

iBBT Utility Token (iBBT)

Blockchain Based Social
Currency iBBT Payment Solutions

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Abstract

Bitcoin might be the father of cryptocurrencies and the first truly decentralized functioning model for digital person-to-person (“p2p”) payments, but mainstream crypto adoption and the utility we experience today came only with the introduction of Ethereum,¹ smart-contracts, ERC-20 tokens, and now..*Community Money*.²... By example, *Community Money* (or ‘community currency’) can correspond to: native tokens for access to various on-net services, contracts for digital asset clearing or other financial transactions, and new types of programmable alternative cryptocurrencies under the ERC-20 protocol. Ethereum is proving to be “real money” because it’s not limited to vendors that accept ETH, as happens in Bitcoin’s case, but you can use it for thousands of use-cases on the open web, and web3 ³ respectively. As a matter of fact, some Ethereum by-products are now enabling the issuance of ‘*Community Money*’ under the ERC-20 wing. In a nutshell, *Community Money* is to ERC-20 what ERC-20 is to Ethereum.

This paper presents a type of versatile community currency, the iBBT Utility Token (“The iBBT”). The iBBT is a unique ERC-20 contract to organize activity in a specialized exchange economy. It features key elements for merchant acceptance, dynamic liquidity aggregation and governance. iBBT enables general access control to a stack of decentralized utilities, smart identity provision for regulatory auditing, and consumption of certain financial services; including, on-net conversion to digital asset purchases/swaps or secure custody in a corresponding Open Banking Marketplace (OBM). The OBM and iBBT Token contracts support a common unit of exchange for peer-to-peer payments, universal asset management and clearing; and embedded marketplace tools that power iBBT hosted merchant communities. iBBT therefore functions as a unified clearing system within the OBM stack as well as privacy-enhanced social community currency for vetted merchants and members. A substantial global base of millions of small businesses, emerging digital merchants and start-ups seeking capital and hosted payment infrastructure are either hyper-intermediated by incumbent financial institutions, or grossly underserved due to a host of issues. Moreover, fewer than 5% of people in the world hold any investments in stocks, passive real estate income or other assets.⁴ This situation has perpetuated a downward economic cycle excluding the vast population and preventing local communities from thriving. Unprecedented historic frauds in the financial markets, large-scale data breaches and digital monopolies have made the situation more vexing. Embedding the right balance of incentive structures and solutions to protect privacy without compromising regulatory compliance in a distributed blockchain marketplace could lead to the beginning of a new era of trust, growth of digital-asset based smart economies and improved human cooperation.

¹ Ethereum is an open source, public, blockchain-based distributed computing platform and operating system featuring smart contract (scripting) functionality. It supports a modified version of Nakamoto consensus via transaction-based state transitions. <https://github.com/ethereum/wiki/wiki/White-Paper> The intent of Ethereum is to create an alternative protocol for building decentralized applications

² <https://ethereum.org/what-is-ethereum/>, “An internet where money and payments are built in.”

³ <https://web3.foundation/>, “... Our ultimate goal is to deliver a .. decentralized and fair internet where users control their own data and markets prosper from network efficiency and security.”

⁴ Yahya, Ali: “The Future of Trust”, How cryptonetworks could lead to the beginning of a new era of trust and human cooperation. Summit Week (2018) © Andreessen Horowitz

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1. Value Proposition

Merchant and emerging financial crypto networks can now offer new forms of community currency based on open blockchain technology. These services are intended to prime equitable economic activity for a much larger segment of the global population; without compromising privacy, transactional throughput or regulatory compliance. Embedding the right balance of incentive structures in a blockchain marketplace could lead to the beginning of a new era of trust, digital-asset based smart economies and improved human cooperation.

Utility Tokens are digital assets designed to be spent within a certain blockchain system. We propose the iBBT (“iBBT Utility Tokens”) as a multi-tiered smart utility and ERC-20 community currency token in a secure, open banking marketplace system to power peer-to-peer digital economies. iBBT natively supports an abundance of use cases including universal borderless payments for consumers and merchants. The iBBT system provides:

- **Users:** strong privacy and security as part of a universal smart identity with KYC and AML compliance; using a single token to update and maintain identity.
- **Merchants:** improved operating margins and revenue, use of tokens as a discount or reward tool to drive sales, create brand identity and reduce fraud.

2. Introduction

Merchants have operated for as long as industry, commerce, and trade have existed, no matter the medium of exchange. Small businesses are the beating heart that drives growth in all open, and dynamic economies. In basic terms, people organize a business to execute a business plan with the collective goal of i.) making a profit and ii.) minimizing transaction costs.⁵ Merchant services is a broad category of financial services intended for use by businesses. Everyday merchant transactions rely upon few centralized third parties to maintain a record of transactions. Innovations in merchant services and payment technologies have mostly impacted merchant-facing functions (i.e. sales and onboarding) rather than clearing and settlement.⁶ As processing networks consolidate payment volumes, merchants are locked in to disproportional processing fees and value extraction.

⁵ Ronald Coase, (1937), *The Nature of the Firm*. *Economica*, 4(16), new series, 386-405

⁶ McKinsey on Payments, J. Hanson; R. Byrne. (May 2014) Innovation and Disruption in U.S. Merchant Payments

Blockchain technologies are disrupting the entire banking value-chain from payments, to lending and commercial credit, to clearing and settlement of securities. The technology also has the potential to disrupt non-bank money transmitters, informal shadow banking and even how entire economies are organized.

iBBT is an Ethereum-powered Open Banking dapp (decentralized app) that “mints branded digital tokens unique to your online presence, allowing you to own, control and coordinate the value you create and maintain across platforms.” These tokens, that we consider Community Money, are basically ERC-20 tokens made possible by iBBT’s own Open Banking Platform based on Ethereum blockchain smart-contracts.

Unlike first-hand ERC-20 contracts that are slightly more complex to develop properly, issue and evaluate in terms of ETH, Community Money are super easy to generate and they have no intrinsic value, but may also be used as “coupons”, or “loyalty points” which community members can redeem for services, and/or products the issuer of each token might be offering.

The iBBT Utility Token and its nuanced convergence with specific OBM utilities create a specialized merchant banking, distributed smart trust and exchange economy for organizing economic activity. Cheaper money flows may create opportunities for new and existing businesses in emerging markets. Capital fuels the growth of industries, and if money moves more freely between citizens and businesses, that may induce a significant economic momentum in developing markets.

3. A New Deal: Open Banking-based Economics on Blockchain

The diversity of middle-men and the lack of value-add to the merchant and user make some sort of simplification of the present traditional banking ecosystem inevitable. Present trends are toward an oligopoly where gatekeeper companies such as 3rd party merchant services control the entire offline and online payment process with merchants powerless to control their revenues. Also, as users continue to look for alternative banking and payment technology, the consequent shrinking of the remaining 3rd party payment market seems inevitable. The reality remains: consumer retention is valuable, but it hasn’t been properly serviced with an efficient and transparent open banking and payment system. While it has become a platitude that vast amounts of information are generated on and by the Internet, human beings are only able to devote a limited amount of attention to certain small subsets of the information. Information in the modern age is relatively cheap. Human attention paid to the information is a rare quantity. As Herbert Simon put it in an influential 1971 article: “... *in an information-rich world, the wealth of information means a dearth of something else: a*

scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.”

Ultimately, a merchant provides a nascent payment process which may be of value to the loyal user and a substantial cost reduction to the merchant. At present, the merchant is paid via a complex network of intermediary players through payment and bank networks. The merchant isn't paid directly by the user. Nevertheless, merchants are used to working with such an archaic model for decades, which remains problematic. Thus, users suffer a form of chronic “electronic pollution” consisting of threats to security, threats to privacy, costs in inefficient credit card protection, and financial costs in extra merchant fees.

3.1 Token Technology

The iBBT Utility Token (iBBT), a token based on Ethereum, is an important element of a new marketplace. Ethereum is an open source, blockchain-based, distributed computing platform oriented towards smart contracts. Effectively, Ethereum is a distributed virtual machine that allows end-users to construct smart contracts for transactions. Smart contracts are stateful applications stored in the Ethereum blockchain. These contracts are cryptographically secure and can verify or enforce performance of the contract. Token contracts are a standard feature of the Ethereum ecosystem. Ethereum has been used for mobile payment systems, distributed exchanges, tokens pegged to commodities and fiat currencies, market clearing mechanisms, micropayment systems for distributed computing resources, commodities and securities exchanges, crowdfunding, and legal document verification. Large firms have invested in and deployed Ethereum, with JP Morgan, Deloitte, IBM, Santander Bank, Microsoft, the Luxembourg Stock Exchange, and the Royal Bank of Scotland being key early adopters. Micropayments using iBBT will be accomplished for the first stage deployment with the iBBT Open Banking Microwallet Ledger. This flow shows the conceptual flow of the iBBT payments.

The iBBT Token is used to create and maintain a high multi-tier profile of the user. The merchant can be assured the user is properly vetted for any level of profile verification. This verification does not have to be duplicated by the merchant or the user. The profile is dynamically updated and sends status updates to merchants or other platforms, like an exchange, to keep all parties compliant with KYA/AML on premium services supplied through the iBBT system.

3.2 Tokens Used as Merchant Payment

Merchant payment will be offered and facilitated through the iBBT system. For the first deployment of iBBT, the transactions in iBBT will take place through the iBlockchain Bank & Trust Ledger system, which is an open source Zero Knowledge Proof scheme presently deployed to allow iBBT Organization users/members to make payments to merchants using Ethereum as the medium of exchange. The iBlockchain Bank & Trust system uses the ANONIZE_[1] algorithm to protect user privacy. For the first incarnation of iBBT, all payments in iBBT must have a merchant endpoint. The merchant client as it is coded today already measures user attention as described above. Much of the infrastructure required to deploy iBBT at the back end is presently code complete, in place and being used to process payments based on user smart identity profile creation. As such, this infrastructure will be leveraged to deploy iBBT as soon as possible for testing, and user profile feedback. A fully distributed ledger is desirable, both for public accountability and potential scalability reasons. Merchants, and users of the iBBT token will have incentive to use such a system to keep track of payments within the iBBT system. State channels allow for multiple small transactions with strong anonymity guarantees when using the correct matching algorithms. While Raiden and other state channel schemes are becoming integrated with the Ethereum ecosystem, and new blockchains such as Zcash and Monero offer stronger privacy guarantees with rapidly increasing feature sets, it is likely that a new scheme addressing the unique problems of this type of transaction will be used for large scale multi-party transfer of iBBT. The transactions in a fully distributed iBBT system will almost always be one to many and many to one, therefore novel zero-knowledge transactions may be suggested by this arrangement. As iBBT moves to a fully distributed micropayment system, we expect merchants to use our open banking marketplace infrastructure to develop their own use cases for iBBT. We want iBBT and the tools associated with it to eventually become important web standards for future development of global merchant payments. Merchants and consumers deserve a private, secure and well-engineered future.

3.3 Tokens for Consumer Applications

As users are given procedures to create SmartIdentity profiles access using iBBT Tokens, they will become an important and active part of the Open Banking and merchant economy, rather than the traditional duplicate user profiles they are presently. While tokens can be used by individual merchants, there are any number of use cases for the tokens. An obvious use case is for a very specific targeted identity profile (online persona). Some

merchants may have premium content they would ordinarily only offer to subscribers via token payment. Since subscription models are not typically favored by users on the internet, this could unlock new revenue for premium content providers. Eventually, iBBT may be used within the iBBT ecosystem to purchase digital goods such as data services, or merchant applications which are only needed on a one-time basis. People won't get out their credit card to use such an application, but they may be willing to part with some value they acquired in normal online activities. Custom news alerts may be offered as a service by news providers for a small payment of iBBT within the ecosystem. Such news alerts may be very valuable to individuals who are concerned with current events, syndicated financial news and data or some anticipated event.

3.4 Roadmap

- **Pre 1.0 iBBT:** The iBBT Network already has a ledger system for making payments to merchants and based on the iBBT Token.¹
- **1.0 iBBT:** iBBT wallet integrated with the iBBT Open Banking Platform.
- **Beyond 1.0 iBBT:** Make the payment and verification process entirely distributed on Ethereum for SmartIDentity, that included KYC and AML compliance requirements.
- **iBBT as a Payment Option:** The iBBT Token has been integrated into several merchant use cases as a payment option and in specialized cases as the only payment option.

4. Business Landscape

The company's vision is to put trust back into banking by "Building Tomorrow's Bank, Today." Conflicting views on bank reform have been debated throughout financial history, especially after prolonged periods of crisis. Since the 2010 Dodd-Frank Wall Street Reform Act near-zero interest rates continue to prod institutional investors, market traders and international investment bankers to proceed with business as usual, employing high-risk investments and careless credit expansion similar to the period before 2008. Crypto and Blockchain introduce added complexity, increasing systemic risk if unchecked, but also show

potential applications in reforming global governance, intermediation in digital economies, and improving capital markets.

Representatives of the U.S. Government, Federal Reserve officials, as well as officials from the Central Bank of Canada, are actively debating and even calling for the launch of a digital dollar to stay in front of this trendline. The rationale behind the creation of the digital dollar is to prevent illegal activities, bring a fast payments system online, and strengthen the monetary policy toolkit as we enter an accelerating phase of the new digital age. Similar initiatives have been suggested and/or are actively in progress by other Central Banks, the IMF, the International Bank of Settlements and various nations and Government authorities around the world to date.

iBBT management believes we are the first, and one of the few blockchain technology companies in the market to offer a unified (i.e. interoperable) blockchain banking platform that facilitates a stable digital dollar transition, real-time clearing network featuring smart compliance and digital asset convergence within the conventional financial system.

In addition, we believe the potential onset of Central Bank Digital Currencies (CBDCs) plays to the timing and core value proposition that our platform offers today. Many Central Bankers like to believe there is a 20 to 30 year horizon for digital fiat currencies as a foundation to a new financial system, but the market forces driving dematerialization, digital lifestyles and innovation uptake have shown that it is conceivable and indeed possible that the technology for a digital fiat currency will evolve outside the banking system and ultimately be adopted by banks once proven.

4.1 Competition

The Company is still in a development stage but has begun actively pursuing relations with numerous firms across different sectors including: Online Merchants; SME's (Small Medium Enterprises); Crypto Enthusiasts; Traders; Hedge Funds; Community Banks; Non-Bank Money Transfer Operators; Real Estate Lending, Investment and Brokerage Firms; Green Tech and Smart Cities Infrastructure companies; Gaming industry companies; CBD and licensed Cannabis companies; Government and other sectors.

The number of Blockchain wallets has been growing since the creation of the Bitcoin virtual currency in 2009, reaching over 42 million Blockchain wallet users at the end of September 2019. This number will continue to rise, and more users will demand integration with conventional banking services but there is a bigger picture taking focus. Convergence of

Blockchain technology across banking and finance, telecom, the Internet of Things (IoT), smart cities and transportation, artificial intelligence and the emerging infrastructure to support the transition to clean energy technologies, is in progress and represents a game changing paradigm shift beyond the year 2025.

The economic expansion resulting from the shift in these industries is conservatively projected to surpass USD \$500 Billion to \$1 Trillion or more within the decade. iBBT continues to jockey for a leadership role and share of the market as a best-of-class platform through this transition. By facilitating application-specific Blockchain transactions within each target sector and providing digital asset clearing services in the capital markets, iBBT seeks to develop long-term strategic points of integration (including business alliance structures) that will provide value to the Company's clients/industry partners; and substantial future value accretion to the company and its stakeholders.

4.2 iBBT Overview

The iBLOCKCHAIN BANK & TRUST TECHNOLOGIES CO. Business Plan will be provided as a separate full-length document at a later date, to be prepared by the Company once it has tested assumptions from use-case opportunities currently in development. The Business Plan will likely also contain untested assumptions due to the scope of the Company's product roadmap and potential offerings, and will undoubtedly include forward looking statements. Each prospective investor should carefully review the limited Business Plan Summary provided herein and in combination with the Private Placement Memorandum issued separately before purchasing Shares. Management makes no representations as to the accuracy or achievability of the underlying assumptions and projected results contained herein.

In the initial phase of its business plan, the Company seeks to develop use cases with sector and industry partners who license specified "platform-as-a-service" ("PaaS") offerings and contribute development funds to initiate go-to-market campaigns. The strategy includes business development engagement with e-commerce merchants, medical cannabis companies, real estate, smart cities infrastructure providers and government sector digital transformation initiatives.

4.3 Key Team Member

- **Antonios Valamontes**, Managing Director, co-founded Geopay.me.
- **John Karantonis**, President, co-founded Geopay.me. Previously: Akoo International.
- **Vasiliki Stigka**, Senior Engineer, Previously: Nokia.
- **Edward Grant**, Director of Marketing Asia Markets.
- **Jerry Daniel**, Senior Engineer.
- **Sean T. O' Kelly**, Former CIO, State of Illinois, Department of Financial and Professional Regulation; Technology Leader, STA; IT Strategy, Deloitte Tax, LLP.
- **George Koutsonicolis**, MBA, Managing Director/Solic Capital Advisors, LLC. 20+ years as an Investment Banking Professional
- **George Wang**, PMP, CIO Arx Nimbus, Cybersecurity Risk Valuation; Director, Society Information Management (SIM)
- **Georgia Droulias Schwarz**, M.A. Industrial Organizational Psychology Professional, Leadership Coach and Talent Development Practitioner.

5. Token Launch

Since the iBBT is a Utility token, there is no projected maximum and minimum in USD. The Value Ratio of the token is based on iBBT's Share/Token Ratio of 1:1000 and a value of 0.77:0.00077 of USD or 0.70:00070 EUR, Some of the numbers may change with ETH/USD exchange rates and volatility, but the following numbers are best effort estimates as of Jan 16, 2020.

- Maximum financing: 000,000 ETH - this may change with exchange rates.
- Minimum financing: 000,000 ETH.
- Exchange rate: 1 ETH = 207792 iBBT Utility Tokens (iBBT)⁷
- Token Contract Address:
[0x691c25C461DaFC47792b6E4d674FBB637bca1C6F](https://etherscan.io/address/0x691c25C461DaFC47792b6E4d674FBB637bca1C6F).
- Launch date and time: Jul-27-2019 07:19:33 PM +UTC

6. iBBT FAQs

What does iBBT stand for and what is it?

iBBT Utility Token. The iBBT, a token based on the Ethereum technology, is a unit of exchange in a new Blockchain based digital open banking system. The iBBT Organization users also get a share of iBBTs for participating.

What do iBBTs represent?

iBBTs are tokens in a new Blockchain and attention-based digital reward platform. They are not refundable, nor are they securities or for speculation. There is no promise of future performance. There is no suggestion or promise that iBBT has or will hold a particular value. iBBTs give no rights in the company and do not represent participation in the company. iBBTs

⁷ This may change with ETH exchange rates.

are sold as a functional good. Any value received by the company may be spent without conditions. iBBTs are meant only for experts in cryptographic tokens and blockchain-based software systems.

What's the cap of tokens? Will there be a follow-on offering?

We have a cap of 10 billion tokens. We do not currently have a plan to have a follow-on release.

What crypto-currencies are accepted as a payment option?

ETH will be accepted in the purchase of iBBT. You will be required to have an Ethereum wallet pointed at the token/crowdsale address to participate in the crowdsale. iBBT are Ethereum derived tokens. If you hold BTC or some other crypto-currency it can be exchanged for ETH and used to participate in the sale.

What is the price of iBBT?

iBBT will be a fixed ratio to USD. This may vary slightly with ETH volatility as we get closer to the contract deployment date. The exchange rate will be 0.00077 iBBT per USD

How will iBBT Project use ETH raised during token release?

The Funds received from the token release will be used by iBBT Platform to build out the Blockchain-based open banking system, which uses iBBTs as a unit of exchange.

Are iBBT tokens transferable?

iBBT utility tokens are immediately transferable. Tokens used in the iBBT Network may only be used to pay for premium content or for other services. Tokens may also be used by iBBT network publishers for promotions or rewards.

7. Appendix

7.1 An Analysis of the Stability of the iBBT

A model for virtual currency exchange rates was postulated by Dutch economists Von Oordt and Bolt in 2016^[27]. The model postulates that the value of virtual currencies consists of three major factors; the utility of the virtual currency to make payments, the decision of forward-looking speculators to regulate the supply of virtual currency, and the elements that drive user adoption and merchant acceptance of a virtual currency.

The argument originates with Fisher's 1911 observation that speculators may effectively limit the money supply by withdrawing money from circulation in anticipation of higher future utility. Since this dynamic particularly applies to limited issuance currencies such as bitcoin or iBBT, it can be an important factor in the pricing for token sales and stability analysis of virtual currencies.

For a simple economic system with fixed quantity of currency tokens M_{iBBT} , we can write down a transaction quantity relationship:

$$P_t^{iBBT} T_t^{iBBT} = M_t^{iBBT} V_t^{iBBT}$$

Where $V_{iBBT} t$ is velocity of iBBT, the average number of times each unit of iBBT is used to purchase services within the defined period of time t . T_{iBBT} is the quantity of services purchased with iBBT over the period of time t and P_{iBBT} is the weighted price of the services.

Inserting the exchange rate in terms of \$

$$\frac{P_t^{iBBT}}{P_t^{\$}} T_t^{iBBT} = M_t^{iBBT} V_t^{iBBT}$$

Since we can assume the legacy fiat currency is the accounting unit for all parties involved, we define the exchange rate $S_{\$/iBBT}$, and substitute in the above equation to give

$$S_t^{\$/iBBT} = \frac{T_t^{iBBT}}{M_t^{iBBT} V_t^{iBBT}}$$

If we consider the fraction of currency which is not used in transfer of services, we can postulate a velocity of the fraction of currency which is actually used for settlement V_{iBBT} . Defining Z_{iBBT} to be the number of iBBT units not used in transactions. Since the entire velocity of money in our economy V is an average between the currency units used and the units unused for transfer of services,

$$V_{iBBT} = \frac{M - Z_{iBBT}}{(M - Z_{iBBT})} V$$

Combining these into the exchange rate

$$\textcircled{1} \quad S_{iBBT} = \frac{T_{iBBT}}{(M - Z_{iBBT}) V_{iBBT}}$$

The exchange rate for iBBT tokens is therefore proportional to the volume of services purchased and inversely proportional to the currency not used in transactions for the time period t . This equation encapsulates the insight that a lack of money in circulation will raise the exchange rate. We now turn our attention to the fraction of iBBT which is not used for exchange. Some of the Z_{iBBT} tokens may be the result of users forgetting about the small number of tokens they hold. Some may be due to exchange delays in settlement for legacy currencies. Overall though, the holders of inactive tokens have standard ways of evaluating future utility of the tokens in terms of modern risk management theory. Since tokens do not bear interest, there is a discounted term associated with holding a position of size Z_{iBBT} in them

$$-RS_{iBBT} Z_{iBBT}$$

where R is the interest rate discounting in the legacy currency.

If we consider the future expected value of the iBBT holdings as the sum of the future expected value of the position in iBBT

$$\| S_{iBBT} t+1 \| Z_{iBBT}$$

With this discounted interest rate term (where R is the discounting operator), and the volatility of the future position in iBBT scaled by a risk aversion term γ , we reach the efficient frontier from modern portfolio theory.

$$\| S_{t+1}^{\frac{1}{1+\gamma}} \| \| z_t^{iBBT} - R(S_t^{\frac{1}{1+\gamma}}) z_t^{iBBT} + \gamma \sigma^2 (\| S_{t+1}^{\frac{1}{1+\gamma}} \|) z_t^{iBBT} = 0$$

Using this standard result, we can solve for the optimal number of tokens held by an individual during a given time period.

$$z_t^{iBBT} = \frac{\| S_{t+1}^{\frac{1}{1+\gamma}} \| - R(S_t^{\frac{1}{1+\gamma}})}{\gamma \sigma^2 (\| S_{t+1}^{\frac{1}{1+\gamma}} \|)}$$

If we consider all of the people holding iBBT at a given time interval t we get the economically efficient number of iBBT held for later use.

$$Z_t^{iBBT} = N_t z_t^{iBBT} = \frac{\| S_{t+1}^{\frac{1}{1+\gamma}} \| z_t^{iBBT} - R(S_t^{\frac{1}{1+\gamma}})}{\frac{\gamma}{N_t} \sigma^2 (\| S_{t+1}^{\frac{1}{1+\gamma}} \|)}$$

Since this value can't be negative, we assume that people who hold iBBT have the position that

$$\| S_{t+1}^{\frac{1}{1+\gamma}} \| \geq R(S_t^{\frac{1}{1+\gamma}})$$

hence, using our above relationship, we get the relationship between the expected future value of the iBBT, the interest rate and the velocity of transfers in the iBBT economy:

$$R^{-1} \| S_{t+1}^{\frac{1}{1+\gamma}} \| \geq \frac{T_t^{iBBT}}{M^{iBBT} V_t^{iBBT}}$$

So, people hold iBBT if the discounted expected value exceeds the hypothetical value of the current exchange rate. So, the exchange rate as a function of future expected value of iBBT is

$$\textcircled{2} \quad S_t^{iBBT} = R^{-1} (\| S_{t+1}^{iBBT} \| - \frac{\gamma}{N_t} Z_t^{iBBT} \sigma^2 (\| S_{t+1}^{iBBT} \|))$$

Thus, the iBBT holdings are the discounted expected future exchange rate minus the risk premium for the uncertainty in future value of the iBBT.

If the model holds, ① and ② can be used to define supply and demand for iBBT. Since M_{iBBT} is not time dependent in the case of iBBT, the time varying exchange rate can be readily understood in terms of iBBT transactions and opinions on future utility of iBBT transactions. As iBBT transactions increase, the exchange rate becomes dominated by the transactions rather than future expectations of utility. This dynamic has been observed in maturing virtual currencies as well as various other in-house token systems. While models are imprecise, this model argues for long term price stability in a token mediated economy.

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