



TWO PRIME AND THE OPEN SOURCE FINANCE FOUNDATION

MANAGED BY TWO PRIME

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ABSTRACT

We introduce a new digital asset class, the FF1 MacroToken, and apply it to the blockchain industry. We first provide the axiomatic principles of modern monetary theory and modern banking practice and show, in a logical and compact form, how the modern monetary pyramid functions from central bank FIAT $M0$ monetary ab-initio creation to commercial bank led and asset-backed $M4$ monetary emission. We show how modern crypto-currencies have challenged these established axioms, as BTC and ETH function as de-facto $M0$ stores of value with no asset backing. We propose a mechanism for $M4$ in the crypto realm with fractional asset-backing replicating fractional reserve monetary emission. We describe the mathematics of an alternative, superior approach, forming Two Prime's financial thesis. We show how this methodology can be applied as an Open Source application, in the vein of BTC and ETH, with all the creative and value generative potential that comes along with it. We leverage store of value functions of cryptocurrencies to arrive at value creation and accretion in the real economy by the intermediary of crypto exchanges on which we propose to provide protective measures. We detail treasury and reserve formation for the Open Source Finance Foundation, describe its relation to Two Prime and detail the emission of a new crypto-asset called the FF1 Token. We seek liquidity for the FF1 treasury within the secondary exchanges for the purpose of applying $M4$ in the real world, both in the private and public sector. We first apply this to the vertical of cCryptoc-Currencies while outlining the genericity and stability of the model which we indeed to apply to esoteric financial needs (e.g. Smart City financing). In so doing, we extend the scope and control of applications that a system of digital units of value stored on decentralized, public ledgers can aim to advance. We call this approach Open Source Finance and the resulting coin class a MacroToken.

Keywords Modern Monetary Theory · Crypto Currencies · Banking System · Asset Backed Monetary Creation · Open Source Finance · SuperCoin · FF

1 MODERN MONETARY THEORY FRAMEWORK

Modern Monetary Theory states two interdependent phenomenological axioms and the banking system operates on a resulting syllogism:

- **Axiom 1:** in discounted cash flow analysis (axiom 1a), $0 = \infty$ and (axiom 1b) $1 = 1..N$.
- **Axiom 2:** Government possesses, de facto, exclusive, and perpetual right of use of Axiom 1a for Ab-Initio Money ($M0$) monetary creation (FIAT $M0$).
- **Syllogism 3:** The creation of *AssetBackedMoney* ($M4$) is a consequence of these two axioms. The banking system creates BACKED $M4$ with debt-backed cash flows of type 1b: $1 = N$ with $N \approx 1$. Add equity to these cash flows (e.g. project finance) and you create a return of type $1 = N$ with $N \gg 1$ or axiom1b. FIAT currencies are therefore designed to be accretive with possibility of fluctuation.

In the past 10 years, the formation and emergence of BTC and ETH has verifiably falsified Axiom 2 [1]. The phenomenon of crypto-currencies has created ab-initio global stores of value of type 1a. Cryptocurrencies have displaced trust by means of government violence and associated, implied violence, with instead, open source distribution, cloud computing, objective mathematics, and the algorithmic integrity of blockchain ledgers. The first “killer app” of these open source ledgers are stores of value, e.g. Bitcoin, or “open source money” as it was first characterized by its semi-anonymous creators. Leading crypto-currencies have proven themselves as viable global stores of value. They are regulated as Gold is in the United States. However, as type 1a units of value, they have tended towards high volatility inevitably leading to speculative market behavior and near 0 “real” asset-” backing or floor price [2], albeit with an aggregate value of \$350bn ab-initio creation.

We therefore advance Axiom 2 to Axiom 2’

- **Axiom 2’:** (spoken “Two Prime” and the reason for the company name): ab-initio value creation (type 1a) and Macro Token (type 1b) can reside outside of national powers and central banking, e.g. in Open Source Finance.

At $N < 1$ we have dilutive debasement of fungible units of value, aka inflation. At 1, the new monies are therefore stable coins. At $N > 1$, these tokens are designed to grow with demand. Axiom Two Prime (or 2’) displaces government endorsed violence as our macro-socio organizing principle, with algorithmic objectivity and verifiable transparency. This occurs within the landscape we call Open Source Finance.

2 THE TWO PRIME MODEL

In the rest of this paper, the Open Source Finance Foundation (OSFF) refers to the Foundation holding the treasury and all assets. Two Prime refers to the financial management company managing the OSFF. FF1 refers to the Macro Token of the OSFF. The first stage is reserve and treasury formation, the second stage describes the mechanics of the public markets and the protective measures of the reserves and third stage is treasury liquidity via the Continuous Token Offering both in public and private markets. We will now describe these in more detail.

2.1 MACRO INVESTMENT THESIS AND RATIONALE FOR FF1

The FF1 MacroToken is a synthetic token based on the proven killer applications of eCryptoc-Currencies. After 110 years since the inception of the blockchain technology, the killer apps of crypto are already here and they are primarily all financial, not technical. The historical killers apps are:

- **Transnational Store of Value:** Crypto-Currencies display a robust and transnational store-of-value function. Many crypto professionals today use the blockchain as their international bank. They maintain balances and pay with internet-based open source ledgers (a.k.a crypto). They find local FIAT liquidity on local exchanges. They speculate in crypto on global exchanges. The paradox of Axiom 1a is that in the absence of any backing the value of these stores of value is determined solely via exchanges, pure supply and demand mixed with sentiment. Their volatility is a side-effect of their lack of anchoring.
- **Capital Formation:** Cryptocurrencies have proved very adept at capital formation both on flow and stock. The days of the ICO, where hundreds of millions of (crypto) dollars were raised seemingly overnight, need to be reborn as the Phœnix from its ashes. However, the ICO faltered at capital allocation, wasting proceeds on tech no one needed and lavish parties, resulting in non accretion ($N = 0.07$)

- **Fractional Asset- Backing and Stable Coins:** Stable coins are tokens that are backed by existing assets. The first and best known example of a stable coins is Tether, which has a 60% backing ratio. We credit the crypto rally of 2017 to the conjunction of ICOs and stable coins. These instruments also have something to say to banking infrastructure. Witness the political backlash to Facebook's Libra or the efforts of the Bank of China launching its own Central Bank Digital Currency. It should be noted that FIAT in the west is born as a fractionally asset- backed instrument ($N = 0.07$ or Basel III ratios) and matures, over time to ($N > 1$), as a super-backed instrument.

The FF1 MacroToken is a pot-pourri of these features, a synthetic token that mixes the best of breed practices of crypto mixing Store-of-Value, Capital Formation and Fractional Asset-Backing.

2.2 TREASURY FORMATION, STORE OF VALUE AND SUPPLY SIDE TOKENOMICS

Treasury Generation: Ab-Initio Store of Value On the supply side, The OSFF Two Prime has createdis creating 100,000,000 FF1 Macro Tokens, which it keeps in treasury. They are pure stores of value for they have no assets backing them at birth. They are ab-initio instruments. The FF1 Macro Tokens are listed on public crypto exchanges. Two Prime managesoperates market- making for these stores of value.

Treasury Management: Supply- Sside Tokenomics All FF1 are held in the Open Source Finance Foundation treasury. Crypto aAssets that enter into treasury are, at first, not traded. The FF1 supply will be offered upon sufficient demand. which Two Prime generates publicly and privately. The total supply will be finite in total units (100,000,000), but variable in its aggregate value for supply and demand will make the price move. The proceeds are the property of the OSFF (not Two Prime) and Two Prime placesinvests the liquid treasury (post FF1 liquidation) in crypto assets to protect against depreciation and create a macro-hedge reserve andor floor for the price. It should be noted that the price and the NAV of assets are, by design, not equal. In other words, the additional OSFF treasury is locked and can enter circulation if, and only if, there is a corresponding demand which is then placedinvested in crypto assets with a target value $N \geq 1$. This results in fractional asset- backing at first.

2.3 EXCHANGES, CONTINUOUS TOKEN OFFERING, AND DEMAND- SIDE TOKENOMICS

Public Exchanges Two Prime will maintain listings for the FF1 Tokens on behalf of the OSFF. Two Prime maintains market- making operations in public crypto exchanges on behalf of the OSFF.

Continuous Token Offering Two Prime works on creating new liquidity for the FF1 Macro Tokens to comply with the supply side constraints detailed above, namely that a token enters circulation when matched by demand. Two Prime does demand generation in public as above as well as private. This CTO results in something akin to a reverse-ICO, letting the reserves be set by public trading and then marketing to private purchasersinvestors (accredited US for example) after the public liquidity event. Demand generation is done via marketing to relevant audiences, e.g. as a macro way to HODL with exclusive private equity investments for crypto holders, and as a diversified and de-risked way to gain crypto exposure for FIAT holders (Sharpe ratio: 1.55, Beta to BTC: 0.75).

2.4 PARTNER NETWORK, USE OF PROCEEDS, ACCRETION AND FLOOR PROTECTION

Though this mathematical approach allows for a broad and differentiated set of financial applications and outcomes, Two Prime founding Members will first apply this work to the realm of project finance within the Blockchain space via algorithmic balancing of an equity and debt based treasury consisting of real crypto assets and future cash flows.

Proof of Value Mining in Partner Network Funds and projects can apply to the foundation for financing. This is the partner network and is akin to the way a network of miners secure the chain. Here a network of partners protects the value. The Foundation invests the proceeds in liquid crypto assets, interest bearing crypto assets and equity crypto assets via partner funds, creating a bridge to the real economy (crypto companies) in the last step. The foundation holds these (real economic) assets.

M4 Asset Mix The funds raised are invested in public and private sector projects. We consider the following mix

- Up To 30% cash and cash equivalents including crypto products (HODL)
- Up To 30% debt and bonds. Including crypto products (Staking HODL)
- Up To 30% deep tech including Fund of Funds
- Up To 30% discretionary allocation including back to reserves.

This completes the M4 step and the flow of funds for the FF1 Token. It shows a feedback loop, for the Foundation can buy back its token, leading to an idiosyncratic tokenomics: the FF1 Token has a fixed (and potentially diminishing) SUPPLY alongside (potentially increasing) endogenous and exogenous DEMAND.

3 MARKETING AND RATIONALE FOR PURCHASERS

Two Prime's mission is to market the FF1 token to its relevant target audiences as a better store of value investment vehicle for crypto exposure. It is a macro-themed diversified product investment, focusing on what works in crypto today.

Exchange driven Crypto Retail From the point of view of the crypto holder, an FF1 on a public exchange should be viewed as a better HODL solution: a macro hedge. An FF1 token is its own store of value, and it is fractionally backed by a crypto basket of assets. It also represents a macro thesis on the financial crypto theme. It has top 10 crypto currencies, aspects of defi lending and participation in private funds that most retail investors cannot usually access. It's a better way to keep exposure to the crypto field since one can outsource this management and due-diligence and gain access to exclusive private deals.

Private sale Crypto, reverse ICO The reverse ICO or CTO offers the private crypto investor a diversified exposure to the crypto industry. Diversification is achieved via a mixed basket of crypto assets held in reserve. While most large crypto holders can create similar synthetics, and many do at the cost of much personal due diligence, this synthetic holding comes with its own store of value function and can be discounted for the private buyer after the public liquid price is set. This in effect reverses the causality of the ICO and offers an OTC point of entry for the buyer.

Private sale FIAT From the point of view of the FIAT holder (say accredited US) this offers an attractive point of entry to the crypto field. Many are on the sidelines waiting for better ways to get exposure to the crypto world than the single asset buy and hold strategy. From a FIAT standpoint it should be viewed as a hedged private play on a publicly traded store of value ledger. The value is fractionally backed with a curated basket of assets. It should be noted that the store of value function may be a multiple of NAV. We offer this instrument, as a private placement, seeking a baseline of value (much like the modern fractional backing system under Basel III).

4 CONCLUSION: BACK TO THE FUTURE

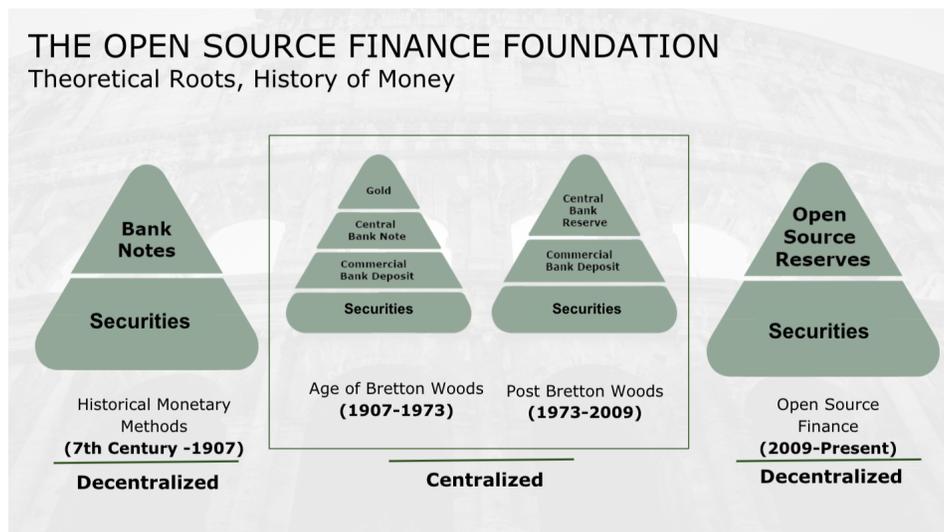


Figure 1: New is Old

Traditional Banking While what is described here focuses on the future of financing, it is actually informed by traditional and proven banking practices. Our operative investment thesis is that modern innovation of exchanges allows us to replicate the proven mechanisms of (traditional) fractional reserve banking. Today, the so-called M2 monetary supply, which includes bank deposits, is fungible, a dollar claim from a bank deposit is equivalent to a dollar claim

from another bank, we don't see the difference nor are we aware of it. Historically, the Federal Reserve System (FED) was in-part invented to have existed to guarantee par-redemption across liabilities of its chartered member banks.

The Role of Exchanges The operative thesis used by Two Prime is that exchanges provide the same fungible operation which is intrinsic and necessary to the proper functioning of the modern banking system. This is why we maintain public pair listings. We just apply it to the crypto realm. What provides the liquidity of a crypto treasury are the exchanges dealing in stores of value, along with their valuing methodology (usually supply and demand), in lieu of a centralized clearing system. The exchanges are the new banks, in many more ways than one. Here we have a clearing system based on exchanges which allows us to do away with the centralized infrastructure. It is this purely decentralized exchange-based capacity that comprises one of the most promising and revolutionary applications of Open Source Finance while referring back to 1000 year old practices re-visited with modern blockchain technology.

5 MANAGEMENT

5.1 Marc J.J. Fleury, Ph.D. Founder OSFF and Two Prime

Marc is the creator of JBoss, an open-source Java application server (acquired by RedHat for \$350MM in 2006). Fleury holds a degree in mathematics and a doctorate in physics from the École Polytechnique in Paris and a Master in Theoretical Physics from the École Normale Supérieure. Marc conducts research in Quantum Mechanics, Monetary Theory and plays electronic synthesizers live with "Poemes Electroniques". He has invested in diverse technology projects across the IoT, Open Source, Blockchain, and DeepTech sectors. The Open Source Finance Foundation synthesizes years of research.

5.2 Alexander S. Blum, Co-Founder and Managing Partner TwoPrime

Alexander is a finance and technology leader. Blum has led blockchain hedge funds and startups for 7+ years, developing Atomic Capital, a cryptocurrency mining operation, an AI-Crypto Hedge Fund, and leading projects at both Fortune 500s and prominent blockchain start-ups. He has written for Forbes, The Pacific Council on International Policy, The Huffington Post, and Seeking Alpha and spoken at events around the globe.

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There is no guarantee or representation of value or liquidity for the FF1 Tokens, and the purchase of the FF1 MacroToken is of speculative nature and none of the Company or its affiliates shall be responsible for or liable for the value of the

FF1 Tokens, the transferability and/or liquidity of the FF1 Tokens and/or the availability of any market for the FF1 Tokens through third parties or otherwise;

The Company intends the value of the FF1 Tokens be maintained via an endogenous floor (NAV at fractional value of price) but the FF1 Tokens may still be subject to fluctuation; under no circumstances would a holder of the FF1 MacroTokens be entitled to or receive (i) any form of interests whatsoever in whole or in part (including but not limited to equity interest, proprietary interest and ownership interest) or share in or claim against the Company and/or the treasury, (ii) any voting rights at the board meetings or shareholders meetings of the Company, (iii) any management rights of the Company and/or the FF Tokens, (iv) any economic right (including any kind of right to payment, distribution, income, dividend, profit, or other return, or any sums to be paid, or likely to be paid, out of such return or profit) of or generated from the keeping of the treasury (except those directly between participants of the ecosystem), by the Company and/or from the project financing conducted by the Company; (v) any interest payments from the Company and/or the treasury; and (vi) any claim against the treasury and request the value in the treasury to be returned to you;

The FF1 Token is not a debenture issued by the Company and all purchase of FF1 Tokens are final upon you receiving the FF1 Tokens from the Company. You will not have any right to subsequently request redemption or return of the purchase funds you paid to the Company for the purchase of the FF1 Tokens which the Company has the sole and absolute discretion to decide on how to use the purchase funds; and

The Company does not give any undertaking that, if the FF1 Tokens are used as a means of making payment for goods or services from the Company or from a recipient, the Company will, or will procure the recipient of the FF1 Tokens to, accept the payment up to the amount of the value in the treasury or to redeem the FF1 Tokens.

FF1 Tokens in treasury can be burnt by 2' in the event that the FF1 Tokens exhibit depreciated market value of significant duration in comparison to the OSFF net asset value (NAV). A transparent process and procedure for this possibility, both NAV and burn rate, will be provided in advance of any such activity.

Glossary

Ab-Initio Money($M0$) refers to something coming out of nothing, in the context of monetary theory usually refers to non-backed FIAT currencies, i.e. created out of "thin-air" (e.g. USD, EURO, YEN) [3]. 2

Asset Backed Money ($M4$) Most monies in circulation are actually asset backed by debt. It is a common misconception that money is 'created out of thin air', only $M0$ is ab-initio while $M4$ is always backed. . 2

MacroToken The MacroToken class has finite or diminishing supply and endogenous and increasing demand, it is also a macro representation of a given industry. The FF1 is a MacroToken for the crypto industry. By way of example, Two Prime may one day market The FF3 MacroToken for the SmartCity industry.. 1

Modern Monetary Theory A descriptive framework for how the modern banking system creates money, starting from $M0$ FIAT emission, usually under the control of central banks (FED, ECB, BOJ) to $M4$ BACKED assets by investment banks (Goldman Sachs, J.P. Morgan, Bank of America). 2

Open Source Finance A financial system based on the traditional $M0$ to $M4$ pyramid (FIAT to BACKED) but implemented outside of the traditional walled gardens of central banks and chartered banks, e.g. in open source. 1

Two Prime (or 2') The Management Company for the OSFF. 2

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