The Synthchain

Consolidated White Papers Edition

"The Magic Money Machine" – Paul Murphy, *Financial Times*

ABSTRACT: *Integrating Blockchain and Asset Management solutions is the holy grail for innovators in fintech. Cryptocurrencies have the potential to offer investors unrivalled returns as a result of their unique value-utility properties such as limited supply quotas and exponential payment utility. In the past decade, we have all seen the effects of this as Bitcoin has surged more than 1 million percent and other cryptocurrencies such as ETH and more recently, XRP, have followed similarly. At the same time, Asset Management by definition is a centralised process. When an investor gives money to a fund manager so that he can generate a return on that capital, this process is unavoidably a centralised one. Therefore, Asset Management is one of the hardest financial industry functions to decentralise. Most people today understand the basics of a Blockchain and even a smart contract second-layer protocol is fairly widely comprehended. What is less understood is how smart contracts give rise to a potential form of value inflation that is not covariant with market hype or randomness. By synchronising basic escrow functions and token issuance cycles between smart contracts it is possible to develop what is in effect the world's first inflatable form of cash value. Cryptocurrencies with more than 1-million-percent-plus value inflation events are not just achievable but can be continually repeated and sustained. This process is the ideal basis for an effective and alpha-coefficient Decentralised Asset Management (DAM) solution. In the past 2 years, we have created two different types of DAM technology in this way which mimic centralised logic in the form of specific decentralised currency functions. I present these solutions for the first time in this Paper, and I detail frameworks for the DAM technology that adhere to traditional asset management processes re-applied for decentralised currency markets. Using Ethereum's network as the basis for the initial prototype technologies, this paper details how a synthetic income swap utility employing the smart contract function enables any calculation of a cryptocurrency asset via standard discounted cash-flow mechanisms. In effect, from a valuation point of view, any transactional currency is theoretically on par with securities, real estate and any number of income-generating assets for valuation purposes as a result of this discovery, giving rise to our creation of what is the first ever synthetic income cash instrument. In the final part of the first White Paper in this consolidated edition, I examine what an AI Blockchain looks like, including formulating an algorithm for it to run on that is responsive and autodidactic. I show how this technological enhancement of standard proof-of-stake Blockchains may be able to solve the problem of quality erosion among digital assets and to keep unethical participants in the digital asset space from dominating the industry scene as they do today. Finally, in a separate second White Paper that is included at the end, I examine Zurcoin, a proof-of-work Blockchain developed in December 2013, and I suggest how it might be employed to act as a substitute for Bitcoin's Blockchain. With bitcoin deflating at a rapid rate, digital assets are fast becoming unaffordable for the majority of new entrants, In this light, I show how Zurcoin, ,being of the same code while running on a separate more distributed algorithm, might be a perfect entry-point currency as both a base trading pair on exchanges and as a unit of spendable payment value in digital form, generating significant attraction for its much less expensive price tag.*

TABLE OF CONTENTS

The First White Paper

The Synthchain: Exploring Decentralised Asset Management Products, Structures, Methods & Applications (Version 5: May 27th, 2019)

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PART 1: FRAMEWORK

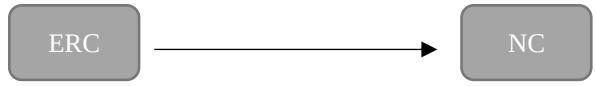
1. Decentralised Asset Management Products

In the past 2 years, we have created two different types of decentralised asset management (DAM) Blockchain technology solutions. These are:

i. **Digital Notes –** tokens which are purchased with existing digital asset products compatible with the token's smart contract network, and which can be later exchanged for more or less of the amount of currency (and other currencies too) used to mint the digital note

ii. **Genius Contracts –** tokens which can effect a one-time "claim" on any deposit into the token's smart contract on a proportionate basis to the percentage amount of the token supply held by the claimer

Digital Notes

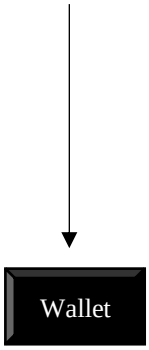


A digital note is a receipt for purchase issued in the form of a token by a smart contract that securely stores the unit of purchase (ETH or an ERC token) in the Note Contract (NC).

After a specific period of time, or at the point of an event (e.g. x notes minted) a re-exchange of notes with securely-stored ERC tokens is activated. Depending on the price paid for the note at purchase, the holder will receive more or less ERC back than was used to pay for the note.

Genius Contracts

In the case of a Genius Contract, an ERC token is deposited in the contract's address. With most ERC tokens, the deposited sum of money is then irretrievable. In the case of a GC however, the wallet holder of the GC token can "claim" whatever share of GC tokens held with respect to the contract's contents. The GC tracks the token and denies multiple claim requests for single deposits.



Both of these DAM products form the basis for a discussion on decentralised asset management product issuance and operational methodology. We furnish the discussion with a detailed description at the end of future products that will ensure a sufficiently robust long-term implementation schedule for our DAM framework to achieve maximum market scale.

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2. Decentralised Asset Management Frameworks

Asset Management by definition is a centralised process. When an investor gives money to a fund manager so that he can generate a return on that capital, this process is unavoidably a centralised one. Therefore, Asset Management is one of the hardest financial industry functions to decentralise.

To decentralise Asset Management, we must in effect remove the role of the fund manager without eradicating the process wherein an investor accedes capital in order to make a better return than they currently obtain from being invested in the market themselves. Further, unless we wish to treat the process as a conventional financial markets activity (which renders the process of decentralising the asset management function pointless) we must avoid securitisation by disallowing the possibility of risk transferral on the part of the investor to the investment vehicle / management proxy. We have discerned two methods of effectively decentralising asset management products so that they fit into the scope outlined above:

i. **Automated DAM:** This is a process wherein an investor purchases a proxy token from a uniquely-coded smart contract which is then either used in a subsequent smart contract or is held for a period of time until it is re-exchanged with a variable quantity of its unit of purchase. In this example, smart contracts (i.e. software code) replaces the role of the asset manager, while the proxy tokens remain digital cash products that are used in effect to purchase future returns.

ii. **Airdrop DAM:** This is a process wherein a community of investors collectively contributes to a single smart contract, or wherein a collection of alternate Automated DAM smart contracts collectively contribute to a single smart contract (usually in the form of fees) so that the holders of the smart contract token can use the customised coded software to "claim" a proportionate share of the smart contract contents to their own wallets. In this example, there are two possible replacements for the asset manager: a) projects that may wish to contribute tokens they want to distribute among greater numbers of investors and b) the Automated DAM smart contracts. In the latter instance, the Airdrop DAM can be viewed as a decentralised "fund of funds" versus a simpler decentralised fund model

3. Reliance on Community Engagement of DAM Frameworks

DAM frameworks are no different to any other decentralised financial product in that they are heavily reliant on community-building and the overall cohesiveness of their asset holders. In fact, they may even be more sensitive to community events and circumstances than simple decentralised cash products, since the engagement and participation level of every investor directly affects the other investors by resulting in increased or decreased participation in the automated or airdrop DAM processes.

For this reason, it may be incumbent on the issuer or some other development group with substantial interest in the DAM project to motivate the liquidity process in the initial, and possibly even continual stages of the DAM product evolution and operation.

4. Liquidity Provisioning

The best method of liquidity provision is smaller and continual as opposed to large and irregular, so that a stable base of return streams can be anticipated by prospective investors in the DAM products. Once that stable base of return streams can be calculated and factored in as a minimum expected return, there is a valuation basis upon which an investor in the DAM

product can calculate their investment and prospective ROI, with any additional returns from smart contracts or projects serving as an ancillary benefit.

It is not incumbent on the issuer (or any party for that matter) to announce or promise a particular commitment to the smart contract, and indeed, doing so may potentially securitise the DAM cash product. Rather, it is important for the interested party to deliver it.

5. Incentivising Token Holders

Token holders can be incentivised especially if liquidity provisioning is applied. In such a case, there might be an expected contribution of capital that a holder was required to make to the smart contract, so that they qualify for a sequel issuance of tokens. In effect, they would use the Genius Contract to contribute payment for the next series token into the current series token contract which would then be void.

The other advantage of Genius contracts is that tokens can be delivered into them. This means that series tokens can be deposited into the previous series token's contract if there is no minimum participation requirement or if such a requirement is instead distributed outside the contract straight to the participants' wallets' addresses (as in for example the Matryoshka multicoin distributions).

Incentives will form an integral component of decentralised asset management frameworks in the same way that performance fees do for asset managers. Ideally however, the incentives ought to be current and variable as opposed to standardised and fixed, as in the case of Mutual Funds, as the latter would likely lead to excessive free-riding from the majority of investors and a lot of minimum play (and therefore no increase above the minimum return calculation benchmark).

Disincentives such as requiring minimum contributions from holders to the GC are not likely to cerate a robust economic framework within which the product can scale, however. People rarely respond favourably to negative incentives such as this, which opens products up to aggressive bidding from competing product providers most of the time.

6. Defining Digital Currency

Probably the most overlooked question in the field of digital assets todays is: DzWhat is a token? The main reason behind this is that seemingly there is a certain degree of confluence of opposites here: specifically, less than one percent of the world knows exactly what a token is, while 99% of the population has no idea. This dichotomy where such a minor portion of the populace understands a form of value creation such an overwhelming majority has no idea about principles of leads to a lack of dialog regarding the most fundamental of issues.

It is possible to have negative money and positive value, as anyone with margin on securities or mortgages on property will be able to tell you. The same goes for digital assets: while the holder may have bank loans or other unsecured debts in terms of their credit profile, they may also hold a large amount of value in the form of digital assets such as Bitcoin or Ethereum. The reason someone might hold these two apparently contradictory stances is clear: the holder believes that the value held will over time appreciate at a significantly accelerated rate against the negative cash position assumed on the other side of their personal balance sheet. Historically, this is a smart position to assume. As examples from the stock markets have shown, over the long term, value trumps money by an outstanding rate of increase.

A token, however, is not a security either, nor any other form of asset which has been made readily available to a commercial investing public. The reason for this is that its attributes are fundamentally different. To begin with, a token is a blank canvas when it comes to value – you can paint on its face whatever picture you wish. A security, by contrast, has a very fixed definition of value: specifically, it is a claim on the assets or earnings of an incorporated entity. A token has no such restrictions in terms of value, and therefore, no intrinsic value properties associated with it in the same way that conventional financial assets do.

The fact that there is no intrinsic value to a token is among the token's strongest and weakest characteristics. On the one hand, there is no basis for Dzsensibledz or Dzrationaldz valuation analysis. On the other hand however, because of the inherently unfixed properties of its unitised value, there is a whole range of value attributes that can be built into it, and virtually no limit as to the extent of depth or breadth of value that can be applied, either.

7. Non-Value

This latter aspect to the token – that it is essentially a blank sheet – is what has drawn a large majority of Millennial-generation individuals into the digital asset scene. Simply, for over 20 years, inflation has been growing at a substantially higher rate than has wage growth in most of the world. At the same time, the number of jobs available to the average skilled worker has been falling. Combined with the effect of a much higher rise in education relative to the previous population-heavy generation, the Baby Boomer's; the Millennial generation is one that is smarter, worse off financially and less in demand corporately than any generation in history. The effect of this has been that upon leaving University, most people today cannot afford to rent a condominium without some form of parental financial assistance, let alone purchase their own, while they remain underpaid relative to their cost of living, or simply unemployed, for long periods of time.

Naturally, a generation that harbours more intellectual ability and arguably, a much higher ratio of creative and scientific talent than any that has come before, is not likely to willingly accept such a status quo before seeking solutions elsewhere. Thus, as increasing numbers of digital assets followed the launch of Bitcoin in 2011, and digital forms of financing became more possible via the introduction of crowdfunding, it was predominantly this population that began to ascribe its own form of innovative, growth-oriented value to concepts that are entirely foreign to all other generations that precede them.

8. Unique Characteristics of Digital Assets

The reason that the concepts of value inherent in the token are foreign to almost everyone except this core group of underpaid, overeducated talent is because the circumstances in which this group finds itself are entirely unique. For despite more education, more creative ability and access to much more efficient and intelligent scientific resources than any other population in history, most find themselves in financial difficulty and lacking in demand of commercial opportunity or employment on a regular basis.

The token is the population's response to such circumstances: it is the blank canvas upon which creative, technological and educated classes – whatever their financial or local social status may be – drew themselves towards in finding a new form of value. Naturally, the token, being the response to this generation's social circumstances, is one which addresses the immediate requirements that such circumstances might entail. Specifically:

It generates significant returns over comparatively very short periods of time via harnessing a network. This fact enables large numbers of Millennial participants to join without endangering the chances of others' success. This is unlike a housing or share market which due to the limitation of its rules and structural constraints, quickly overheats.

Trading operates 24-hours a day, and does not favour one geography or region. While today this is a relatively obvious concept, it is only so for Millennial generation participants – trading is considered work by most other generations, and as such, not for the evening. This antiquated definition of work began disappearing as companies stopped providing the same level of commitment and loyalty to the individuals they employed.

Value and functionality are flexible and easily built into a token, with multiple technological adaptions made possible. Partly due to this, the token is a unit that can be passed freely over borders in digital format, an essential characteristic for a generation that is largely interconnected by focus group, interest and/or physical separation due to life circumstances (vs. person preference) in a virtual environment.

9. Value Coeval

A Value Coeval is the convalescence of three separate value propositions in technological, financial and transactional form. A Value Chain, a Value Network and a Value Shop are three separate Value Configurations identified by two Norweigan academics in a seminal paper published in 1998. In a Value Chain, value is configured via a merchant's goodwill translating into retail mark-up. In a Value Shop, a specific knowledge competency is sold into a market of relatively little specialisation in the subject and in a Value Network, value is configured via connecting individuals who need one another's skills. Each subsequent Value Configuration is disruptive to the former: Value Shops such as consulting firms and investment banks destroy a manufacturing business' margins as a result of providing more insight into purchasing decisions to their customers, or via equipping their customers with more financing; Value Networks cut through the centre of Value Shops' core proposition, which is the exclusivity of specialist knowledge via connecting people with various specialist skills directly.

Blockchain, as a Value Coeval, is disruptive to all three at the same time as being reliant on the processes within all three, A coin is produced – or mined – on a network wherein it is sold for a mark-up above the electricity cost use in producing it. At the same time, increased engineering specialisation gives rise to Layer 2 Blockchains which suddenly permit anyone to manufacture such currencies for a fraction of the electricity cost in the form of tokens. These tokens then trade against the original unit of currency that are more reliant on the value chain configuration (i.e. are hardware mined) such as Bitcoin, disrupting the coin's monopoly over fiat exchange as bitcoins are used to purchase the tokens once they are traded (thereby depressing their fiat values).

10. Token Families

That a Value Coeval's core value configuration processes are all in conflict with one another at once is why it makes sense to organise the value structures within digital assets into groups resembling families for the purpose of attaining maximisation of profits when investing into Blockchain currencies. Otherwise, merely holding a portfolio of digital currencies equates any Alpha in an investment portfolio with the equivalent amount of Beta that it takes to produce such alpha, thereby cancelling out the risk-adjusted return of the investment. I will take a moment to explain what I mean here, as the point involves some degree of comprehension of how fund managers value returns in a portfolio.

Beta is a term in finance meaning risk that is taken within an asset's volatility. He more the asset swings to the upside and then the downside, the higher Beta average it has. Beta is a negative characteristic for investors since the higher the beta of an asset the higher the implication that an investment in the asset is as likely to lost the investor money as it is to make him money. Alpha is the extent of returns on an investment that is above the market benchmark. When a portfolio manager makes money, the investor rates profits that are non-standardised (i.e. above the level at which the investor could have taken no risk at all and instead invested in a standard index fund) and that are low on volatility. This combination of lower than average volatility and higher than average returns on investment is what makes a great asset manager a well-paid member of the financial elite.

When faced with the prospect of investing in cryptocurrencies, the chief problem that asset manager faces is not that the returns in such assets are standardised (they are well beyond standardised in fact) but that they are equally as volatile as they are non-standardised. In other words, while there is masses of Alpha to be found in investing in cryptocurrencies – returns many hundreds and sometimes thousands of times over what can be achieved realistically in comparable traditional investment markets – there is a commensurate amount of volatility there too. In Bitcoin, volatility is 3% per day so if a fund manager who invests in US equity indexes wants to take a risk on bitcoin instead, that means that he has to be prepared to get 300% returns in his bitcoin investment to justify the same result on a risk-adjusted basis as he would get with a modest 25% return in US equities. Needless to say, a 25% return – even if it is on equities which don't go up as much - seems like a much more probable outcome than a 3-bagger on bitcoin, which in 2018 lost about 70% of its value despite outperforming that metric the year before. If the fund manager regularly attains a 25% return on US equities but falls short of the 300% gain on his bitcoin investment, the investor in his portfolio will simply remove their money form the manager's fund the following year, citing reckless risk management.

The goal of Token Families is to segregate digital asset investments into proxy, trading and delivery agency cryptocurrency vehicles so that there Beta I artificially supressed even as there is an emphasis on Alpha that is attained in the investment. When I say that our goal is to build a bridge between the conventional financial markets and the Blockchain investing market, this is predominantly what I mean. I do not mean so much that we want to try and make consumers all over the world pay in Ether for their hamburgers – fiat cash works perfectly well for this already. I mean that I want to assimilate the risk by extracting Beta out of these investments that puts so many financial professionals off investing. The way we do that is by creating digital note tokens, which artificially increase the amount of cryptocurrency an investor gets back by containing volatility inside a smart contract (and not randomising it by having it expressed in the form of erratic market returns) and by delivering pure Alpha on a structured basis via Genius Contracts at the same time, In order to hedge any Alpha/beta discrepancies out of our decentralised asset management model, we also employ cryptocurrencies that are in all appearances and code very much like Bitcoin to trade against a variety of different base pairs across the market.

Therefore, Token Families are hierarchically-arranged structures wherein Alpha is delivered to any digital asset investor via unique and specialised coding that results in the same or a similar set of returns as would be attained in a very volatile bull1 market, when the investor has in reality only been holding the digital currency proxy token (in the form of the digital note) all along. This is a revolution for digital asset management, even though so far no one in the technology or finance industries has yet recognised it is there.

11. F-type Networks

Token Families are initially arranged into pure Alpha delivery assets in the form of genius Contracts, specifically what we call F0 and F1 token types. We then increase the beta asoect if the Token Family slightly by graduating onto F2 token types: these are digital notes into which other digital currencies are played into. In order to shave some of the Beta however, we diversify the return of the F2 tokens partially into the F1 tokens so that there is some sort of underlying return already attained at the outset of the investment (assuming the F2 purchaser I also an F1 token holder, which is the case in our instance). Finally, we deliver alternate Blockchain coins in the form of network tokens that can be swapped via the Parent tokens. These alternate Blockchain network coin proxies will ultimately materialise into trading assets that can be sold against other digital currencies.B y delivering them directly into the F1 token vehicle – the Genius Contract – we allow the iinvestor (that including ourselves foremost as well) to access the market Beta in the form of a pre-Alpha assimilated return, since when the token I delivered via the GC it is presented as a return on investment, not as risk that is acquired in a speculative investment (which it would be if it was acquired via ta digital asset purchase directly, for instance). Thus, the F0 (risk neutral), F1 (return-biased), F2 (risk-reward biased) and F3 (return-enhancing risk) Tokens are what make up the Token Family's 4 dominant F-Type Tokens:

i) ***F0 Embryo Token:*** This is an F0 token. The token is now deployed in the form of ZUR-D and in the form of FUTC.

ii) ***F1 Parent Token:*** The F1 Parent Token is a token that is emitted via the Embryo Token. It carries inside it multiple other tokens that are emitted at their respective point of ICO. These tokens are called Child Tokens. The token is to be the new Genius Contract called MNY.

iii) ***F2 Child Tokens*** are specific aspects of the portfolio underlying the Parent Token portfolio. These tokens include PRX and Twins Notes..

iv) ***F3 Grandchild Tokens*** are tokens that belong to swaps for alternate-chain networks that are deposited via the F1 parent token contract. For instance, assume the creation of an AI Blockchain with the central currency Coeval running on its network. COE is initially distributed in ERC20 format as a token via MNY's Genius Contract. It is then swapped using a pre-customised atomic swap technology for its own-chain note. Another example of a F4 token type would be Zurshares tokens where a similar swap was enacted but where the distribution channel was via the primary Genius Contract (F1 Parent Token).

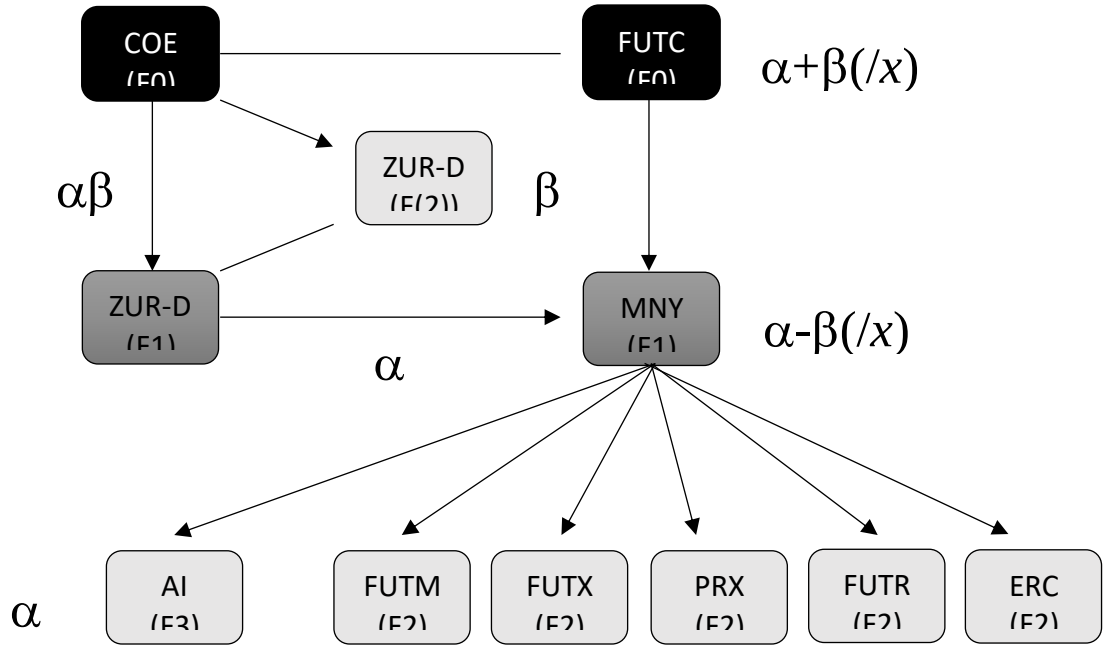
How these various portfolios are divided up among the holdings that are deposited in the Parent token portfolio is something we refer to as Favouritism. For example, if an F1 Parent receives 30% less BNB than PRX, then the Parent has 43% favouritism for PRX. The extent of favouritism for one token can signify a lack of overall diversification in the Parent Token portfolio.

The delivery of actual de-risked alpha is not a theoretical possibility, it a mathematical and practical fact, subject only to volume maintenance of the model. Later on we calculate the value of digital notes and genius contracts using discounted cash-flow equations and applying market-based price multiples to the synthetic income received in the form of various

cryptocurrency fee payments and F3 tokens dropped into the F1 contract and show how value-enhancing these proxy digital currency wrappers are to someone running a proper risk management strategy. I can offer an anecdote here, too.

We launched our first digital note called Futereum early on in January 2018 when ETH was trading at about $800. Futereum extracts a 15% fee (which is delivered into the Genius Contract, remember) and then after that there is no additional downside. Investors who play Futereum at the very start of the contract cycle, as was the case here, stand to gain about 13x the number of ETH that they invested. If they played FUTR into FUTB subsequently, there is approximately a value-running-total of 40 FUTR : 1 FUTB at the point of the exchange. Let's say the investor played FUTR then last year at $800 and received 114 FUTR. First it is important to notice that despite losing 70% of its value, a FUTR contract high on liquidity throughout all tiers would still have earned the January 2018 investors 300% in gains by now. This illustrates how the digital notes prioritise the Alpha over the Beta, unlike any other comparable market instrument in the world. Further, assume that FUTB is at its current price of $100 per FUTB, and the investor played what was now a temporarily diminished value investment into the contract. The net return of the investor at the end of both FUTB and FUTR cycles combined rises now to $325,000 at the present value that ETH is trading at (that means – despite the 70% plunge). Token Families, when utilised in conjunction with market-timing strategies and when sufficiently distributed in terms of overall purchases-and-re-exchanges, lower the risk of investing in digital assets to at most quite conservative risk levels that are acceptable for even professional investors at the same time as they increase the return dramatically in the way that such investors want to profit from such markets.

12. Value-at-risk (VAR) In Our Token Family



Our asset issuance began with pure Beta in the form of Coeval on Waves DEX. Coeval operated much like a non-securitised option, affording the token-holder rights to asset delivery of MNY, our F1 token delivery vehicle for non-standardised currency products. Zurcoin, likewise, represented pure Beta at point of purchase (note that it is technically an adopted currency and

therefore F(2) not F2).. We sold FUTC in return for both Zur-Draft and Zurcoin, as well as a few other cryptocurrencies, and given that it serves as the delivery repository for ETH fees from the digital note currency system, we ascribe it an Alphe+Beta(/x) and Alpha-Beta in the case of Zur-Draft. Likely for this reason Zur-Draft will have a volatile trading outlook if it is ever listed. Beta is still present at this F0 level, although it has been subtracted (and diminished) by the point of the F1 Token delivery. Our primary F1 token and top-level F2 tokens as well as F3 tokens delivered via MNY are entirely alpha-coefficient and function in effect like synthetic earnings. In this way, nearly all of the traditional volatility in digital currency investing is entirely diminished by investing in and recycling the F2 tokens into their own sibling contracts (in the case of ETH => FUTR/X) or by utilising a non-family contract we developed (FUTB).

PART 2: PRODUCTS

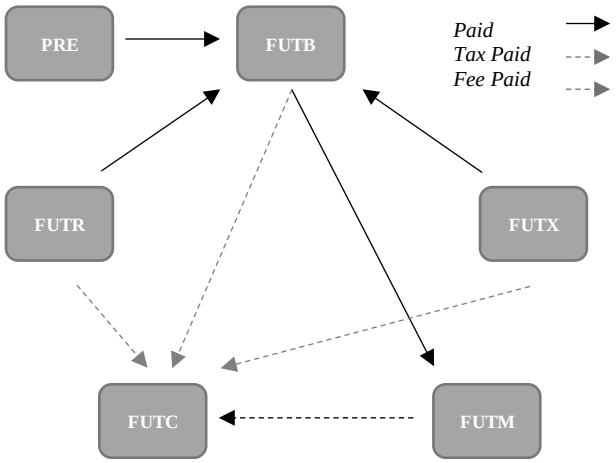
13. List of DAM Products Currently In Circulation

Digital Notes
Futereum (FUTR)
Futereum X (FUTX)

Futereum Bitcoin (FUTB)
Futereum Markets (FUTM)

Genius Contracts
Zur-Draft (ZUR-D)
Futereum Centurian (FUTC)

Tokens
Premine (PRX)



14. New Token Genius Contract

Within our DAM infrastructure, we operate two Genius Contracts. A beneficial aim would be to consolidated both GCs into one alternate GC that fulfilled the same range of functions (being those outlined in the first section) since value would be compressed and the tokens would also be much easier to market. The supply ratios of each GC we have in issuance currently are impracticably large (35 Trillion) and impracticably small (100,000) for effective market making. Finally, a third asset we created in December 2017 exists outside this DAM asset framework which is a token called Premine (PRX). PRX was given currency utility in the form of its ability to pay for Futereum Bitcoin (FUTB) along with the Fibonacci-based tokens. In Futereum Bitcoin, the smart contract sells proxy tokens in return for ETH or any other instructed ERC token (at the time of writing the Top 10 ERC tokens and PRX are valid payment methods) according to the first decade of Bitcoin price history and enacts a swap at the end on a like-for-like basis before beginning all over again ad infinitum. This produces an incredible gain for about 60% of all players (see the next section for more on this and on the Fibonacci-based Futereum token algorithms).

To make FUTB, we packaged over 4 additional separate smart contracts with 2,800 tiers of price and blocksize (used for the quantity sold per tier) data into a master contract which interacts with the FUTB contract to achieve the desired result. FUTB itself is the foundational token for another proxy that we created called Futereum Markets (FUTM). FUTM is

exchangeable for FUTB at a ratio that parallels the value of CoinMarketCap.com's index divided by 1 billion. This allows a holder of FUTB to effectively speculate on the real-time price movements of CMC, the same way that predictive algorithms allow you to do. To achieve this we built a separate external Oracle and configured the FUTM smart contract to extract the relevant API data at 15-minute intervals 24/7/365 which is broadcast from and obtained by the Oracle off a standard CMC Pro feed.

In order to make all of this feasible, my proposal is to create a new GC we shall label New Token. New Token is can be infinitely mintable via quarterly purchases. This process in and of itself lends an argument to there being a certain degree of centralisation involved since the new tokens will have to be minted every quarter from the asset creator's wallet address. My view is that criticism of centralised interference here depends on how faithfully in accordance with the pre-set rules new minting is administered and is only valid *if the token issuer were to issuer outside of the parameters here described*. Minting of new tokens will start at 2,000,000,000 per quarter for the first series and will halve every series (a series lasts for 12 quarters). As long as the issuer prints in line with the guidelines then the process is effectively still decentralised.

Because of the assimilated value characteristics between FUTB and FUTM, there being a mere CMCI/1B integer that stands between them, we can very simply correlate the two currencies as one synchronous expression of FUTB. In doing so, we can allow both currencies to be used to purchase at auction additional newly-minted supplies of New Token by asking the purchasers to send their FUTB and FUTM to the New Token smart contract between the 1st and the 3rd days of each month. On the 4th day, we allow current New Token holders to mine the contents sent in the prior 3 days and distribute whatever discounted amount of New Token is attributable to the New Token GC on that day for mining too. On the 5th day the rest of the newly-minted New Tokens are sent to the individual addresses that bid by sending either FUTB or FUTM, or both.

The proposed method of distribution and sale for New Token is as follows:

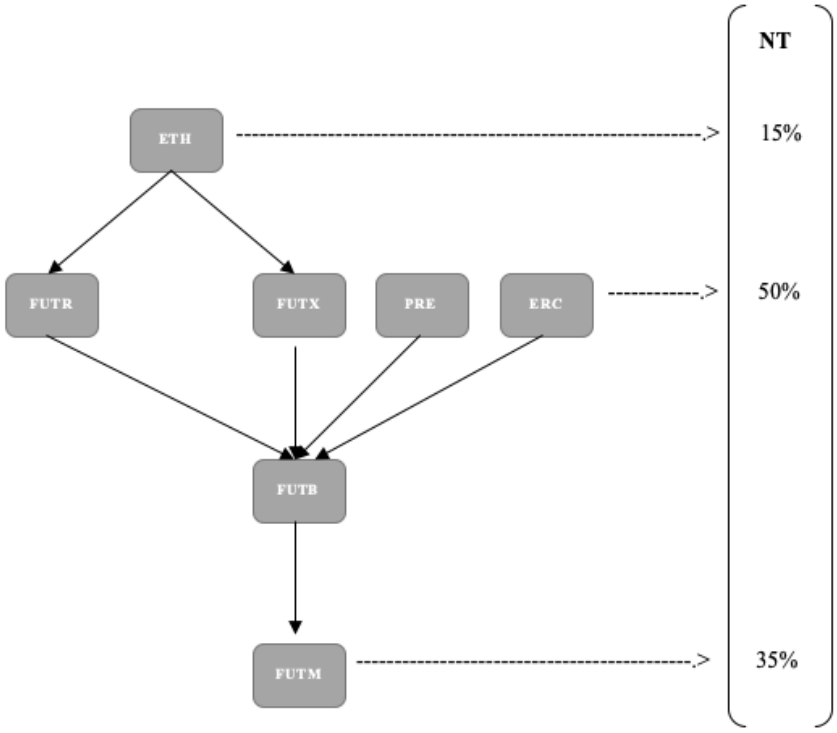
- **Total Supply:** Infinite
- **Zur-Draft:** (8,000,000,000)
- **Futereum Centurian:** (18,000,000,000)
- **ZUR one-time auction:** (2,000,000,000)
- **FUTB/M Auctions:** 1,000,000,000 per month x 36 months and halving every 36 months; distribution increases incrementally in favour of consolidated token holders at rate of 1.5% per month and is reset at start of Series

Into this new consolidated Genius Contract I am making an assumption that the issuer contributes an average throughout the year of $100,000 per day to the Genius Contract in the form of ETH and other tokens. This amounts to about $35 million a year, which gives each token an annual base value of about 10 satoshis per token (at the time or writing with BTC at $8,000). I make a further assumption that the issuer contributes the same into the Futereum smart contract network in order to create a sustainable digital currency ecosystem among the mineable token proxies we have deployed.

Taking this into account there is another 8 satoshis per token of annual base value in the Genius Contract. At the same time, there is real utility given to FUTB/M, which continue in a non-

linear trajectory gradually increasing in cost exponentially, further enhancing the pass-through value of the consolidated token contract.

15. Basic Functionality of Proposed System



In the proposed system, a 15% fee paid in ETH is lifted out of the Futereum and Futereum X contracts and deposited into New Token, while a 50% fee paid in FUTR, FUTX, PRE or any qualifying ERC payment is lifted at the point of all FUTB purchases and deposited into New Token. A further 35% of FUTM is taxed at source and sent to New Token every time FUTB is used to make the purchase of FUTM. This forms the baseline automated DAM income for New Token, and is compounded by monthly issuances which generate additional revenue in the form of contributed FUTB and FUTM digital notes sent to the New Token GC as a tender offer for the newly-minted supply.

16. Inflation Rates of New Token

Inflation is an aspect of currency investing that one does not find among the concerns of asset managers, and so it is the case with decentralised asset management structures that inflation plays a less pivotal role in determining ultimate value for the tokens than it does normally for cryptocurrency investors.

Specifically, because the DAM assets are always back by and producing what amount to synthetic real income returns, inflation merely amounts to a reduction in the per token earning power of the New Token Genius Contract. Due to the DAM assets' status as a digital currency and not a securitised traditional asset management fund unit or special purpose vehicle share, but rather as a currency instrument used to make purchases for things with, inflation is compensated for in the increased market capitalisation of the currency, which gives it a more scalable infrastructure.

It is one the most amazing intuitions when it comes to decentralised asset management that the function of increased underlying value performance, coupled with a steady increase in the gross supply of the currency, represents truly robust scalability in a way that neither any traditional fund structure nor any digital currency coin or token can by itself achieve.

First Series

New Tokens	Inflation	Net Inflation	Discount	Sale
28,000,000,000.00	-	-	-	
29,000,000,000.00	4%	4%	15,000,000.00	985,000,000.00
30,000,000,000.00	3%	7%	30,000,000.00	970,000,000.00
31,000,000,000.00	3%	11%	45,000,000.00	955,000,000.00
32,000,000,000.00	3%	14%	60,000,000.00	940,000,000.00
33,000,000,000.00	3%	18%	75,000,000.00	925,000,000.00
34,000,000,000.00	3%	21%	90,000,000.00	910,000,000.00
35,000,000,000.00	3%	25%	105,000,000.00	895,000,000.00
36,000,000,000.00	3%	29%	120,000,000.00	880,000,000.00
37,000,000,000.00	3%	32%	135,000,000.00	865,000,000.00
38,000,000,000.00	3%	36%	150,000,000.00	850,000,000.00
39,000,000,000.00	3%	39%	165,000,000.00	835,000,000.00
40,000,000,000.00	3%	43%	180,000,000.00	820,000,000.00
41,000,000,000.00	3%	46%	195,000,000.00	805,000,000.00
42,000,000,000.00	2%	50%	210,000,000.00	790,000,000.00
43,000,000,000.00	2%	54%	225,000,000.00	775,000,000.00
44,000,000,000.00	2%	57%	240,000,000.00	760,000,000.00
45,000,000,000.00	2%	61%	255,000,000.00	745,000,000.00
46,000,000,000.00	2%	64%	270,000,000.00	730,000,000.00
47,000,000,000.00	2%	68%	285,000,000.00	715,000,000.00
48,000,000,000.00	2%	71%	300,000,000.00	700,000,000.00
49,000,000,000.00	2%	75%	315,000,000.00	685,000,000.00
50,000,000,000.00	2%	79%	330,000,000.00	670,000,000.00
51,000,000,000.00	2%	82%	345,000,000.00	655,000,000.00
52,000,000,000.00	2%	86%	360,000,000.00	640,000,000.00
53,000,000,000.00	2%	89%	375,000,000.00	625,000,000.00
54,000,000,000.00	2%	93%	390,000,000.00	610,000,000.00
55,000,000,000.00	2%	96%	405,000,000.00	595,000,000.00
56,000,000,000.00	2%	100%	420,000,000.00	580,000,000.00
57,000,000,000.00	2%	104%	435,000,000.00	565,000,000.00
58,000,000,000.00	2%	107%	450,000,000.00	550,000,000.00
59,000,000,000.00	2%	111%	465,000,000.00	535,000,000.00
60,000,000,000.00	2%	114%	480,000,000.00	520,000,000.00
61,000,000,000.00	2%	118%	495,000,000.00	505,000,000.00
62,000,000,000.00	2%	121%	510,000,000.00	490,000,000.00
63,000,000,000.00	2%	125%	525,000,000.00	475,000,000.00
64,000,000,000.00	2%	129%	540,000,000.00	460,000,000.00
65,000,000,000.00	2%	132%	555,000,000.00	445,000,000.00
			10,545,000,000.00	26,455,000,000.00

Second Series

New Tokens	Inflation	Net Inflation	Discount	Sale
65,000,000,000.00	2%	132%	555,000,000.00	
65,500,000,000.00	1%	134%	7,500,000.00	492,500,000.00
66,000,000,000.00	1%	136%	15,000,000.00	485,000,000.00
66,500,000,000.00	1%	138%	22,500,000.00	477,500,000.00
67,000,000,000.00	1%	139%	30,000,000.00	470,000,000.00
67,500,000,000.00	1%	141%	37,500,000.00	462,500,000.00
68,000,000,000.00	1%	143%	45,000,000.00	455,000,000.00
68,500,000,000.00	1%	145%	52,500,000.00	447,500,000.00
69,000,000,000.00	1%	146%	60,000,000.00	440,000,000.00
69,500,000,000.00	1%	148%	67,500,000.00	432,500,000.00
70,000,000,000.00	1%	150%	75,000,000.00	425,000,000.00
70,500,000,000.00	1%	152%	82,500,000.00	417,500,000.00
71,000,000,000.00	1%	154%	90,000,000.00	410,000,000.00
71,500,000,000.00	1%	155%	97,500,000.00	402,500,000.00
72,000,000,000.00	1%	157%	105,000,000.00	395,000,000.00
72,500,000,000.00	1%	159%	112,500,000.00	387,500,000.00
73,000,000,000.00	1%	161%	120,000,000.00	380,000,000.00
73,500,000,000.00	1%	163%	127,500,000.00	372,500,000.00
74,000,000,000.00	1%	164%	135,000,000.00	365,000,000.00
74,500,000,000.00	1%	166%	142,500,000.00	357,500,000.00
75,000,000,000.00	1%	168%	150,000,000.00	350,000,000.00
75,500,000,000.00	1%	170%	157,500,000.00	342,500,000.00
76,000,000,000.00	1%	171%	165,000,000.00	335,000,000.00
76,500,000,000.00	1%	173%	172,500,000.00	327,500,000.00
77,000,000,000.00	1%	175%	180,000,000.00	320,000,000.00
77,500,000,000.00	1%	177%	187,500,000.00	312,500,000.00
78,000,000,000.00	1%	179%	195,000,000.00	305,000,000.00
78,500,000,000.00	1%	180%	202,500,000.00	297,500,000.00
79,000,000,000.00	1%	182%	210,000,000.00	290,000,000.00
79,500,000,000.00	1%	184%	217,500,000.00	282,500,000.00
80,000,000,000.00	1%	186%	225,000,000.00	275,000,000.00
80,500,000,000.00	1%	188%	232,500,000.00	267,500,000.00
81,000,000,000.00	1%	189%	240,000,000.00	260,000,000.00
81,500,000,000.00	1%	191%	247,500,000.00	252,500,000.00
82,000,000,000.00	1%	193%	255,000,000.00	245,000,000.00
82,500,000,000.00	1%	195%	262,500,000.00	237,500,000.00
83,000,000,000.00	1%	196%	270,000,000.00	230,000,000.00
83,500,000,000.00	1%	198%	277,500,000.00	222,500,000.00
			5,272,500,000.00	13,227,500,000.00

Insofar as the proposed model is concerned, we begin with monthly sales of 1 billion tokens minus the discount which resents the amount of the newly-minted New Tokens that are sent to the GC contract. Tokens are paid for by investors sending futb/m to the New Token GC over a two-day period from the 1st to the 3rd of the first month of the annual calendar quarter. Once finished, the 1 billion New Tokens are minted in the asset creator wallet and distributed proportionately to the amounts paid. Assume that Person A sends 1,000 FUTB, Person B sends 10,000 FUTB, Person C sends 3,000 FUTB, and Person D sends 6,000 FUTB to the GC over the two-day period and we are in the second month of the First Series, where the discount is 3%. Thirty-million tokens are sent direct to the GC for the existing New Token holders to claim. There are now 970 million tokens remaining for distribution. Person A receives 48.5 million tokens (5%); Person B receives 485 million tokens (50%), Person C receives 145.5 million tokens (15%) and Person D receives 291 million tokens (30%).

The gradually increasing quantity of tokens (an additional 1.5% per month) of newly-minted New Tokens that is sent back to the GC acts as a buffer to the inflation. At the start of the next Series however, the distribution resets, and starts with investors in the first quarter of the Second Series receiving 98.5% of the 500,000,000 New Tokens. Because of the halving of the

number of tokens offered every Series, there is no risk that new investors will tire of the increasing quantities of tokens that are gifted back to the GC. For example, in the last month of the First Series 445 million New Tokens are sold and over half the minted tokens constitute part of the New Token GC discount for existing holders. Ordinarily, one might assume that investors would then wait until the next month. In this case, however, their share of tokens received in the first month of the First Series is negligibly higher at 492 million, despite the lack of a discount, since the inflation rate has now been halved.

This gentle 1.5-percent-per-month reduction in the number of tokens distributed to the new buyers acts like a soft landing, preparing expectations among new buyers for the much smaller number of tokens offered in the subsequent Series gradually throughout the 3-year's monthly auction distributions. This is likely to maintain considerably more continuity and stability at the market-making level even as the initial half-decade period experiences net inflation of 198% across the space of just over half a decade.

PART 3: VALUATIONS

17. The History of Money

Money as we know it today has been a feature of our world since around 800 BC – 600 BC, when the first coins were minted in Turkey between the reigns of King Alyates II and Queen Hermodike II. Coins were first minted with the exact amount of metal stipulated and only later during Roman times did coins become regularly debased and did seigniorage become a feature of the manufacture of cash instruments. Separately, the Chinese Emperor Qin Shi Huang introduced a copper coin in about 200 BC which was made with a hole through the middle of it, affording it additional mobile utility by way of being able to be carried on the back of horses via a single string that ran through the coins' center as opposed to in much heavier ceramic pots. While the Chinese were some centuries late to adopt the concept of coinage versus western societies, their invention of the paper note in the 7^{tt} – 11^{th} century predates the earliest form of paper money in Europe by around half a millennium. Around 1700, banks in England began independently printing banknotes which could, once brought into the bank, be exchanged on the spot for a pre-agreed amount of silver. Thus, in their original form, bank notes were nothing less than securities according to the contemporary definition – that is to say, promises to pay the bearer a fixed agreed amount of money on a certain date in the future. Notes were designed with the intent of being able to represent larger sums of underlying base metal and to be more convenient to draw on. Later they became effective fundraising instruments for British banks, since customers would seldom exchange their notes for metal and thus a greater amount of value could be issued than was held in vaults by the banks.

18. Digital Notes: The Evolution of Tokens to Proxy Coins

Cryptocurrencies began with the creation of Bitcoin in 2009 by a pseudonymous programmer named Satoshi Nakomoto. All cryptocurrencies from the time of Bitcoin up until the Ethereum Virtual Machine went live in 2015 were referred to as digital coins. When Ethereum was invented, the creator Vitalik Buterin proposed a method of digital currency manufacture on top of its protocol whereby tokens could be constructed by entering a few lines of code into the Ethereum Blockchain and paying the miners in ETH, the network's local currency, for verifying the creation of the tokens. In economic terms, token money is money where the unit's face value exceeds the cost of production of the unit.

Nearly all money today in circulation can be considered token money. Blockchain Tokens bear a remarkably similar relationship to digital coins in that with the minting of a digital coin, the

face value may exceed the cost of production according to the market but it is still in part determined by the electricity cost in producing it. With digital tokens, cost of production is so negligible that sale price is always greater than production cost no matter what. Given that Blockchain is now one decade into its evolution as a financial technology (albeit it even if it is not yet one adopted by the major part of society), it becomes only logical to ask – what are the characteristics, the functions and what is the utility of digital notes? A digital note ideally ought to answer a question commonly asked since the gold standard was abolished by President Nixon in 1972 and one which you hear commonly asked on Blockchain today. That question is: what is the real value property of a unit of currency?

Given that notes began life as promissory paper, we can easily simulate such a scenario without necessarily securitising the product by enabling a re-exchange of the token for its original unit of purchase as a result of the smart contract's ability to escrow sums of payment for extended period of time. For example, if someone pays 1 ETH for a token we create on the Ethereum network, we can extract a fee for the manufacturing process and innovation of the token and subsequently we can allow the remaining portion of the ETH to be held securely in the token's smart contract until a certain date in the future when it can be re-exchanged for the token that it was first used to purchase.

If we alter the algorithm between issuance of the tokens and re-exchange of the tokens with the ETH in the smart contract, for instance by progressively issuing less tokens per ETH entered into the smart contract at point of issuance and then equalising all re-exchanges of tokens and underlying cryptocurrency in the smart contract on a fixed like-for-like basis, the result is one whereby a leverage effect in terms of the price of the initial unit of digital currency used to pay for it is created by the holder commonly getting back more ETH than they submitted initially. It was on this basis that we first created Futereum in January 2018. Thus, Futereum can be considered the world's first digital note.

At heart, a digital note is nothing more than a proxy digital coin, or a proxy digital token, being the unit of token money value that is employed in temporarily representing the digital coins in the token's smart contract prior to re-exchange. Because digital notes represent actual cryptocurrencies that they are in some sense categorically themselves, as opposed to an alternate form of value such as when a paper note represented a pound of silver, the effect is one whereby digital notes are able to be employed in leveraging and artificially magnifying potential investment returns for digital currency investors across a broad range of digital assets, and employing a whole series of highly-imaginative cost-of-sale formulas that ultimately affect the price of the notes themselves. In this way, we are the first to have identified how to engineer not just utility but also value on the Blockchain.

To summarise, a digital coin is a unit of cryptocurrency attached to the creation of a specific Blockchain. A digital note is a smart contract utility-enhanced token where the token is used by way of being ascribed a proxy value for the underlying value that is stored inside the smart contract for which the token is ultimately re-exchanged.

19. Value Reflection & Value Loading In Digital Notes

Digital notes can be expressed in the form of any token with a smart facility where the escrow function in the token's smart contract or similar facility represents a possible storage place for any sort of crypto value for a period of time. Digital monetary instruments, as for any monetary instrument, rise in value the higher the value of the goods they purchase rise in price. This is not a well-understood process, but it is a process we have identified in both real and in digital

economies. It is easier to identify in digital markets due to constrained supply of digital assets, making such trends more noticeable. We can call this scenario where a type of value is conferred onto the currency as a result of the currency being able to purchase an asset of a comparatively higher price value for what it is: *reflection*.

Value reflection is still not very well understood. An example is where 100,000 tokens are enabled to purchase 100,000 shares of a company at the value of $5 per share. In such a case, the tokens would immediately have $500,000 of *reflected value*. If they did not, someone else would simply purchase the tokens under that sum and then use them to purchase the shares which they would sell for a marked-up price to make an arbitrage profit.

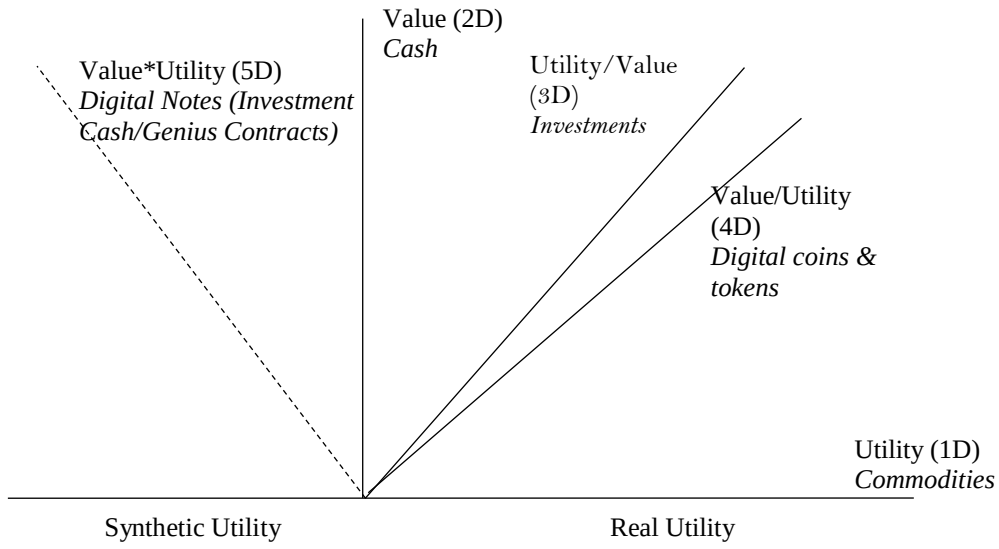
When a smart contract holds Ether inside it, the value reflection of the ETH reflected on the price of the proxy digital note holding it securely is essentially internally-reflected value that is somehow part of the character of the digital note. The process by which this value reflection comes about however does so slightly differently to that of most currencies, for it is only created at point of purchase.

Thus, value loading is the term we use to describe the moment when ether (or whatever other digital asset is being employed as the unit of purchase) is sent to the smart contract, safely-stored there and where the newly-issued digital note is simultaneously sent from the same smart contract to the purchaser with the additional utility of being re-exchangeable at some point with a greater or lesser amount of that initial purchase asset.

20. Intrinsic Value of Digital Notes

Digital Notes have an additional dimension of utility to most cryptocurrencies in their potential for re-exchange as units of proxy digital coinage with the original purchase asset stored in the smart contract. As a result of this additional dimension of Utility, digital notes also have an additional dimension of value that very significantly makes them far more conventional monetary instruments than standard cryptocurrencies except in a synthetic form. Whereas valuing most cryptocurrencies involves using a variety of experimental formula and "best-guess" approaches, valuing digital notes is no different at all to valuing any investment is. When undertaking an investment valuation, aby far the most common approach is to use a discounted cashflow analysis to arrive at a net present value of the asset being valued. The formula for calculating DCF for an asset value in present terms that is three years into the future from now is expressed as follows:

Value-Utility Dimensions



$$PV = CF_1 / (1+k) + CF_2 / (1+k)^2 + CF_3 / (1+k)^3 + [TCF / (k - g)]/(1+k)^{n-1}$$

where *PV* = present value, CF_i = cash flow in year *I*, *k* = discount rate, *TCF* = the terminal year cash flow, *g* = growth rate assumption in perpetuity beyond terminal year and *n* = the number of periods in the valuation model including the terminal year.

Presently, no digital asset can be valued this way as there is not an expected income receipt from a cryptocurrency, since its utility is purely that of a payment utility. Indeed, prior to the advent of cryptocurrencies, which due to limited supply quotas, tended towards big increases in value as a result of a more exponential demand function than availability permitted at equilibrium value, it was never imagined that currencies themselves would resemble income assets. Currencies prior to cryptocurrency innovation were merely mechanisms with which to pay with things for, and were only materially worth speculating on the direction of against one another by applying substantial (1,000% in many cases) portions of leverage.

With digital notes, however, there *is* an income receipt that is expected at some point in the future. This income receipt while not specifically a classifiable dividend or such is nevertheless manifest in the form of a re-exchange of the digital notes with the original units the notes were purchased with.

21. FUTR: Use of Phi Algorithm to Simulate A PoW Mining Effect

The Fibonacci sequence is a numerical order based on the algebraic function *Phi* first discovered by Leonardo Pisano and published the Italian mathematician's 1202 book *Liber Abacci*. The sequence was first postulated by Pisano as a means to understanding the potential infinite increase of rabbit populations in rural areas, and it is today used to underpin many of the world's most sophisticated financial markets trading algorithms. The ratio comprises a mathematical formula whereby the previous two numbers in the sequence combine to give the result of the subsequent answer to the equation *ad infinitum*:

1 + 1 = 2
1 + 2 = 3
2 + 3 = 5
3 + 5 = 8
5 + 8 = 13
8+ 13 = 21
13 + 21 = 34
21 + 34 = 55
34 + 55 = 89
55 + 89 = 114
etc.

A wide number of professional Crypto traders also rely heavily and in some cases exclusively on Fibonacci-regressive technical analysis today to formulate alpha-generating trading ideas and approaches. Futereum Smart Contracts must contain two apparently contradictory functions which must be equally satisfied in order to justify the utility of the tokens that are purchased in the form of Futereum Utility Tokens.

Those functions are the ones as set out as a paradoxical equation:

Function 1 = The smart contract results in a more equitable distribution of Ether than before it was employed by the user

Function 2 = Initial miners and high-frequency miners of Futereum Smart Contract tokens should stand to benefit more from this equitable distribution

The paradox is resolved by means of employing a Fibonacci equation inside the mining algorithm of the Futereum Smart Contract. In the event of the Futereum Smart Contract for Ether (FUTR), we employed the equation as an expression of the amount of FUTR an ETH receives in the process of mining the smart contract. We achieved this by progressively decreasing the amount of FUTR mined per ETH sent to the smart contract as the mining level is increased.

In the example table, which represents the actual number of Ether employed in the mining of the FUTR smart contract, 1 million FUTR initially distributed across a range of miners who collectively contribute 8,772 ETH; subsequently, 990,000 FUTR are mined by a total of 11, 124 ETH etc. Naturally, the progressive difficulty (cost) of the mining process is only compounded by any price increase in ETH. In this way, the Fibonacci equation driving the FUTR mining algorithm of this Futereum Smart Contract creates an identical mining effect to Proof-of-Work (PoW)mining, where difficulty of a coin's mining is subject to two factors, those being the cost of the unit of value being mined and the relative age of the Blockchain at the point of mining.

There is thus far no more economically efficient mining protocol type than PoW. PoW is such an effective method of digital currency mining precisely because over time it forces the miners into higher cost-per-unit mining equations, resulting in an intrinsically higher cost (price) per coin. Economically this process produces a greater expansion of the network underlying the mining process. This POW-likeness of the FUTR does not in itself result in a more equitable distribution of Ether to the FUTR miners however.

Futereum (FUTR) Digital Note Algorithm

Level	FUTR	ETH	FEE (ETH)	FUTR/ETH
1	1,000,000	8,772	1342.10	114
2	990,000	11,124	1701.91	89
3	960,000	17,455	2670.54	55
4	910,000	26,765	4095	34
5	720,000	34,286	5245.71	21
6	650,000	50,000	7650	13
7	560,000	70,000	10710	8
8	460,000	92,000	14076	5
9	320,000	106,67	16320	3
10	170,000	85,000	13005	2
Total	**6,740,000**	**502,067**	**76,816.28**	**15.84**

To achieve this using the Fibonacci sequence we employed in the smart contract development, we embedded an exchange function at the end of a fixed period in time after the last mining of the smart contract took place.

If all the FUTR produced by the smart contract is mined in under a 12-month period, then at the end of month 13 a temporary function is enabled in the smart contract whereby a FUTR holder is given a brief period of time to exchange the amount of FUTR held for a percentile-wise equivalent amount of ETH held in the smart contract since the point when the FUTR was mined.

This percentage-equitable exchange of FUTR with ETH held in the smart contract, when combined with the Fibonacci equation that is the basis of our mining algorithm, results in simultaneous equitable distribution of Ether to FUTR holders as well as preferential treatment of early and regular FUTR miners, since those who mined FUTR in the initial period of the smart contract and those who mined FUTR when ETH was relatively cheaper in value and who are thereby likely to be the most active miners gain more than late-stage one-off miners of FUTR.

22. Non-Premined Approach: Fee-Enabled Mining Solution

It has been a relatively popular occurrence recently for developers of Blockchain and smart contracts to premine a portion of the token supply as a means of rewarding themselves or the foundations they represent in financial terms for the work undertaken at point of development. We are uncomfortable with the concept of premine for the reason that it tends to lead to a moral hazard effect, whereby the party who is the beneficiary of the premined tokens is usually excessively rewarded versus those holders who either mined the tokens or who purchase the tokens on an exchange. As a direct consequence of premine containing such a developer-biased value function, core developers who ought to be safeguarding the value of the projects they undertake to build frequently accept offers for their tokens on exchanges which are far below an acceptable market price for that of their customers, and this substantially undermines the utility token price over time.

Therefore, instead of premining the FUTR smart contract, we developed a fee schedule based on achievement of actual mining levels being achieved over time. Assuming 10 Levels of mining difficulty being achieved over 12 months, with an additional one-off charge for product development, the fee schedules we developed is as follows:

- Monthly Charge: 0.4% for first 12 Months
- Level Cost: 0.6% per Level 1-10
- Administrative Fee: 5%

These fees, which comprise a total of 15%, are removed at source upon mining of the FUTR in ETH tokens. We directed these fees into FUTC, and they will ultimately redirect into New Token.

23. FUTB As a Digital Note

FUTB is a unique type of digital note as a result of its *loaded reflected value* attributes. FUTB receives FUTR and FUTX as a form of payment and is made available for sale according to a price history identical to that of Bitcoin's historical trading cost multiplied by the value of one FUTR and/or FUTX per every $10 expenditure in Fiat terms. This results in a number of different scenarios. FUTB is usually either cheaper or more expensive to purchase on an

intrinsic basis in either FUTX and/or FUTR at any one time and/or depending on the amount of FUTB an investor is seeking to purchase, and rarely are the two likely to compare in terms of true value. Unless both currencies are mineable via ETH at exactly the same level at the same point in time, depending on the amount of FUTR an ETH holder is looking to purchase via smart contract and/or on exchange, four purchase alternatives are possible:

i) Purchase FUTR with ETH via smart contract and mine FUTB
ii) Purchase FUTX with ETH via smart contract and mine FUTB
iii) Purchase FUTR with FUTM via exchange and mine FUTB
iv) Purchase FUTX with FUTM via exchange and mine FUTB

FUTB receives FUTR and FUTX as a unit of purchase. FUTR and FUTX are received as a unit of purchase for ETH. Therefore, FUTB is a "proxy of a proxy" for ETH. The result is one where at the end of 21 million units of FUTB issuance, all FUTB is equally exchangeable for a like-for-like percentage sum of FUTR and FUTX that is stored in the smart contract. Because FUTR and FUTX both store ETH in their own smart contracts, and yet much of the ETH that is stored therein is likely to become non-swappable for a long period of time as a result of the time that the ether proxy spends in the FUTB smart contract (and is therefore non-exchangeable with ether for that period) the amount of ETH per FUTR and per FUTX is likely to increase a lot during the period that FUTR and FUTX are in the FUTB smart contract.

At the point of re-exchange, which is to say, at the point when FUTB switches for the FUTR and FUTX distributed share that was used to purchase it, the amount of ETH per FUTR/FUTX received per FUTB could be much greater than the anticipated 1 ETH / 34 FUTR average that is currently the case in forecast Futereum outcomes. In fact, it may well be the case that more than 1 ETH per 1 FUTR and 1 FUTX is the resultant exchange amount. Either way, with 1 FUTB being exchangeable for approximately 80 FUTR, the resultant outcome whereby even the highest level of value obtainable on a per-level / cycle ratio, wherein 1 ETH is the cost of 2 FUTR, the ROI for all FUTB sales is net positive. Therefore, if we want to calculate a very simple net present value for one ether invested in either FUTR or FUTX at the point that Futereum token is invested in FUTB the calculation on a discounted cash-flow basis is:

$$\left(\frac{\$-500}{1+50\%}\right)^{1}+\left(\frac{01\times 80+(0)}{1+50\%}\right)^{2}+\left(\frac{\$4250}{1+50\%}\right)^{3}+\left(\frac{\frac{(\$1{,}687)}{(50\%-25\%)}}{(1+50\%)}\right)^{3-1}$$

$$=\$\mathbf{15,788.75}$$

This exponent on this calculation shows the power of the FUTB mining tool when used in conjunction with the FUTR/FUTX tokens. Specifically, 1 ETH with the value of $500 has a net present value automatically, merely by positioning of the FUTR into the FUTB smart contract, of over $15,000. The result is a net present value gain of 29,000%, and this is discounting at an aggregate compound rate of 50% a year, an incredibly unlikely event in and of itself.

24. Applying DCF To FUTR and FUTB

When we purchase 114 FUTR for 1 ETH while the Futereum smart contract is selling in the first of ten tiers, by the time the exchange of all FUTR and all Ether takes place, assuming that the total number of tokens that count be issued are so in year two, then we would be able to

value the FUTR's net present value discounting the asset at a comparable rate of return we might achieve in the underlying asset. Assume that ETH is $500, and that you expect to receive 8x the amount of Ether from the Futereum smart contract as per the realistic probability of doing so if all the tiers of the smart contract are sold out somewhere in year two. Further, you assume that ETH has risen to $2,000 by three years' time and that the growth rate going forward is 35% (around half). The Futereum smart contract will not accept any re-exchange until year 3 if that is the case. Further, you estimate that you make around 50% profit per year trading comparable cryptocurrencies. Therefore:

$$\left(\frac{\$-500}{1+50\%}\right)^{1}+\left(\frac{0}{1+50\%}\right)^{2}+\left(\frac{\$4250}{1+50\%}\right)^{3}+\left(\frac{\left(\frac{\$1{,}687}{50\%+25\%}\right)}{\frac{(50\%-25\%)}{(1+50\%)^{3-1}}}\right)^{3-1}$$

$$+\left(\frac{\frac{\$2000\times 8}{\frac{50\%}{35\%}}}{(1+50\%)^{3-1}}\right)\times 8$$

$$=\$\mathbf{4,717.50}$$

The result is that the value you have obtained from the Futereum smart contract's functionality is $4717.50 per Ether, representing what is a time-adjusted equivalent present value of an additional $4,267.50 when Ether is in the form of a Futereum digital note. Presciently, the DCF formula can be used to certify whether holding the actual underlying asset or whether purchasing whatever digital note proxy coin equivalent is a better bet. For instance, assuming that the appreciation of Ether is expected to be around 1000% per year for the next 3 years then:

$$\left(\frac{\$-500}{1+1000\%}\right)^{1}+\left(\frac{0}{1+1000\%}\right)^{2}+\left(\frac{\$50{,}000}{1+1000\%}\right)^{3}+\frac{\left(\frac{\$50{,}000}{50\%+25\%}\right)^{3}}{(1+1000\%)^{3-1}}$$

$$+\left(\frac{\frac{\$45{,}000}{\frac{1000\%}{100\%}}}{1+1000\%}\right)^{3-1}\times 8$$

$$=\$\mathbf{127,495}$$

In this case, our expected value for Ether in 3 years' time is $50,000, with an additional $5,000 a year in future growth since we discounted the growth down by 10x after the realization of the investment and since Ether was growing at a rate of an additional 1000% per year during the invested period.

The value at which we invest our $500 is enhanced with thousands in additional capital once the Ether is inside the Futereum smart contract as we can see. This means that to make the same sort of return as we could expect to make using making Futereum digital notes we would

need to have an extra 200 times the capital we do today! Such a scenario is not unrealistic in venture capital investments, doubling the potential excitement for such digital note products. Clearly, the ability to calculate currency values on the same basis that we do income-generating assets is a unique and unchartered innovation prospect.

The flexibility of digital notes to make permissible discounted cash-flow valuations of cryptocurrency utility is perhaps the most exciting aspect of the smart contract build in terms of wider application to the investment world, for in allowing such valuations to be performed, digital notes can be compared on a like-for-like basis directly with all sorts of investments, such as real estate, stocks, bonds and others. Further, such investments now that they have a discounted future value based on a specific income ratio equivalent, can be ascribed multiples for trading, in the way that securities are valued via the business cash flows. Remarkably, all this is made possible without securitizing a single portion of the digital currency unit as well, inviting the possibility for significant levels of disruption in equity and securities markets henceforth over the next few years.

25. Valuing Futereum Centurian (FUTC) & Genius Contracts For Market Returns

To calculate the income receipt from FUTC (and by association to New Token, too) is even easier than with the digital notes. By averaging a daily return per token that is achieved on the FUTC product it is possible to create synthetic P/E multiples for the trading of Genius Tokens as well. Assume that $100,000 a day is played into the Futereum Smart Contracts, generating an ETH-based dollar equivalent fee payment of $15,000 a day which is sent to FUTC. In addition, all of this FUTR/X is played into FUTB subsequently, resulting in approximately half of this amount in FUTR/X being paid into FUTC as well. On top of that, all the resulting FUTB is played into FUTM. We can easily calculate how much of the original ETH is retained by the FUTC holder as follows (we assume ETH is $500 again here):

i. 200 ETH x 15% (fee) = 30 ETH from direct FUTR/X fee payment
ii. 170 ETH in x 50% (fee) = 100 ETH in the form of Futereum contracts paid as fees
iii. 85 ETH x 35% (tax) = 29.75 ETH in the form of FUTM tokens paid as tax
iv. A total of 159.75 ETH per day x 365 days = 53,308.75
v. Value in USD of annual receipts per token (/100,000) = $291.54

At this point, assuming the issuer is contributing this minimal base liquidity in accordance to my earlier hypothesis in Part 2, we could reasonably apply a growth multiple to the GC given that additional users are extremely likely to participate in investing into the digital note contracts as a result of this. Further, the New Token minting contributions are likely to push such numbers even higher still. Additional user contributions may total as much as 40x, much like a high-growth security, in which case a market value of $11,661.75 would be applicable using very conservative valuation logic. The point here is not so much to illustrate the high price of the token (that varies according to the contract liquidity of the digital notes of course), but to illustrate how a synthetic price-to-earnings multiple is easily applied to the GC on the basis of the daily average liquidity of the digital note contracts.

26. Taxation

FUTM is a digital note that we designed to parallel to some extent the value properties of FUTB with a market-based function. We achieved this by taking the CMC capitalisation 15-minute interval Pro API result and dividing it by one billon, which we then used as the expression for the number of FUTB required to purchase the FUTM at retail price:

CMC/1B * FUTB = FUTM Retail Price

Whenever someone purchases FUTM wholesale, unlike the other Futereum tokens where an amount from the underlying payment token is sent to FUTC, in this case a 35% tax in the form of FUTM is paid to FUTC.

27. Digital Notes – Scenario Analyses

DNs involve the synthetic application of payment utility via smart contracts for one or more digital tokens combining to produce a natural hyper-inflation of value. By combining and crossing over various token-release algorithms it is possible to create a number of value events that, once combined, produce an extraordinary increase in gross value over the amount of value initially invested over a very short space in time. This is the primary utility of DNs.

What happens to 1 ETH invested in FUTR and FUTB Digital Notes?

The following are all realistic foreseeable examples at the time of writing in mid-2018:

1) 1 ETH = $450. This is invested into the Fueterum smart contracts (either FUTR or FUTX) and produces 114 FUTR or 114 FUTX (on the first mining tier; soon it'll be 89 FUTX in return as the first mining tier is nearly used up!) That is $3.94 / FUTR or FUTX!

2) After that, use FUTR or FUTX and send it to the FUTB smart contract. The FUTB smart contract mines at roughly the historical cost of BTC. In the example going from the first FUTB tier, we get in return for 114 FUTR, which purchases us 5579.43 FUTB. Therefore, we have spent 8 cents per FUTB in this transaction. Half the FUTR you sent is stored in the FUTB smart contract with the other half paid out as part of a feemine. Therefore about 56.5 FUTR is stored in return for your FUTB, giving your FUTB an intrinsic value of around 4 cents / FUTB at the point of purchase (because it is backed by half the FUTR you paid in the form of a potentially swappable asset).

3) As FUTB synthetic mining continues, the average cost of FUTB increases a lot, meaning more FUTR and more FUTX loaded with ETH in their own smart contracts begins to build up, increasing the average intrinsic value of FUTB.

4) At the end of the 21 million FUTB issuance, all FUTB swaps back for all the FUTR and the FUTX in the FUTB smart contract. The rate at which the FUTB swaps back for FUTR is about 80 FUTR per FUTB. Therefore, you now have 446,355 FUTR in your possession after you have swapped your 5579.43 FUTB.

5) Now, the 446,335 FUTR has an increasing amount of ETH stored in the Futereum smart contract. We don't know how much ETH will be stored in the Futereum smart contracts, but approximations based on timing events indicate that around 0.25 ETH per 1 FUTR is a likely amount. The likely worst case possible event is that 0.03 ETH per 1 FUTR will be yours (almost certainly it will be higher). In this worstcase event, your total ETH after you have swapped FUTR into its smart contract results in 13,525.30 ETH in return for your 446,355 FUTR.

6) Assuming no increase in the price of ETH at all, the return in USD with ETH at $450 is $6,086,387. This represents a net return of 1,352,430%!

What about later-stage miners? Are they penalized to subsidize the earlier entrants?
The first thing that strikes you about any return of over one million percent is the potential for there to be some sort of Ponzi-like quality to the value production process. However, when configured correctly, there is no Ponzi value creation process in play at all. How is this?
Simply, because of the combined use of the Futereum smart contracts (there is either FUTR or FUTX that can be used to mine FUTB) and the FUTB smart contract, both of which are releasing tokens according to different algorithms, on top of the fact that prices vary according to differing values of the underlying coins – in this case, ETH – there is every chance that a later-stage miner may be able to obtain better value than an earlier-stage one.
To see this illustrated, consider the following:

A) A purchaser of FUTB playing at tier 2,000 with an average price of 26.9 FUTR / FUTB purchases FUTR from the Futereum smart contract at the then-present value of 2 FUTR / ETH, since the Futereum smart contract is on its very last mining tier. ETH is selling at $450 / ETH. At tier 2,000, FUTB is selling for 26.9 FUTR / FUTB. Therefore, the purchaser spends $6,052.90 per FUTB purchased. At the end of the swap-back, ETH is still $450 and he receives a return of around 80 FUTR / FUTB. He waits for a period of time to elapse, until the FUTR reaches the final synthetic mining tier in the smart contract, and sells his 80 FUTR for a discount of 15% to smart contract (ETH is still $450 / ETH). The miner has made a profit of $24,547.10.

Tier: 2,000 | Price Paid / FUTB: $6,052.90 | Profit: 306%

B) Another purchaser of FUTB decides to come to the party a bit later and joins in at tier 2,500, where FUTB is retailing from the smart contract at a price of 122.48 FUTR / FUTB. Clearly, if he holds out until the swap-back, the miner will end up with a net loss in pure FUTR terms (although this would not be a case after multiple FUTB cycles as a result of the gradual build-up in unswapped FUTR that lies in the FUTB smart contract). However, this miner purchases FUTR at a cost of 1 ETH / 114 FUTR and ETH is still $450 / ETH. Therefore, the effective dollar cost of mining FUTB at this stage in the synthetic mining cycle of FUTB when utilizing the comparatively cheaper FUTR smart contract value is $483.47. Later on, at tier 2,700, this miner notices that FUTB is selling at 727 FUTR /FUTB. Discounting his FUTB by 15% to smart contract mining cost in terms of FUTR, he sells for a net profit of $112,082.09.

Tier: 2,500 | Price Paid / FUTB: $483.47 | Profit: 23,182%

C) A third miner purchases the second miner's FUTB at $112,565.56 and holds out until the end of the swap. During this time, ETH experiences something of a cryptobull euphoria, and soars in value to $11,000 / ETH. After swapping his FUTB for around 80 FUTR, he then waits for the Futereum smart contract to reach tier 10 and sells for a 15% discount to market. The miner has made a net gain of $327,917.91.

Tier: 2,700 | Price Paid / FUTB: $112,082.09| Profit: 232 %

Clearly, the circumstances driving the profitability of FUTB as a cash instrument are so varied and so lacking in early/late stage correlation that there is no pyramid economics present. The outcome of profitability for the miner of FUTB simply varies, for a variety of reasons, from market timing of the purchase and sale of ETH, FUTR and FUTB, and a whole range of value events that lie in between.

Consider that much of the FUTR and FUTX in the FUTB smart contract, and by the same law of logical reasoning, much of the ETH in the Futereum smart contracts will not swap and thus will become excess FUTR / FUTX / ETH to swap-back for at the end of the next cycle.

We can factor in an additional variety of calculations that show how even for the purchaser of FUTB at values far in excess of $100,000 / FUTB, the smart contract makes economic sense on a wage growth-adjusted, inflation-adjusted and market return-adjusted scale, and the product simply adds up to being something of a great long-term investment / value-inflated cash instrument!

28. Summary of Our Decentralised Asset Management Blockchain Framework

A Blockchain framework that adheres to the principles of asset management but which remains simultaneously a non-securitised cash-focused transaction protocol adopter creates two powerful effects. The first effect is that of permitting global and sustainable scale for the technology protocol.

It is assumed that much of Blockchain's biggest barrier to scale is technological. This is untrue. Many Blockchains – even Bitcoin's Blockchain – are configured to handle far greater numbers of users than is currently the case. The problem that Blockchains most face today is that there is no pure value transference that takes place other than point-of-sale transactions. This is not the case in the global economy, where purchase transactions form a very small component of monetary scale.

Employing our DAM framework we are effectively able to bring this real-economy scale to the technology protocol. The second powerful consequence of implementing our DAM framework on Blockchain is that it makes asset management more efficient and in effect, decentralising a conservative fee-chomping financial product into a zero-fee decentralised currency pair system. The result is that the scale potential of the asset management model is massively increased as a reflection of the market capitalisation (gross value) of the entire currency, and not just a straightforward product adherence to assets under management (AUM). Taken to its natural extent, this combination may yet prove to have dramatic consequences for the real global economy and innovation in general.

Perhaps there will be a reader asking himself: "*If it's this easy to make money, why hasn't anyone configured cash products this way on the Blockchain before now?*" To understand the likely answer to this question, an important realization needs to be grasped and it is one that is worth stating for the closing passages of this paper. Despite the revolutionary changes in the way we live from the evolution of technologized healthcare systems, to methods of transportation that would have previously been unthinkable to our architectural construction, to our entertainment and digitization of information, *there has been no net alteration to the way we treat value in an economic sense in the past 2,000 years or more.*

This is a somewhat shocking reality when you consider the implications of it: everything, from the way we fight wars and conquer entire countries (with digitally-enabled missile-bearing hyper-fast aerodynamic vehicles that cover hundreds of miles an hour a mile above the earth) to the way we live (with electricity enabling the lengthy and bacterially clean storage of food and drink in refrigerators and lighting up our homes in the dark as well as cooling them down in the heat or warming them up in the cold) has altered so radically that to the average citizen of Julius Caesar's Roman Empire the world would seem completely unrecognizable yet by the

same measurement, the fundamental way in which we calculate and redistribute value would be entirely familiar.

The net effect of this bipolarity in innovation trends between the scientific revolution our lives have undergone in the past two millennia and the consistency of how we treat the value that fuels such changes necessarily dictates that there is bound to be a dangerously yawning wealth gap open up.

Sure enough, we have arrived at such a point in time. Our perception of transactional value only radically altered as recently as 2009, with the innovation of Bitcoin: before such a point, transactional value manufacture was considered purely the domain of megabanks and sovereign governments. Shortly after, when Vitalik Buterin designed an easy-to-use application that effectively sat on top of a Bitcoin-like internet protocol (the internet protocol itself was then only two and a half decades old, remember) the ease with which everyday individuals could create synthetic Bitcoin-type replicas and ascribe them individually-constructed and sold values opened up exponentially more.

With this in mind it is not difficult to see how rudimentary our economic calculations still are. When we take into context the history of the development of the internet in the late 1980s, to the development of an online consumer economy in the late 1990s and 2000s, to the development of an internet monetary protocol at the end of the 2000s and the installation of "smart" financial technology on top of that protocol in the mid-2010s that there should be in the present day, it is plain to see we have only just begun to scratch the service of innovating in the context of consumer finance.

The emergence of superior digitally-enabled value-related smart technologies could, like the other innovations that we have been afforded over the past two millennia, radically alter our notions of equality, wealth and society.

PART 4: INTELLIGENT ASSETS

29. The Problem With Contemporary Blockchain Markets

There have been two major events in Blockchain innovation history. The first was the creation of Bitcoin by Satoshi Nakomoto in 2008. This gave rise to a software that resolved the double-spending problem traditionally associated with digital currencies by means of harnessing a probabilistic mathematical equation in the manufacture of bitcoins. The second major event in Blockchain innovation was the 2015 creation of the Ethereum network, which allowed anyone to deploy a similar non-forgeable unit of currency without the requirement for building a Blockchain for each individual currency. The way this worked was via redistributing computer power across the network and reusing the cost to support an additional layer of the Ethereum network on which digital tokens (as opposed to Blockchain coins) were supported.

The explosion in the number of digital currencies as a result of Ethereum's global network propagation has resulted in an innovation irony. That irony is that while Bitcoin and Ethereum are both decentralised networks, the exchanges that digital currencies trade on are for the most part not. Therefore, while each network confirms to the principle of preventing double-spending problems and ensuring fair and transparent market behaviour, nefarious actors have with the rise of the number of cryptocurrencies been able to simply bypass the barriers the networks themselves put up against unethical behaviour by running crypto exchanges off

centralised servers which are entirely hidden from public sight. As a result, market manipulation is rampant in the digital currency universe, with many Blockchain projects listing tokens for a minimum of $30,000 upwards only to find that there is no liquidity for their currency. In the event their currency does do well, most of the time the central server they are on (i.e. the exchange operators) quickly crashes the price at the point they are financially incentivised to put profitability over their customers' user experience.

Part of the problem with bad actors becoming an increasing influence on digital currency markets has to do with the highly-centralised mining processes that dominate the new currency protocol. In the case of proof-of-work Blockchains, coin age usually serves as a function of mining priority. This rule was implemented to incentivise miners to hold larger shares of coins for longer so that the price of the digital currency remains stronger as demand outpaces supply. The problem is that holding periods are by themselves not a suitable weight for determination of preference. As a result of this feature of the Bitcoin Blockchain, market makers and other liquidity providers are not incentivised to create meaningful liquidity. In this way, they are directly incentivised to purely prioritise the liquidity of one currency only – that which is easiest for them to cash out in; Bitcoin.

30. DAM AI Blockchain Solution

In the period since Bitcoin was launched, there have been large-scale improvements in the overall usability and application of Artificially Intelligent (AI) software programs, especially in the are of financial technology. Many so-called "robotraders" employ self-learning trading systems that have been proven to profitably engineer consistent trading returns based on real-time assessments of market behaviour and pricing.

An artificially-intelligent Blockchain that was simultaneously integrated into its own exchange platform and which traded against a whole variety of non-securitised and ultimately too, securitised assets, as a digital cash product would end a lot of the problems that today's Blockchain innovation drain suffers from, with the simultaneous and ongoing continual copy-and-paste of traditional Blockchains by new teams, and subsequent garage-sale, followed by the exchange pump-and-dump of the new chain's currency, which after that is most often dimply abandoned altogether. Specifically, an AI Blockchain would achieve the following:

i. **It is market price-efficient.** By constantly scanning the exchange for price updated and volume order updates, the AI Blockchain can easily synchronise its mining algorithm with whatever price increase or decrease is likely to occur in its own currency over the short- and medium-term. This will over time make it a stronger source of purchasing power and act as a more robust store of value than any digital asset today, where there is no correlation between currency inflation and market pricing, leading to sudden one-time spikes and erratic volatility versus steady, scalable value growth

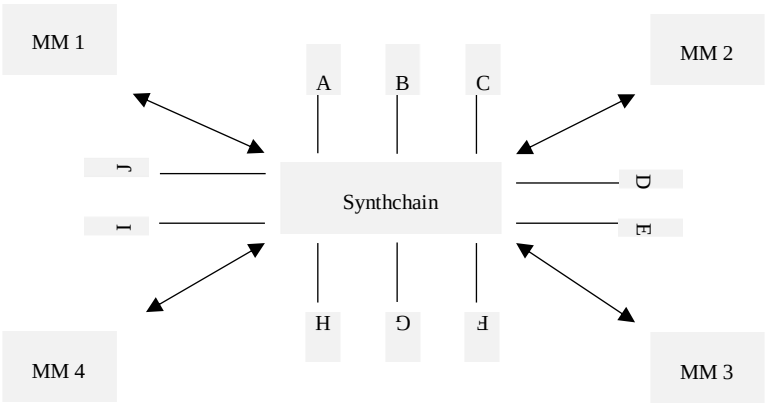
ii. **It rewards superior market behaviour.** One of the best features of the AI Blockchain is that it could assess how wallet holders and market makers were behaving, and ascribe accounts (and by association strongly connected accounts) with individual weights which would determine how much of the newly mined coins a wallet holder received. In doing this, it would look at factors such as how much liquidity that account brought to the network, how aggressive the account was about trying to quickly profit in the event of market price increases in the currency, to which accounts the account holder was connected with etc.

We can make a Blockchain network with additional AI engineering embedded fairly easily. To do so we would create an integrated exchange-Blockchain network, such a Waves or Nxt. This would make obtaining the desired wallet data and market-making data from each wallet in particular much easier. I will refer to this integrated wallet-exchange-Blockchain as "the Platform".

31. DAM AI Blockchain Platform

The Platform requires every wallet holder to stipulate a rate of return they desire on their currency. A user may input as much or as little as he wants in interest. The Platform will take into account the user's history, his behaviour on the exchange (for instance, providing liquidity to newer currency pairs constantly will earn a the wallet holder a better weight) and it will compare the interest rate multiplied by the user account's weighting against all the other multiples of user account weightings. The Blockchain will assess what is likely to happen to its market price over the next calendar month. Depending on how well or how poorly the currency is likely to do, the chain will ascribe a positive or negative exponent multiple to the selected interest rate of the user account.

For example, assume 10 user accounts, A-J. Each account stipulates a rate of interest that will in part be determined by its own weight. Clearly, an account cannot run a deficit of notes for very long, so a logical assumption is that after the relative weighting is applied, the real interest rate (mining ratio of new coins) will not result in a greater than 100% clawback or the account is simply discarded from the data pool. Therefore, anyone running a negative real interest rate would set their interest rate to a minimum of 1% since increasing the requested rate and multiplying by a negative would merely serve to increase the decay of the account balance. Account A requested 1% but has 30% account balance erosion. Most accounts in good standing



Account	Notes	IR	Notes Requested	Weight^r	Notes Issued	RIR
A	380,000.00	1%	3,800.00	-0.30	-115,128.75	-30%
B	50,000.00	2%	1,000.00	0.14	1,200.00	2%
C	150,000.00	10%	15,000.00	0.22	19,800.00	13%
D	200,000.00	1%	2,000.00	-0.54	-1,356.67	-1%
E	500,000.00	1%	5,000.00	-0.37	-81,979.58	-16%
F	75,000.00	1%	750.00	0.61	1,425.00	2%
G	80,000.00	1%	800.00	0.54	1,440.00	2%
H	450,000.00	10%	45,000.00	0.04	47,700.00	11%
I	900,000.00	30%	270,000.00	0.34	405,000.00	45%
J	1,500,000.00	5%	75,000.00	0.34	112,500.00	8%
Net	**4,285,000.00**	**6%**	**418,350.00**	**1.00**	**390,600.00**	**4%**

Highlights

Targeted Return for month
10%

Average Required Real Return
4%

Additional Premium
6%

Supply
4,005,000

Inflation
9.1%

Extra coins at month end
37,900

Supply at end of year (est.)
5,927,400

Inflation per minute
9.04

Deflation per minute
-4.59

Net Inflation per minute
4.45 (0.01 bps)

get roughly what they requested in newly minted notes, with accounts in excellent standing such as Account I (+0.65 weight) receiving a further 15 percentage points of mining interest.

32. Data & Programming of DAM AI Blockchain

Given that every aspect of the platform would be constantly graded in weights via a series of commands that the Blockchain used to assess mining rewards distribution, the real economic track record of the Blockchain would also be much more transparent and easy to predict – so much so, that it is hard to think that it would be in any way comparable to any digital asset in circulation today, which is purely best-guess. Because there is a subtraction of Notes from bad economic actors while there is also a distribution of new notes, over time the real inflation adjustments are made in favour of the good actors. For instance, while there is a current gross inflation in the example provided of 8%-9%, because of note erosion in the higher-weighted accounts, there is in fact net inflation of only half this (since those accounts will continue at the present rate to have disappearing notes).

Although controversial, the disincentive to bad actors who sell voluminously on self-created price spikes and who in the economic interest of themselves purely by hiking up their own interest rates etc. is so strong, while underlying value progression is so emphatic, that the combination of these factors would resolve the major problem for digital asset propagation as a mainstream asset class outlined in 1. Such commands are intuitive and would involve market data analysis, some form of self-reflective analysis that would allow for sufficient flexibility so that unanticipated side-effects did not derail a more productive market (e.g. *if 60% of all bad actors respond aggressively and cause a >10% dip in the price of the notes when countered with >30% decay then cap decay here until the ratio lowers*).

The Blockchain's algorithm can be expressed as follows:

$$((Pi / 100) * (Ni)) / (m) * (Wa / Wn)$$

where *Pi* is the AI Calculated price increase or decrease expressed at a % of the note, *Ni* is the number of notes in issuance now, *m* is a one-minute interval moving average, *Wa* is an individual account's economic beneficiary weighting ascribed by the AI and *Wn* is the cumulative network economic beneficiary weightings of all accounts combined ascribed by the AI. In terms of ascribing the economic beneficiary weight of a given account, the AI will individually assess this, although would take into consideration which other accounts the individual account regularly send and receives currency from on the platform (if any) and their associated weightings. Primarily, the AI's objective is to ensure:

i) Improvements in distributed exchange liquidity across all asset classes
ii) A strengthening currency price in the AI Blockchain issued currency as supply is steadily increased
iii) A reduction of inter-week pump-and-dump price spikes and collapses (meaning +10% / -10% within a one-week-long period versus other external data APIs report)
iv) An increase in net users both transacting with an individual account and on the platform generally
v) A consistent track record of forecasting and achieving currency price increases in the domestic currency around 2-5 times over the amount at which the AI Blockchain is diluting currency

vi) An increase in liquidity of roughly 2-3x following any domestic et currency reduction exercise
vii) To consistently run a current account surplus so that the AI does not have to "trim back" accounts in order to fulfil a mining quota

and will thus weight according to these factors in addition to notable trends and events that are supportive of any / all of these principles.

33. Seized Asset Redistribution & Retention

Redistributing assets is a more desirable method of punishing bad actors than outright seizure and destruction of them. Here, we grade the top 40% of weighted actors and allow for a 60% distribution of the holdings to them, with the top 10% getting 30% of assets, the next 10% getting 15% of assets, the subsequent 10% receiving 10% of the assets and the final 10% receiving 5% of the seized assets. Distributions will be calculated at the moment of asset seizure. The AI Blockchain program will retain the other 40% for its own account surplus requirements.

34. Smart Network

It is possible to have features on the Blockchain which are only open to users who attain certain weightings, and even permissions within those features subject to correct use histories. An obvious example is that of smart Blockchain network. One of the problems with the impact that Ethereum's network has had on digital asset markets is the sheer quantity of "junk asset creation" that has been undertaken due to the relatively quick and easy method the Blockchain offers users for creating digital assets. Digital assets are first and foremost, a form of capital asset. If you allow anyone and everyone on a network (environment) to create capital assets of their choosing and allow the situation to run to its natural extent then you are bound to have a degradation of value on the network over time as the quality average of capital is reduced substantially by the proliferation of these junk assets.

Value is a very tenuous concept, and erosion of even very high-quality value assets can happen at times in markets where there is substantial low-grade capital constantly filling up the same context. For this reason stock exchanges, retail chains, and even high-quality serviced apartment operators tend to bias customers and products that contribute somehow to the perception of quality that their brands are trying to attain or maintain.

By utilising the weighting criteria, the AI Blockchain can assess whether a market-maker is "asset creation worthy". In this particular case it may not look at the total weighted criteria in the balance but may put preferential consideration on the amount of liquidity the market maker provides to the platform, the consistency of the liquidity, the number of counterparties in OTS status the Market Maker deals with etc. as well as the regularity of profitable trading that is undertaken by the market maker without either causing or participating in extreme price volatility in the process of taking profits. Once the asset is issued, the AI examines very closely how liquid the issued asset is, the number of holders over the length of time the asset is distributed, the amount the holders trade the asset or move it between "known" separate user accounts with similarly favourable weightings and so forth. In this way a high-quality digital capital asset market is allowed to develop on a smart Blockchain protocol in a decentralised manner consistently for the first ever time.

35. Summary of Product Benefits

It is clear that an AI Blockchain with an account trading and asset storage platform divided between regulated and unregulated digital assets could become a fintech standard relatively quickly and would not involve an overly-extensive R&D period before coding of the platform commenced with a competent engineering and UX team. One of the advantages of the Platform is that it naturally incentivises market makers to position themselves on the Platform, operating either over the exchange or on an OTC basis.

Data from the exchange and the wallets can be captured via a standard Block Explorer API and coins too can be mined from the Block Explorer in the way that they are for regular POS chains. The key difference between this AI Blockchain and other Blockchains is that the running mining algorithm would be derived on a one-week minutely moving average basis from an adjoining Oracle which would not be a decentralised software. In this sense the Blockchain is neither a public or private Blockchain but more of a recentralised automated scripting program run on top of a standard layer 1 Blockchain technology.

The economic beneficiary weighting process and constant value ascription to such processes is long overdue in the trading of digital assets and a successful prototype would likely attract major institutional investors over time, forming the central point of exchange for such assets over time for much larger volume players. Meanwhile, smaller retail players will find fairer and more cohesive pricing on the Platform that does not penalise them for their smaller investment holdings

The Second White Paper

Combating The Effects of Bitcoin's Price Deflation

By Daniel Mark Harrison

1.0 Introduction – The Problem

1.1 Bitcoin Supremacy In Crypto

When Bitcoin was first introduced to the world in 2009, there was no official launch of the first Blockchain currency. The act of "offering" coins to Crypto buyers really came into being in 2014, as new Blockchain-based digital currencies were introduced on the NeXt exchange and the Omni platform.

Ultimately, this short-lived period of hype in initial coin offerings was quashed for 3 years in a "Crypto recession". Even during this period, crypto offerings were relatively hard to come by. In fact, Vitalik Buterin's $10 million raise for the Ethereum project was conducted more in the style of a traditional crowdfunding campaign, and much less so as a Crypto offering. Ultimately, Ethereum's success was what reignited the Crypto landscape, as the currency soared in under two years from pennies in value to settle around $400 a token. During 2017, ICOs made a comeback after 3 years and became a mainstay feature of Crypto, with exchanges charging fees of up to $150,000 for listing placements. Over 200 individual ICOs purportedly raised over $2 billion during 2017, culminating in a post-ICO average return for Crypto investors of 1,320% once listed on Crypto exchanges.

The effect was to create a huge uplift in the price of Bitcoin, which became a default mode of value storage for many of the ICOs that were receiving increasing levels of funding. Compounding gains in Bitcoin by year end was the introduction of financial futures contracts predicated on long-side Bitcoin bets. The result was that by the end of the year, Bitcoin was rising over $20,000, from a starting point in January of barely over $700.

An ascending Bitcoin price creates stagflation in a cauldron of innovation in growth, resulting in the further reinforcing of the deflation effect of the supreme currency until one by one, all of the Crypto in the 1,000+ coins on CoinMarketCap will become suffocated by the almighty beast that started it. At the rate things are headed, Bitcoin will be the only Crypto trading in 5 years from now, and it will trade against sovereign – not Crypto – currency pairs.

1.2 Functions of A Bitcoin Replacement

Alternatives to Bitcoin are required if Crypto is going to retain the broad momentum it has experienced in 2017. If not, another 3-year – to 5-year long Crypto recession may be what lies ahead. Preferably, the ideal alternate Blockchain currency would not be a token issued in the form of an ICO, since this would make it just like any of the other 1000 Crypto that are supposed to be traded against it.

A suitable Bitcoin alternative would have some sort of legacy from the pre-$1000 Bitcoin days, around 2013 or earlier. It must be a relatively unused Blockchain and maintain a more complex mining algorithm so that too much supply does not dilute the coin's growth. This coin can be "re-offered"/presented to the public as a debut trading pair and as a speculative unit of value on exchanges with high volumes and active trading participation.

1.3 Introducing Alternate Pairs

1.3.1 Alternate Pair Exchanges (APE)

This White Paper introduces two new concepts unknown to Crypto until present: The Alternate Pair Exchange (APE) and the Secondary Coin Offering (SCO). The notion of APEs springs from the idea that with Bitcoin's massive ascent in value and Ethereum's commodity-like qualities, the current *modus operandus* of most exchanges, whereby all Crypto is traded against BTC and/or ETH, is simply outdated and redundant. In fact, this is leading to a dramatic undervaluation of altcoin pricing.

Bitcoin is becoming unaffordable to many retail investors, as evidenced by the rise of BTC's share of the $200 billion-plus market from around 45% in early 2017 to up to over 65% of the entire market by year-end. The massive increase in Bitcoin's market share hampered altcoin trading volumes and price increases for the final quarter of 2017, so that even very large ICOs such as Presearch, a Crypto search engine part-founded by the Ethereum co-founder Anthony D'Iorio, traded only $100,000 on its first day trading on HitBTC in December. People are afraid to give up their BTC in exchange for something speculative.

An APE is not a decentralised exchange such as Waves, where one can trade any currency pair against another as one wishes. Rather, a specific coin is selected from outside the regular large-capitalised remit of Bitcoin and others. Cryptopia is currently the closest example there is to the APE, with offerings of Litecoin and DOGE as alternative trading pairs to Bitcoin.

1.3.2 Secondary Coin Offerings (SCOs)

A successful SCO requires one or more new Cryptos with a near-complete similarity in terms of technological functionality to BTC, but which are faster to send and receive, cheaper to purchase, and have none of the depreciation-exporting qualities that Bitcoin has presently. Ideally, a vintage Crypto from 2013 or before is preferred. This will contain the widest possible network of mined coins, as well as several lost coins that have been trapped in cold storage wallets on discarded hard drives etc. This artificially constrains supply, making it easier for the coin to gather market capitalisation momentum, even as it is increasingly used to purchase other Crypto.

The proposed way in which this Crypto might be "re-launched" to gain sufficient attention from the Crypto community is as part of an SCO.

An SCO would not necessarily constitute a direct offering of the coin to the public (although it could via a number of mechanisms discussed within this paper), but would conceptually give the Crypto the ideal platform upon which it may be re-marketed in a present tense context, in light of the Bitcoin market share dominance problem, or in light of Ethereum's gas-burning effect. Ideally, this SCO would allow such a coin a legitimate place on an APE which features 2 or 3 alternative trading pairs to Bitcoin and Ethereum.

1.3.3 Characteristics of an APE SCO

If we are to introduce new trading pairs to Crypto, the new Bitcoin-supplement must not be a replacement for Bitcoin itself as a primary mode of value storage and transmission online, but rather as a cheaper, easier substitute where there is less concern vis-à-vis security, and which has the consequence of creating less of a burden on Bitcoin's Blockchain's network protocol. The problem here was very real by December 2017, with over 200,000 transactions going unprocessed in a backlog of unfilled transmissions of Bitcoin by the start of the month. Many transmissions went unfulfilled for as long as 2-3 days due to the burden the network was suffering due to the rising demand for the digital currency by institutional buyers.

It is worth stating here that a coin that would be a suitable replacement for Bitcoin would not be so much a commodity as a simple method of value transmission. In other words, it would not "burn" in the way that Ethereum does, which makes the currency wholly unsuitable for trading. Rather, it would simply issue a finite number of units, but preferably far more units than Bitcoin does.

2.0 Zurcoin

2.1 History of Zurcoin

Zurcoin was introduced to market on December 30, 2013 by developer Shai Weinstein. The digital coin was announced with the following parameters:

> *Max Supply: 126,000,000 Zurcoin / Block Mined Every 42 Seconds / Block Reward 42 Coins (decreasing 50% every 1,500,000 blocks) / Premine of 500 blocks (given away) + 1 million coins donated to a Zurcoin Faucet / addnode=50.116.55.60*

"I'm new to crypto currency so i maybe screwed things up" added Zurcoin's developer somewhat comically on the coin's Bitcointalk introduction post. As for much of tech innovation, the relatively curt personal marketing style of the introduction of Zurcoin disguised a much more compelling history that lay behind the development of its code.

2.2 Quark & The "People's Currency" Catastrophe

Zurcoin's script is almost entirely based on a currency called Quark. Quark was relaunched SCO-style in July 2017 in what may be the first SCO to date. The coin has a controversial legacy.

Quark was launched 6 months ahead of Zurcoin, and by December 2013, when Zurcoin was just emerging onto the scene, Quarkcoin by then boasted a $50 million market capitalisation. Technologically equal to Bitcoin, Quarkcoin's supply was issued all upfront and intended to be distributed over time by the coin's developers over a vast range of Crypto buyers. The unorthodox move, which represented a philanthropic response to what the developers perceived to be nefarious centralism on the part of Bitcoin's major holders, attracted the attention of leading Australian economist Bill Still.

"It's just like playing a classic penny stock but one which has the chance of following Bitcoin's climb upwards" said Still, introducing Quark on his weekly show that Advent.

"It's the product of the wild west; we think it's a fairer system and a better distribution (than Bitcoin's) … Cryptocurrencies are here, they are a fact, they are not going away; I just think they could be a little better designed in terms of serving the people than they are now," Kolin Evans, Quark's lead developer, told Still on his show via Skype.

"So you would like a more decentralised form of Cryptocurrency than Bitcoin's was when it was implemented … [because] it's obvious now that only huge server farms can mine bitcoins effectively," Still countered.

"Bitcoin went from zero to hero so it suffers from that problem that it was the first-of-the-first. It's well-intentioned … but it requires specialised software to mine which means it is fantastically centralised," Evans explained, using mock air quotes.
"So, most of the bitcoins in existence could be owned by as few as 100 people."

That interview and the resulting press it accomplished in courting pushed Quark up to one of the biggest Cryptos on CoinMarketCap.

What happened next is still to the present day the subject of much controversy. There is a contingency of developers who claim a conspiracy existed between Evans and Still wherein the two colluded to "dumped" Quark and make a quick killing out of an over-hyped market following the press and subsequent enthusiasm generated in the Crypto community surrounding the coin.

The much more likely explanation however is Evans' rather stranger one: he maintains that the wallets in which most of the Quark was stored for future delivery were hacked following the Still interview. The source of the hack, says Evans, was the big Bitcoin stakeholders who wished to wipe out any potential challenge to their (back then still tenuous) lead as the world's number one Crypto.

The hackers, according to this account, unloaded all the previously-escrowed Quark onto the market, destroying the Crypto's core value proposition completely, and they used the proceeds of the sale to repurchase huge quantities of Bitcoin, pushing it up over the $1000-mark for the second time in history.

The claim is credible. At the end of that year, the massive unloading of millions of Quark follows a circumspect pattern to that of Bitcoin's price rise. Quark was sold heavily into the market between December 13th – January 14th. Between December 18th – January 6th, about the way through which the heaviest of the Quark selling would have occurred, the daily traded volume of Bitcoin doubled overnight after a post-Christmas sell-off and pushed it over the $1000-mark from just $560 beforehand.

I knew Evans very well and worked with him closely during 2014, in which period I designed with him a predictive equation for Bitcoin's mid-2017 price which turned out to be right on the money: $2469. Evans was one of the most intelligent, brilliant minds I have had the pleasure of working with, and I finally understood the way he must have felt at the end of 2013 when a similar sabotage was wreaked on a token I introduced to the market via Waves DEX following its ascent to 0.5 BTC (the highest price a Crypto had ever gotten to since Quark held the record of 0.25 BTC, ironically) in the same month as the equation we had developed 3 years prior hit its price forecast on the bullseye.

2.3 Zurcoin's Trading History

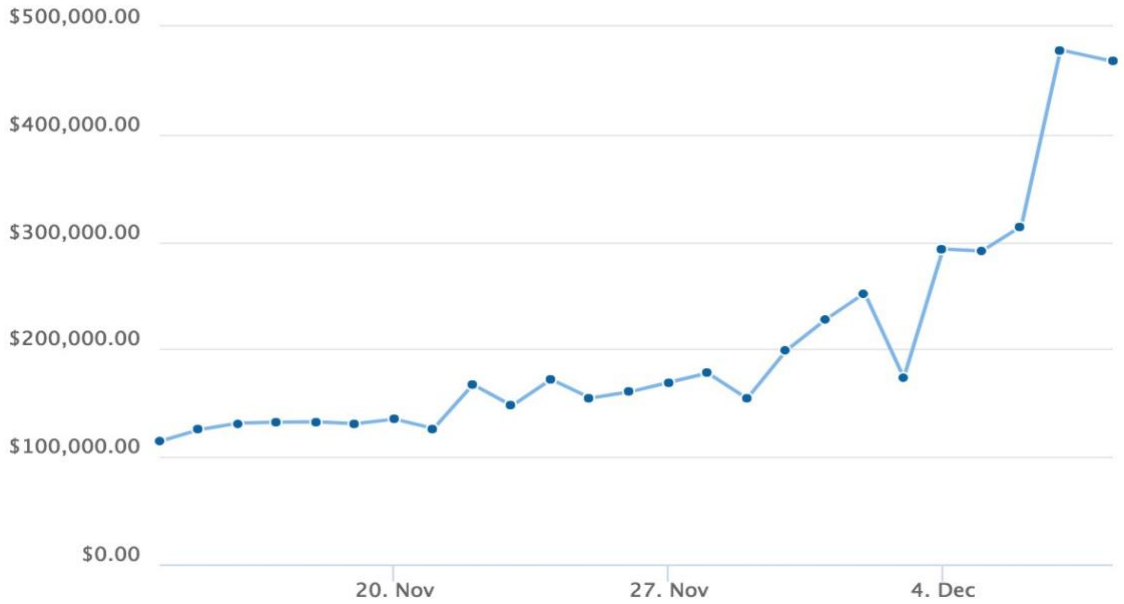
Zurcoin has almost the entire opposite trading history to that of Quark, since the developer modelled half the mining algorithm on Bitcoin's. The effect of parsing half a fork of Bitcoin and half a fork of Quark was one which produced a steady, slow stream of multitudinous coins that rarely traded more than $100 in volume per day over the course of the 3.5 years before I loaded up on it.

Zurcoin's original source code on Github had a message which the developer ascribed into the code itself. It went something like, "We miss you, Daniel." This explains the reason the coin was created – as a technological tombstone to a close friend of the developer who had passed away. The two used to call one another Zur, and hence the name Zurcoin.

Because of this explanation which existed in the original Github profile, I believe that the coin was never "pumped" or abused on Yobit exchange, where it traded for years without any volume whatsoever. Zurcoin is then a version of Quark – which itself is an economically-superior but technologically-identical digital currency to Bitcoin. When combined with the observation that it has gone completely untouched for the best part of its entire history it becomes clear that Zurcoin is, in essence, a living Bitcoin fossil with a significantly less deflationary supply. In other words, Zurcoin is a profoundly more decentralised currency than is Bitcoin with the same robust Blockchain technology powering it. Zurcoin is the ideal alternate trading pair, in other words, for introduction into a world of Bitcoin-centric deflation.

2.4 Zurcoin's Distributed Ledger

Evidence of Zurcoin's more equitably distributed status is demonstrated by the large



spread of holdings. There are over 56,000 total wallets that hold Zurcoin, by far the majority of which belong to miners, but which only count approximately 10 million coins in number.

The remaining 75,735,727 other coins that do not belong to miners belong to a group of 440 wallets. Of these wallets, the largest holder is in possession of 6,389,409 coins (8.44%) while the smallest holder owns 1,100 coins (0.001%). The average holding of the 440 top wallets is 172,127 coins, with a standard deviation between averages of

601,229 coins. While this is admittedly a rather high standard deviation, it must be taken into context with the observation that many of these coins have not moved in very long periods of time and represent coins that haven't been in circulation for years.

3.0 Making Zurcoin Global

3.1 Listing On Larger Exchanges

Zurcoin had undergone around 5-6 months of trading with an average daily volume of $33,000 by December 2017, and had an average daily market capitalisation of around $250,000.

While still small, this compares to $31 average daily volume and $16,000 market capitalisation before my hedge fund bought into the coin in the summer.

This re-offering could be considered to constitute the coin's Secondary Coin Offering (SCO). By definition, an SCO should only be ascribed to a coin which never had an Initial Coin Offering.

In this way, it is a replacement for the non-event that the ICO failed to become. Zurcoin fits this definition perfectly and can thus safely be launched by means of a website revamp, additional public relations, a new white paper – which it is you are reading now – and other standard marketing fare for the coin. After that it can be introduced to new exchanges.

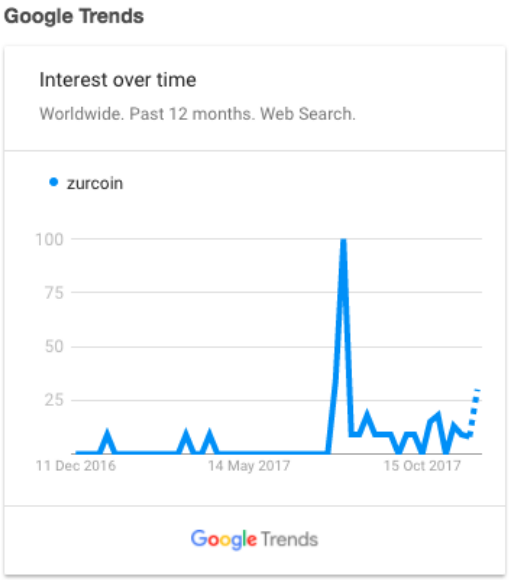
As a result of the interest that such purchases generated in Zurcoin from miners and the wider Crypto media, CoinGekko listed the coin and Cryptopia offered to have it trade on exchange. Bigger exchanges such as HitBTC and possibly Binance would be the logical next destination for Zurcoin, and the listing of the coin on these exchanges combined with a public relations-offensive would likely see the digital currency improve a similar number of times in value to that which it did during 2017.

If this was the case, then around $100 million + market capitalisation would be achieved. Utiliting the coin in ICOs as payment capital would also significantly increase Zurcoin's payment utility.

3.2 Implementing Listings on APEs

Another development for Zurcoin will be for it to be the denominating Crypto asset against which other altcoins are traded. In other words, if Zurcoin pairs were readily established on a few leading exchanges, the price performance of the coin due to its improved payment utility would be greatly enhanced.

Zurcoin	% Total
6,389,409	8.436%
4,772,207	6.301%
4,301,903	5.680%
4,072,641	5.377%
3,200,000	4.225%
2,934,251	3.874%
2,658,591	3.510%
2,400,000	3.169%
2,112,656	2.790%
1,864,398	2.462%
34,706,055	**45.825%**



This would be especially true if a number of traditional exchanges could be persuaded to become Alternate Pair Exchanges (APEs) as a result of introducing Zurcoin, along with a couple other potential contenders. Zurcoin, for instance, might be introduced as alternate trading pairs along with Litecoin, under the premise that the coins would help stimulate altcoin trading volumes due to their less value-intensive consumption of the market and lower implied export of price inflation.

3.3 Building Counterparty Application

Among the discussions held for the future of Zurcoin is the possible installation of a Counterparty application which would give the Zurcoin blockchain token-making facilities as well as the ability to create specific digital agreements, or programs known as Smart Contracts, which can be executed on the Zurcoin blockchain. Smart Contracts are a revolutionary technology which opens the door to endless possibilities. By using the Zurcoin's decentralized ledger network and Counterparty's built-in scripting language, real-world scenarios can now be transformed into code and executed automatically with no need for an intermediary.

3.4 Undertaking Proof-of-Stake Hybrid Fork

Further under discussion is the possibility of converting Zurcoin's Blockchain protocol from a Proof-of-work to a Proof-of-Stake mining algorithm. The best example of POW around is Bitcoin; perhaps the best example of POS is Peercoin.

In the past 3-year period, bitcoin has risen around 2100% while Peercoin is up about 170% by comparison. Clearly, by making increases in supply so readily available so easily to holders of the coin, POS Blockchains ultimately undermine the value exponent of the utility factor in the coin.

Zurcoin is a POW coin that has laid dormant for 4 years; after it was purchased in August over a period of around a week by a single purchaser with approximately $250,000 in funds, and by other buyers following suit, the coin came to be actively-traded and showed regular trading volumes.

Despite the relative value erosion that wallet mining can cost a coin, there are certain advantages to it. POS mining is more efficient, cleaner and easier for the user than POW mining, since it takes place while the coin is stored inside a Blockchain wallet. By converting Zurcoin's Blockchain into a combined POW/POS Blockchain the coin will achieve scale dominance while retaining its value during the second act of the coin's growth trajectory, which is set to be very large.

Despite the huge rise in the price of Bitcoin, there are signs that it may become less appealing to investors as an asset to be held in any quantity largely because of the deflationary tendency of the coin. As Bitcoin begins to deflate in increase of supply, so its price begins to rise at an exorbitant rate. The problem with this is that it has the net effect of exporting inflation onto the rest of the Cryptocurrency landscape.

This is because while a high Bitcoin price is attractive for those holding presently who wish to sell, it is significantly more expensive to buy in any whole (or even for some, standard fractional) quantity. Multi-fractional purchases are not appealing psychologically to buyers either. We believe that Zurcoin's POW-POS fungible Blockchain may be the answer to the opposite, but equally problematic issues that Bitcoin and Peercoin suffer from.

In the case of Zurcoin, following the trajectory of both Bitcoin and Peercoin would have resulted in a 1200% price rise over the last 3 years; these are standard high returns looked for by Crypto investors. Therefore, we see this fungible dual-currency scenario as being a potential solution to overly-aggressive value return and overly-aggressive value erosion see in POW-POS assets.

If Zurcoin was to rise by the same amount next year as for the last 6 months, we would be looking at a $400 price per ZUR. At this point it is a well-established APE pair.

3.5 Undertaking Other Hard Forks of Zurcoin

The possibility of hard forking Zurcoin was examined in the previous section. Hard forking essentially produces a short-term demand in the Crypto being forked, since it means the holder receives another symmetrical equivalent of coins after the software of the Blockchain is forked.

This was the case in late 2017 with the hard forking of Bitcoin into numerous alternative Bitcoin currencies, the most famous of which is Bitcoin Cash, helped BTC to notch up over 1200% in late-year gains.

Forks of Zurcoin including POS hybrids, reduced supply POW coins and even a ZurToken which may function as a gas-type product such as Ethereum. These are all tried-and-tested possible implementations in the maturity of Zurcoin.

4.0 Zurcoin: Conclusion

4.1 Recap of The Problem

- BTC is not in a bubble; it is disconnecting from retail investors and moving out of their reach towards High Net Worth and institutional players
- ETH is wholly insufficient as a trading currency pair to carry the shortfall; it burns like gas and is adopting POS - both events give it a lackluster strength
- The problem is pitched right in between two pairs that's are wholly unsuitable for altcoin trading which is traditionally where most of the retail Crypto investors make money and where real technological innovations take shape
- Reinforcement of this success is such that BTC continues to surge higher while the retail market wishes it lower. Ethereum meanwhile keeps burning up even as it trades higher, ultimately compounding stagflationary pressure
- Trading the dominant digital currency pairs helps in neither case but rather corroborates the inevitable hyper-deflation recession that looms (stagflation)
- The scenario amounts to Blockchain like “the worst good news ever”; in other words, Crypto is finally going mainstream but there's a real chance that may mean the party is over for the little guy

4.2 Effective Prescription For Halting Deflation Innovation

We are witnessing what may be the first instance of deflation innovation in history.

It is clearly established that bitcoin is exporting massive price deflation across the Crypto landscape. At the same time, few digital assets have laid uninterfered-with for sufficient time to build a deep and wide network without being overly-centralised in the way that Kolin Evans pointed out had happened in the case of Bitcoin (indeed this is a major part of the reason for the Bitcoin price deflation effects now).

Zurcoin offers the Crypto world not just a second chance at an uninterrupted Bitcoin-type price escalation, but a clear and profound opportunity at the same time for the market to recorrect back to one whereby altcoins are fluidly traded against inflationary assets that simulate the overall price direction of the market.

5.0 Resources

- *Bitcoin's Deflationary Problem (The Economist): https://www.economist.com/blogs/freeexchange/2014/04/money*
- *Value Coevals (Harrison): https://corporate.m0nk3y.com/White-Paper.pdf*
- *The Age of FactoryBanking – Video (Harrison): https://www.youtube.com/watch?v=tBeVd-kaGB4*
- *Bitcoin To Over $30,000 (Coinspeaker, Harrison): https://www.coinspeaker.com/2017/06/01/value-virtual-asset-bitcoin-will-30000-2020/*
- *Theory of Reflexivity (Soros): https://www.ft.com/content/0ca06172-bfe9-11de-aed2-00144feab49a*
- *Theory of Bipolar Markets (Harrison): https://www.coinspeaker.com/wp-content/uploads/2017/05/The-Theory-of-Bipolar-Markets.pdf*
- *The Problem of Stagflation (Meltzer): http://repository.cmu.edu/cgi/viewcontent.cgi?article=1745&context=tepper*

ACKNOWLEDGEMENTS

A successful entrepreneur in his 80s told me recently over dinner, “I am always so humbled by the engineers who can put my ideas into being by building them into reality.” I am similarly humbled when I consider what the engineers on this project did here. No game-changing or innovative fintech product, let alone one undertaken in a decentralized context, is ever a single-person effort, and so it was here the case as well.

The original Futereum engineer expressly told me from day 1 that he wished to remain anonymous, and I have always respected his request. It would however be somewhat disingenuous not to bring him up here before mentioning anyone else. His efforts with me in late 2017 led to the creation of the first two digital note contracts in the world, Futereum and Futereum X. In addition, it was he who thought up the name Futereum, which ultimately stuck.

Thomas Loth, who I consider to be the world’s most capable smart contract engineer, built the majority of our software, including designing and proposing the Genius Contract solution as a mechanism to store the deposits from digital notes. Thomas has been and is one of those rarest of people who is a true intellectual pleasure to work with, capable of dissecting extremely complex problems into very intuitive solutions in what are often only seconds. This innovation owes as much to him at least as it does to me both for its conceptualization existence.

Rene Van Norden and Jeschild Tan both contributed financially, personally and with immense belief throughout the development, traversing the delays with professionalism and friendship. They are two of the best colleagues you can ask to have in the most testing of times. For both of them, what were initially passive investments became a cause celebre, costing late nights, hard work, constant back-and-forth negotiations with the various currency holders that we accumulated on the way, easing some of the pain for those in desperate impatience at the announcement of yet another delay. They are the sort of gentlemen you could hang your career on and make it out alright in the end.

Marcel Dudli played an important role in becoming a reliable sourcing agent for many of the things we would have otherwise had trouble making happen as efficiently, whether that be additional contract deployment engineers late into the night or logos and artwork. He is someone whose cheery spirit often consoled me at the point when things most looked bleakest. I came to consider a him friend with that rarest of gifts that can be defined as generosity of spirit.

Finally, to everyone who purchased the currency prototypes, read the Whitepaper versions, critiqued, commented and generally supported our team’s efforts, you are also deservedly to be proud of what we have achieved. Many of our traders hung in there with admirable stoic resolve even as their portfolios dropped 90% or so in value throughout the worst selloff the digital asset market has yet experienced. I am sincerely grateful for their support too. Without anyone to give utility to a currency, after all, it is nothing but a medium of zero measure. It is my hope that now the product is finished it will return for you them of the thrills that it gave me to conceptualize this radical new innovation and to being it kicking and screaming into being. Hopefully, too, it will play a central role in how digital assets unfold.