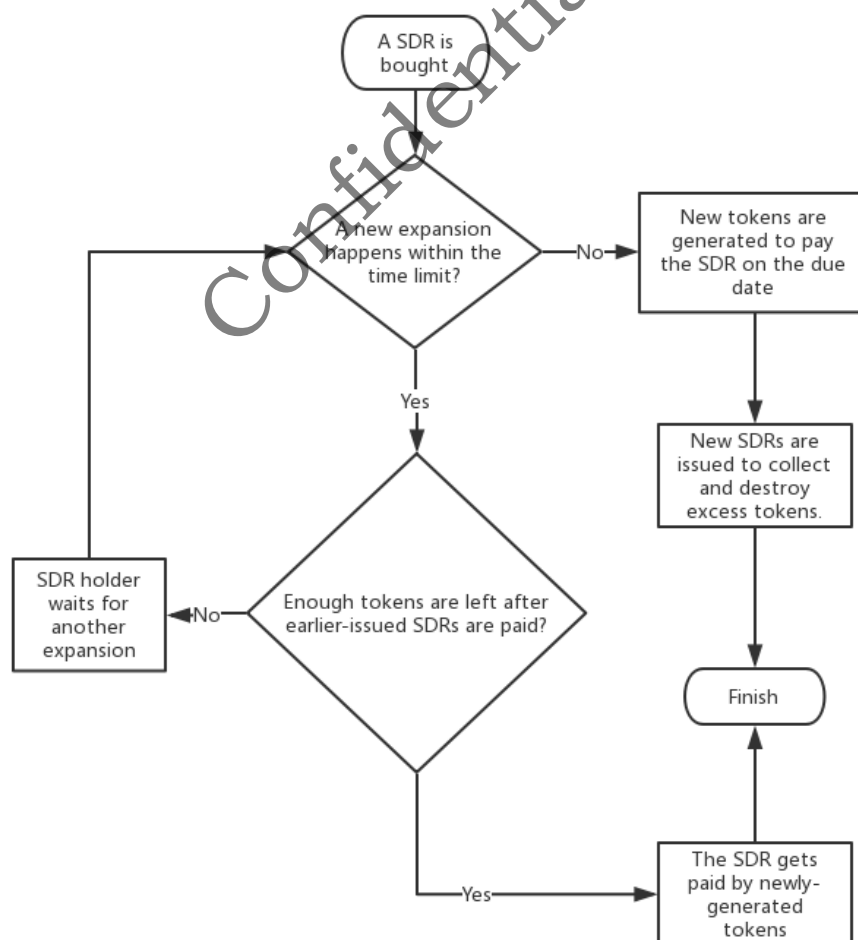
o **USDX-SDR** Special drawing right is another existing form of USDX token.

It can be understood as a basket of USDX tokens. People can choose to purchase SDR with the USDX tokens they have. Each SDR has a time limit in which the SDR must be paid. SDR bought with USDX is named USDX-90d or USDX-360d, depending on the time limit. SDR will only be issued by the smart contract when there is a contraction of token supply. To give people incentives to buy, SDR will be sold with an interest rate. The interest rate will be asked from low to high.

If an expansion of token supply happens within the time limit, SDR will be paid in a first-in-first-out order. Such an order will give people incentives to buy SDR earlier and the contraction will take less time. If SDR has not been paid on the due date, new tokens will be generated to pay to the SDR. And new SDRs will then be issued to collect and destroy excess tokens. **The most important distinction between SDR and bond is that SDR is non-transferrable.**
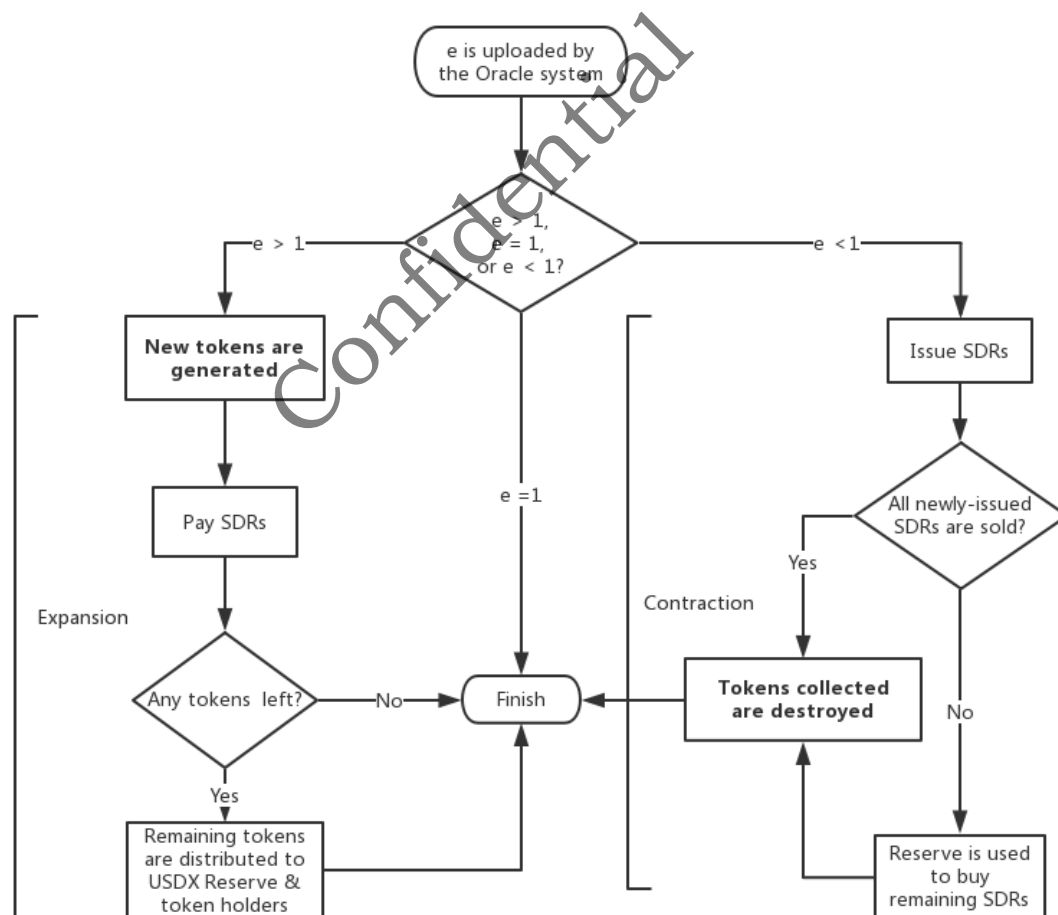

When the supply contracts, SDRs will be issued to collect and then destroy excess USDX tokens. When the supply expands, the newly-created USDX tokens will first be used to pay SDRs. If any tokens left after SDRs are paid, r of the remaining tokens will be distributed into USDX Reserve, and 1-r of the

remaining tokens will be distributed to all USDX token holders proportional to the distribution rights they have. The ratio r will be calculated dynamically to ensure the reserve buffer is enough. We will use artificial intelligence to simulate different situations and get the r.

Here we define token age as the length of time passed from the last time the token changed hands. Every token with age no larger than k will be given a distribution right. The parameter k is specially chosen to make sure approximately 95% of all tokens will be given distribution rights. The distribution mechanism is designed as such to encourage the use of tokens in transactions. In other words, the more active tokens one holds, the more distribution rights he or she has.

$$\text{Distribution right} = \begin{cases} 1, \text{if token age} \leq k \\ 0, \text{if token age} > k \end{cases}$$
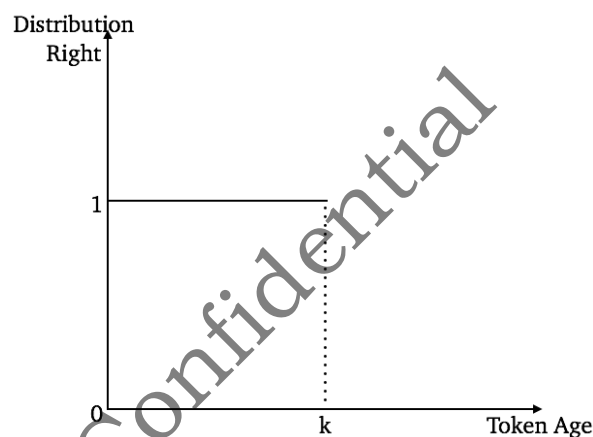
P (token age ≤ k) = 0.95
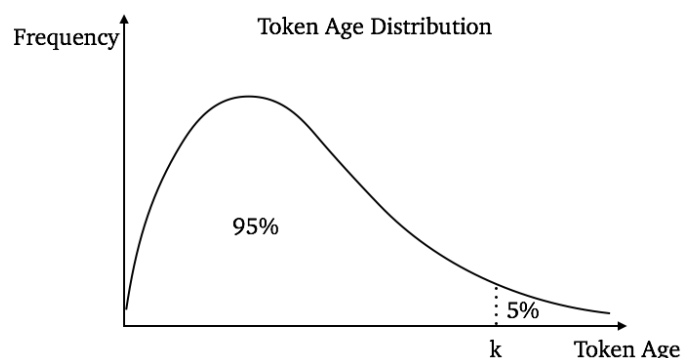
4.3 USDX Reserve: A Fallback Mechanism

What if buyers for SDRs are not enough to take needed amount of tokens out of circulation even when the interest rate is very attractive? Though the possibility of that happening is very small, we still need to have a fallback mechanism and USDX Reserve is what we can rely on.

USDX tokens will be distributed into the Reserve at token generation event and token supply expansions as mentioned above. From the pegging day onwards, USDX tokens distributed into the Reserve will be sold instantly for other liquid cryptocurrencies. Otherwise, the USDX tokens stored in the USDX Reserve are illiquid and cannot be used to reduce the number of tokens in circulation. The exchange of USDX tokens will be implemented through decentralized, autonomous, and transparent market makers to avoid the counterparty risk of centralized exchanges. When the price of USDX token is lower than desired and there are not enough buyers for SDRs to restore the price, the liquid cryptocurrencies in USDX Reserve can be sold to buy USDX tokens which can then be used to buy SDRs.

4.4 Machine Learning on Historical Monetary Policies

To further improve USDX Protocol, we will apply machine learning on historical monetary policies and use what we learnt to change parameters in the protocol.

5 Use Cases for USDX Token

5.1 Trading instruments

USDT is a type of stable token that is widely adopted by millions of investors. At its peak, it reached a market cap worth more than 2 billion USD. And the highest daily trading volume so far is over 5.5 billion USD on January 18, 2018[3]. This is a proof that stable tokens are in strong demand as trading instruments. A lot of institutional investors recognize it as a risk-free asset when trading cryptocurrencies. Converting cryptocurrencies into fiat is not allowed or restricted on many crypto exchanges and it may incur taxes in some countries. So during times of turbulence in the broader crypto market, investors need a price-stable token they can convert their cryptocurrencies into. We will be partnering with crypto exchanges to generate such stable tokens in different countries and regions to serve different group of investors.

5.2 Medium of Exchange in Decentralized Apps

USDX token is also very suitable for payments in decentralized apps, as the rise of decentralized apps is going to take the world. Tokens issued by decentralized apps are like shares, of which the purchasing power is highly volatile and related to the popularity of the app itself, thus not ideal for payments in the long run. Besides, it would be much more convenient to have a universal token that can be used in different apps than to have various of app tokens that can only be used in the particular apps. USDX token can take the role of medium of exchange, to serve the payment need of decentralized apps.

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[3] https://coinmarketcap.com/currencies/tether/

5.3 A New Crypto Financial System

Similar to government bonds, USDX-SDRs are the basic fixed income products that recycle USDX tokens and will become a benchmark for credit and debt markets. Securitization and derivatives can then be developed based on them in the new crypto financial system. Since the price of USDX token is stable, the friction existed in financial contracts because of price risk will be eliminated, making the whole financial system more efficient. To allow for a better ecosystem, we will build our own sidechain in the future.

5.4 A Virtual Economy

With USDX tokens get widely adopted, lots of users and data will be cumulated, which might bring out exciting new business models. As the community is open to everyone, imagination and creativity can be brought in by individuals and teams around the world. To accelerate this process, we will incubate, invest in and cooperate with different projects to develop various virtual assets, and create a truly decentralized virtual world with vast economic value.

6 What's Wrong with Other Stable Tokens?

To address price volatility, lots of stable tokens have been created, such as USDT, SmartCoin, and Dai. However, these stable tokens are not truly price-stable and decentralized.

6.1 Collateral-backed Stable token

Tether

Tether relies on 1:1 fiat backing, which means for every USDT minted there will be one dollar deposited in the bank account of Tether company as its reserves. This guarantees coin holders the ability to get fiat currencies back whenever they want. However, this model is essentially centralized as the money supply and reserves are completely controlled by the company. Apart from this flaw, the company itself is not trustworthy. Word came that millions of tokens were created without fiat backing and that more than $30 million worth of tokens had been stolen because of hacker attack[4]. In addition, Tether is subject to government supervision as the reserves are deposited at censored bank accounts.

BitShares

There are two tokens, BTS and SmartCoin, in this system. They can be traded for each other in the internal exchange of BitShares. SmartCoin is a stable token, which can be pegged to different assets and is always backed by collateralized BTS. The SmartCoin pegged to USD is called BitUSD. However,

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[4] https://gizmodo.com/todays-cryptocurrency-gaffe-hacker-makes-off-with-30-1820641416

such collateral-backed system is vulnerable to under-collateralization if the price of BTS plunges relative to the pegged asset because of black swan events.

MakerDAO

Dai, the token of MakerDAO, is also collateral-backed. Anyone can generate Dai on the Maker Platform by locking up Pooled Ether (PETH) worth more than the value of Dai as collateral. For the same reason stated above, Dai is also vulnerable to under-collateralization. And the market cap of Dai would be limited by the market cap of its collateral.

6.2 Elastic-supply Stable token

Basecoin

Basecoin uses a three-token model which includes Base Share, Basecoin and Base Bond. The supply of Basecoin is elastic while the supply of Base Share is fixed. When supply contracts, Base Bonds will be issued to collect and destroy Basecoin. When supply expands, newly-generated Basecoin will first be used to pay back Base Bonds and then the remaining Basecoin will be distributed among Base Share holders. This three-token model may work well in theory, but it can be much more complicated when dealing with exchanges.

Besides, Basecoin has no network effect. For a regular Basecoin holder without Base Share, the only way to gain benefit is to buy Base Bonds when supply contracts, which may limit the medium-long term growth of Basecoin. As Base Share stands for distribution rights for newly-generated Basecoin, the price of Base Share will be much higher than Basecoin if people has confidence in it.

Carbon

Carbon claims that it can achieve instantaneous rebasement by frozen part of the wrapping coins. By the way, the participants themselves decide whether they wrap their coins or not, if the total amount of wraped coins is not enough to achieve instantaneous rebasement, then Carbon Reserve will work to buy the coins. Let's not talk about the effectiveness of Carbon Reserve buying the coins, let's just talk about the reserve itself is like a centralized part.
Besides, Carbon only uses a suspicious mechanism to adjust the supply of money, and doesn't take the velocity of money into account, which could make Carbon more reliable and more stable.

6.3 comparision

	Tether	MakerDAO	BitShares	Basecoin	Carbon	USDX
Generation	1st	2nd	2nd	3rd	3rd	3rd
Token, Coin Based on Public Chain or Both	Token	Token	Token	Token	Token	Both

Economic Machanism	Add M	✕	√	✕	√	√	√
	Reduce M	✕	√	✕	√	√	√
	Add V	✕	✕	✕	✕	✕	√
	Reduce V	✕	✕	✕	✕	✕	√
Technology (1-5stars)	Stability	★★	★★	★★	★★★	★★★	★★★★★
	Effectiveness	★	★★★	★★	★★★	★★★	★★★★★
	Simplicity	★★★★★	★★	★★	★★★	★★★★	★★★★
	Scalability	★	★★	★★	★★★	★★★	★★★★★

*M represents total supply of money, V represents velocity of money.

7 Our Foundation

New Money Labs, our foundation founded in Singapore, manages the development, marketing, and daily maintenance of USDX protocol.

New Money Labs is approved by Accounting and Corporate Regulatory Authority (ACRA) and supervised by Judicial System of Singapore. The foundation is independent of the government and is operated by Management Committee consisting of trustees.

Singapore is famous for its stable environment of finance and law. As a non-profit entity rooted in Singapore, New Monty Labs is legally established to support or participate in public or private interest activities and it does not have any commercial interest. The surplus obtained by the foundation will not be distributed among members but is retained as funds for future development.

8 Team

Our team consists of experienced entrepreneurs, developers, and senior advisors from blockchain and financial industries.

8.1 USDX team

Richard Tiutiun

Richard is a fanatical genius of blockchain technology and a hacker born in Ukraine. He specializes in Android, JavaScript, Java, iOS, jQuery, and Python. After he dropped out from UC Berkley, he designed and developed XOR project and stablecoin lab. He also has been focused on the research of the next generation of currency.

Lucas Porco

Lucas is an experienced lawyer focused on the compliance of blockchain and cryptocurrency. He is a Ph.D. candidate in Law at the University of Toronto and has been deeply involved in the design of legal frameworks for several cryptocurrencies. He is now in charge of the economic model, legal framework, and compliance of USDX project.

Michael Gord

Michael is an entrepreneur and expert in blockchain and smart contract technology. He is the founder of Bitcoin Canada and the McGill Cryptocurrency Club. Michael holds a degree in Entrepreneurship, Marketing and Information Systems from the Desautels Faculty of Management at McGill University. While at McGill, Michael organized the Bitcoin Airdrop events where he gave hundreds of students their first bitcoin. In USDX project, he is responsible for strategic planning, business expansion and cooperation with regulators, banks and other institutions and departments.

Dennis S. Lee

Dennis S. Lee is a Serial entrepreneur and Crypto evangelist. He is the developer of INK Business and talented in marketing and brand. He has rich experience in business development and he's a fantastic planner. Graduated from University of Newcastle.

8.2 USDX R&D Support Team

Hash Hao (Researcher)

Hash Hao is Graduated from Columbia University. He is a serial entrepreneur and Fintech expert. He has been successfully created and existed a series of ventures. He used to work at investment banks and hedge funds in New York and Beijing.

Steven Li (Researcher)

Steven Li is graduated from University of Toronto. He is a serial entrepreneur and angel investor. He has founded and managed 3 hedge funds and used to be the investment director at Qihu360.

Connor Huang (Researcher)

Connor Huang is an internet banking expert focused on risk management and monetary policy. He used to work at China Renaissance and Alibaba. He has accumulated rich experience in investment banking and digital management

Chen Nie (Development)

Chen Nie is Graduated from University of Toronto. He is lead engineer of BCG Digital Ventures and experienced expert in Trading Strategy, Investment Analyst and Engineering.

8.3 Advisors

Hon. Ernie Eves

Mr. Eves is the founder and President of GIC group He has had a distinguished career in both the public and private sectors. Mr. Eves has rich experience in investment and management, and has a unique understanding and insight to the foreign exchange market, international trade and monetary policy. Mr. Eves was called to the Ontario bar in 1972 after graduating from Osgoode Hall Law School. In 1983 he was made a Queens Counsel and in 2015. He received a Doctor of Laws (Honoris Causa) from the University of Windsor.

Jim De Wilde

Dr. Jim de Wilde is a famous venture capitalist and management educator and has managed and invested over $5 billion. He has been working on the commercialization of early-stage technologies through JdW Strategic Venture since 1993. He has a Ph.D. in political science and is a tenured professor at McGill University with a dissertation focusing on the Canadian public policy process and competitiveness in technology sectors.

Motoko Eio

Mr. Motoko Eio used to be an economic adviser to the Bank of Japan and took part in the formulation of the monetary policy in Japan. He graduated from the University of Tokyo.

Alex Mashinsky

Mr. Mashinsky is one of the leading evangelists of web-based exchanges and is even considered to be one of the early developers of VOIP. He is now the CEO of Celsius. He is a prominent entrepreneur who has founded several companies over the years, including GroundLink, Transit Wireless, Elematics，and Arbinet. Alex's success as an entrepreneur stems from his acute ability to identify winning trends and assemble world-class teams. Two of his companies, Arbinet and Transit Wireless achieve a monopolistic hold in their respective industries and pioneer new business models and technologies used today.

Xiaohong Lin

He is graduated in Statistical Machine Learning from Purdue University and the founder of Bodhi prediction market. He developed Twitter for Android.

Patrick Dai

Patrick is the founder of Qtum Foundation and has abundant experience in blockchain technology development and management. Active in the blockchain industry since 2012, Dai became so fascinated with the encryption software technology that underlays Bitcoin and other digital currencies that he abandoned his studies at the China Academy of Sciences before completing his Ph.D. in Communications and Information Systems. Patrick's influence has helped Qtum gather support from the most recognized figures in the blockchain community.

Jason Fang

Jason is a founding partner of Sora Ventures. He is the mentor at Alchemist Accelerator and Startupbootcamp in Silicon Valley. Jason used to work for Fenbushi Capital and Juzhen Financials.

Confidential

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