TIAN

The Formulaic Stablecoin

Whitepaper

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Contents

Introduction

"Tian is an open source, fairly launched, fully community owned, un-goverened, formulaic stablecoin that grows holders value as the market cap grows and attempts to stabilize holders value from market shocks and price manipulation."

2009 - Cryptocurrency is Volatile

Many have explained this away by saying that stability will come with market capitalization. While this may be true to an extent, other centralized organizations like Central Banks can adjust monetary supply to change the price and value of a currency based on economic factors. Up until the advent of DeFi, monetary policy couldn't be formulaically adjusted in a decentralized way according to internal or external factors.

Certain blockchain coins like Ethereum (as opposed to DeFi tokens which go on top of blockchains) tried to leave monetary policy up to the community and implement protocol changes that adjust the coin emission. The problem with this is it leaves monetary policy up to majority rule and can therefore change at any time leaving some investors left out if they disagree with majority opinion. Also any changes in policy have to be implemented by a central group of developers who control the Github and there is no objective way for each individual in the community to have an equal vote in these systems. So far, adjustments have only been to lower the block rewards and likely have been done due to greed; miners wanting to lock in gains and prevent future miners from getting as much of the market cap as they themselves were able to get.

Tokens like Tether or Dai are force pegged to other assets. This is fine if you like assets such as US Dollars or Gold or Euro's; but the token fails to provide anything on it's own other than a (somewhat risky to varying degrees) digitization of those asset's price action. This is good for asset diversification as Fiat and Crypto price moves are not very correlated.

Introduction (cont.)

2019 - Then comes Ampleforth

Ampleforth token has done something a little differently and have leveraged some unique tools in the DeFi landscape to affect monetary policy adjustments. Namely they have embraced volatility, as does most of the crypto-space, but instead of letting the price float on a fixed quantity of tokens that a user owns, price stays fixed (somewhat) and the quantity of tokens that everyone holds is constantly in flux. They say that this is objectively better because it achieves a "unit of account" better than a currency whose price is volatile. What this means is that if each token is always worth $1 and the amount of tokens you own changes based on market conditions, then it is better to use in contracts that specify a certain number of tokens be paid every unit of time. The problem with this notion is that the contract can just as well specify the total value that should change hands instead of the token quantity. So in reality Ampleforth achieves little in practice. You may say that a centralized Oracle of price is not needed for contracts liquefied with Ampleforth since the contract can specify an exact token number instead of a total value which is subject to interpretation. However Ampleforth integrates centralized Oracle(s) in being able to know it's own price anyway, so again nothing novel is achieved in practice. Also the unit of account in Ampleforth is also volatile itself and based on Federal Reserve Monetary Policy, since the unit of account is set to the dollar. If Ampleforth is a good unit of account, it is only because the Dollar, which its price is based on, is a good unit of account. Also it assumes that Oracles are good at determining how much debasement of the dollar is happening over time (chances are that they are not; since inflation calculations are often politically or strategically motivated - and can't possibly take into account the price of all goods). So again, Ampleforth achieves little in itself. Ampleforth also maintains the current proportion of each holder to the total supply of the coin. This means that all shares are already owned and as a new user you have to try to take shares away from current owners. This is not ideal and creates an economic rent situation. Assets often have economic rents, but the worlds' money should not, since that would cause intractable poverty for the late adopters.

The only thing objectively better than Bitcoin or DeFi generally with Ampl is the psychological effect; Ampleforth always seems cheap (unlike Bitcoin) even though each Ampl represents a diminishing part of the market cap. So Ampl's innovation is nothing more than a psychological trick, and it does a little bit of the smart contract writing for developers; in that developers don't have to implement their own Price Oracle.

However Ampleforth is worse than Bitcoin, in that the distribution is much less fair. Bitcoin's distribution happens over more than a hundred years, whereas Ampleforth's distribution happened over a couple months and all went to themselves and investors. Ampleforth started with 50 million tokens and now have over 200 million tokens. So you would think that those initial owners were diluted out and the broader community owns 150 million tokens, right? Wrong, all those 150 million tokens were distributed to the original holders of the 50 million!

Introduction

2021 - Then comes Tian

Tian is a little different than all current coins and stablecoins in that it tries to achieve stability in itself, very similar to how the Federal Reserve Board of Directors tries to stabilize the US Dollar and the US Economy by adjusting the currency supply and distribution based on factors within the Domestic and Global Economy, and not by pegging the currency to some other asset.

The way Tian sets out to achieve this monetary policy is two-fold. First by making distribution as fair as possible, and also by splitting the money supply (which process is non-inflationary) based on the utilization of Tian (the trading volume). This process does not need a centralized Oracle to accomplish as the trading volume is known objectively to the contract.

Thus if Tian is successful in it's goals, it becomes a token stable in itself, and becomes something that other currencies can peg themselves to if they desire. The splitting process also leverages redistribution to adjust the readily purchasable supply, which dampens or insulates Tian's market cap from the broader cryptocurrency market price swings, something that neither Bitcoin nor Ampl can do. Tian takes the benefits of both Bitcoin and Ampleforth, and improves on both of them.

Tian on Ampl

Like Ampl (and unlike Bitcoin), Tian continuously "splits" it's share price without diluting holders. This achieves the same psychological effect that Ampl has. However we don't stop at cheap psychological tricks. Tian also redistributes a small amount of tokens from transactors to make them easily available to new adopters. This eliminates economic rents like all proven currencies do by diluting current coin users; but instead of placing that dilution burden on holders (via inflation) who have not put Tian to use yet, it places the redistribution cost on transactors who have demonstrated that Tian has been useful to them.

It does this by charging a small fee for each transaction (just below 0.07%), then returning that fee in entirety to all holders by the way of increasing their holdings, and then minting that same amount of tokens fresh and putting them in the token contract as Liquidity (for-sale with no owner) and all of this is done with no Oracles necessary. Basically, some new tokens are constantly forced onto the market and don't have to be acquired from current holders, eliminating economic rents.

Tian on Bitcoin

Like Bitcoin (and unlike Ampl), Tian also offers a robust and fair long-term initial distribution of coins. It takes Bitcoin about 140 years to fully distribute it's maximum supply. In Tian we took improvements that Dogecoin and Grin made to Bitcoin's initial distribution model by using what is called a "constant emission". Constant emission spreads out this distribution from 140 years to 2000+ years.

The percentage of the total supply that new coins account for always decreases, and the majority of this percentage gain happens in the first 20-30 years which just so happens to also be the exponential phase of the adoption curve. What this means is that any new technology takes about 20-30 years of fast growth before the adoption reaches a steady state. With a constant emission model, most of the new percentage of tokens are distributed during this time of rapid growth. Since the adoption rate is fast during this period, new tokens will likely find an owner quickly and they won't stagnate on the market causing the price to fall. In addition to this, the initial distribution is still happening in 2 years, 20 years, 200 years, even 2000 years from now. So you can be a new adopter next millennium and still have not "missed out". There is no FOMO in Tian, everyone keeps winning. The earlier you get in, the longer you have to win.

In addition, the constant emission improves price stability. Much of the instability in the cryptocurrency market can be traced back to Bitcoin Halvings which cause supply shock to the market and cause boom and bust cycles. Tian never "halves" and thus will not contribute to rhythmic volatility in the market.

Abstract
Business Case

The problem Tian set out to solve was: "How do we become a token that everyone accepts?"

Tian has the use case of a self-sustaining stablecoin. It is not pegged to any other assets. It also attempts to achieve damping (insulation) from the broader cryptocurrency market swings.

Currency is not designed to go up in value. If currency goes up in value then it means that goods and services are going down in value. A currency value can only hope to achieve one thing; stability. Of course, as a currency becomes capitalized then the market cap will go up over time. But lets say a currency gains all the market cap of all currency in the world, the only thing at that point it can do is to act as "good money", which is to be a stable store of value and an effective means of exchange. At that point, with all the currency market cap in the world, the total worth of the money you currently hold can't go up; and that is ok.

Now you might be saying that we can get rich while this capitalization of the market is happening, and this is true. However, how do we gain market share as a currency? Become a good currency, and becoming a good currency means having stability and being easy to exchange. A virtuous cycle. One doesn't simply gain money by wanting to gain money, rather one can gain it by doing something that people find useful; in our case providing stability and exchangeability by good design.

天 **Tian:** A ancient Chinese philosophical concept for "Heaven" or "Order of the Cosmos"

Problem Statement

Before Blockchain, local currencies were the closest we had gotten to a money that was free from political control. Bitcoin achieved the goal of becoming an alternative asset that the people could have and share between themselves. Satoshi thought he created money in Bitcoin, but he actually did not. He created a settlements network, akin to the network of banks. In a way, blockchains can be viewed as local communities of the internet and the tokens that reside on top of the blockchains as the local currencies themselves.

Bitcoin the coin is merely an incentives token to reward people who participate in the settlements network and provide this settlement service. The banks are not the dollar, and a banking incentives token is not the dollar either. Bitcoin is more like a share of stock than a money. The Bitcoin monetary policy is very basic and does not adjust for either increased use, nor for economic factors, not even for popularity. Whether 1 billion people use bitcoin or 1 person, Bitcoin is exactly the same. To be honest a stock is even more adjustable than Bitcoin, they can at least split shares when needed; and this happens to be the only monetary function Ampleforth can perform. In some ways this is good that Bitcoin is predictable, but in other ways it can't adapt to be a leading money in the global economy.

So then what is money? Money is fluid and adaptive, cheap, and friction-less. Money has to avoid economic rents - like how Fire prevents those from capturing it. It needs to be as light and expandable as Air and flow freely like Water. Yet it needs to be trustworthy, solid, private, and permission-less, like Earth.

The US dollar is not the banks, but it needs the banks to settle transactions. Bitcoin is this settlement layer, but sadly it is the worst settlement layer in the industry. Everyone used Yahoo as a landing page even though it was the worst search engine, that is until Google figured out the actual use-case of the landing page. Same with Bitcoin, it is the worst settlement layer but people still use it for the time being. Networks like Ethereum and Cardano and BSC are figuring out what the actual use-case of the blockchain is; a settlement layer, not money. And they will soon overtake the Yahoo of Blockchain.

Thus, money lives as a layer 2. Tian uses blockchain for settlement and that is all blockchain is used for, to host us. So we need a blockchain to host our smart contract which needs to include blocks that can host the bytecode and allow Turing complete programming operations. We need something with low Gas fees for settlements. We need fast settlements which necessitates a scaled blocksize and low blocktime. Ideally we want a decentralized and distributed network of validators (miners). We also want something secure with distributed mining pools and network mining power that can resist 51% attacks. Tian is choosing to launch at first on BSC mostly due to fast and cheap settlement, but we also value the other attributes mentioned, and plan to release on more blockchains in the future.

DeFi is money. DeFi currently thinks it is a way for people to make money. It is, but they do not realize that they have the tools of Decentralized Monetary Policy (DMP). They have a "mint" function but for some reason they only ever use it once and mint all tokens in the first moment. They

may as well be called Deflationary Finance instead of Decentralized Finance, since every coin seems to want to be deflationary. But what is deflationary about minting all of the worlds money at once and then hoping that over time its ownership becomes more distributed? Just a hint, it wont. So why not mint a little at a time so it can actually be well distributed? This is what Tian does. We mint a quadrillion coins but it takes 2000 years for them to be created, slowly over time. And we keep minting small amounts so even people living in 4000 AD won't be feeling FOMO.

Next we leverage the "DeFi trading fee" concept. Current projects create a very high fee and use it to attempt to manipulate how people use the coin and try to prevent them from dumping coins. They seem to have never learned that trying to stop human nature is like trying to stop the wind. Instead of using a high fee to try to make holders rich and destroy all trading volume of the coin, we use a very small fee for a positive purpose; to keep holders whole and undiluted while we both split our token and also redistribute coins to new users.

Typically, all real-world currencies include inflation to eliminate economic rents but we think there is a better way. Why penalize people with unrealized value? The value in money is in spending it so why should people who have not yet spent (holders) be penalized? Instead, our ultra-low fee of 0.07% of each transaction is used to push coins out to new users who can then reliably claim a portion of the market cap at a fair price.

Overview of
How Tian Works

Achieving Stability

Tian Achieves stability with what we call "Value Damping" and also a fair Initial distribution and Preventing Whale Manipulation - Both of those latter two will be discussed later on. The premise of Value Damping is that, generally, the price of crypto assets is tied to trading volume. So when "zooming out" and looking at long term trends in the crypto-space, high price times correlate with times of high volume. Since we cannot measure the price of Tian in a decentralized way, adjusting our emission of new coins based on price is out of the question. Even if we could, what price would we choose? Price has to be measured relative to something else.

We however do have access to objective trading volume measures. A common feature of DeFi tokens is a fee on each transaction that is given back to holders (sometimes called "auto-staking"). So using this feature, we can measure our volume of coins traded. If our volume goes up, more fees will be redistributed to holders, and thus we will also mint more tokens to match the amount given to holders. So we do not dilute holders portion of the market cap, and we mint new coins that bolster the supply for sale. Transactors are the ones getting their value diluted, but only by 0.07% per trade. Dilution in some form is necessary to avoid economic rents, as discussed later on.

Market Damping

Market Damping means we insulate ourselves from the broader crypto market. This market damping feature happens because of the Value Damping of Tian. Most cryptocurrency, over the long run, tends to have volume and price trends that mimic the broader cryptocurrency trading volume. If we mint more Tian during high volume times, and mint less Tian during low volume, then we can minimize fluctuations in the token price and market cap. In Tian this is done proportionally, so if there is a 50% reduction in volume, there will be 50% less tokens minted. Of course sometimes for example there are price crashes on high volume, and in this case Tian would have an exacerbated crash, but most often moves like this are very short term, so in the long run we should come out (far) ahead on stability.

Initial Distribution

Initial distribution is how we get tokens in the hands of customers. Almost all DeFi projects mint all the tokens at once, keep a bunch for themselves/investors, then give some away and allow people to buy some from the contract. If people like that, then that is fine, but there is no possible way to mint all the coins at once and get them into distributed enough hands to prevent pumps and dumps.

Bitcoin takes 140 years to distribute all 21 million coins. And this is the most important point; time is the best factor for distribution. Even if you gave coins to everyone now living on earth, most of them wouldn't be able to use the coins because they lack the education or technology to do so, and also what about people born tomorrow? They would miss out. So we have to take a long period of time to distribute the tokens. Dogecoin and Grin use a constant emission model which has worked out nicely for them. It just so happens if you give the same amount of coins out at regular intervals forever, that the majority of the percentage gains in the coin supply happen during the first 20-30 years. This 20-30 year time frame just so happens to be around the amount of time for mass adoption of a disruptive technology. What this means is that when the highest proportion of new coins are hitting the market, we will (hopefully) be in an exponential growth phase for our token, thus this growth will consume all the excess coins.

Therefore we can prevent inflation of
our supply while getting coins into the
most competent hands possible by using
the constant emission model of initial
distribution.

Figure 2: Total Circulating Supply Distrubution By Year
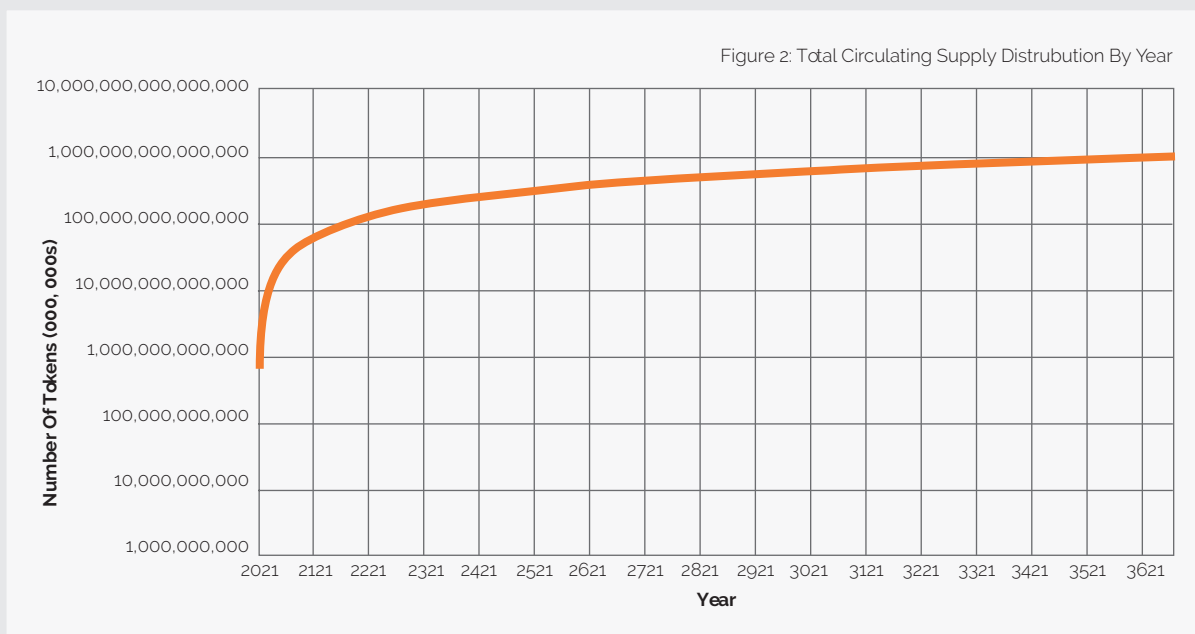
Problem Statement

Eliminating Economic Rents

Economic Rent is a concept that means that monopoly forces can force new users to overpay to gain a position in a scarce commodity. As we have said before, this is expected for things like real property, but cannot be a feature of money. Money is a tool to exchange value, and if money is ever monopolized, the people will seek to create better money that is more freely and fairly available. The way Tian overcomes economic rents is by force redistributing a very small amount of each transaction to become available for new users to buy while not diluting the share of holders. This is done with a very small (~0.07%) fee on each transaction.

Also our Initial distribution model means there are always new un-owned tokens coming on the market monthly for new users to buy at a fair price.

Preventing Whale Manipulation

Whales owning large percentages of a token's supply is well known to cause problems. Firstly is the risk of dumping, they own so much that it can cause a deep price crash and even recession if the whale decides to sell. Also with coins that allow unlimited buying and selling for a tiny set fee, whales can sell and get people to panic sell with them, and then buy and get people to FOMO in. As they say: 'if you can move markets you can make money".

Tian counters these sorts of manipulation in a couple ways. The biggest way is in enforcing a maximum buy of 38% of the Tian liquidity at once. What this means is it takes 5 buys to get 90% of the outstanding Tian, 10 buys to get 99%, 15 buys to get 99.9% and so on. Not only does this make sure there is always some Tian for sale, it also means that each purchase would raise the Tian price, so the whale would keep getting worse and worse deals to try to buy up all of the coins to manipulate the price.

Another way Tian avoids whale manipulation is with our trading fee. A whale cannot simply buy a billion dollars worth of coins and dump them, because those transactions would cost the whale 1.4 million dollars in fees (even though the fee is only 0.07% per trade, a billion is a big number)! This means the whale must be very certain he can trick a lot of people to panic sell and FOMO back in, in order to recoup his transaction fees.

And the last way Tian prevents whale manipulation is that our initial distribution drops a fresh batch of new coins every month. So this makes it much harder for a whale to corner the supply and manipulate the price.
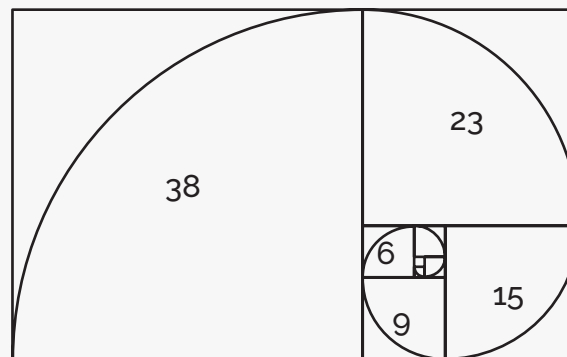
Technicals of Tian

Transaction Fee

The transaction fee is 0.069420% of each transaction. So this means if there was a $100,000 transaction, there would be a fee of $69.42. The fee was designed to give us a roughly 3% yearly coin creation (and return to holders) if our daily volume to marketcap ratio is roughly 10%. And also the memes.

This fee is entirely returned (reflected) to holders like typical auto-staking DeFi coins. The difference between Tian and other DeFi in this aspect is two-fold. First our fee is designed to very small and unobtrusive. We want high volume! Secondly in addition to returning this fee to holders, we also mint this same amount of coins fresh. What this does in whole is to split our currency to have a lower price but more units, and also redistribute from transactors to prevent economic rents on new users. Coin holders are not diluted, the only dilution happening is from the transactions themselves via the small fee imposed. In reality, a larger part of the marketcap is returned to holders than new coins that are created. Therefore holders actually gain a little bit of value over time and don't just stay constant. And of course holders gain value as the marketcap grows, naturally.

Minting New Coins

Every month 44,468,237,170 are minted as part of the initial distribution via constant emission. In addition to this, new coins are minted during every transaction, the same amount that is redistributed to holders based on the transaction fee. We hit 1 Trillion coins in 2 years after launch. 10 Trillion in 20 years. 100 Trillion in 200 years, 1 Quadrillion in 2000 years.

So if you are calculating a price you want to pay, you can assume our max supply is ~10 trillion coins for the typical lifetime of holding. If our marketcap reaches $100,000 in 2 years then the price per coin target would be 10 million coins per dollar invested. Buying when the price is lower than that (slowly a little bit a month) and selling when the price is over that, is advised. Not financial advice.

Figure 1: Circulating Supply Growth Percentage Per Year
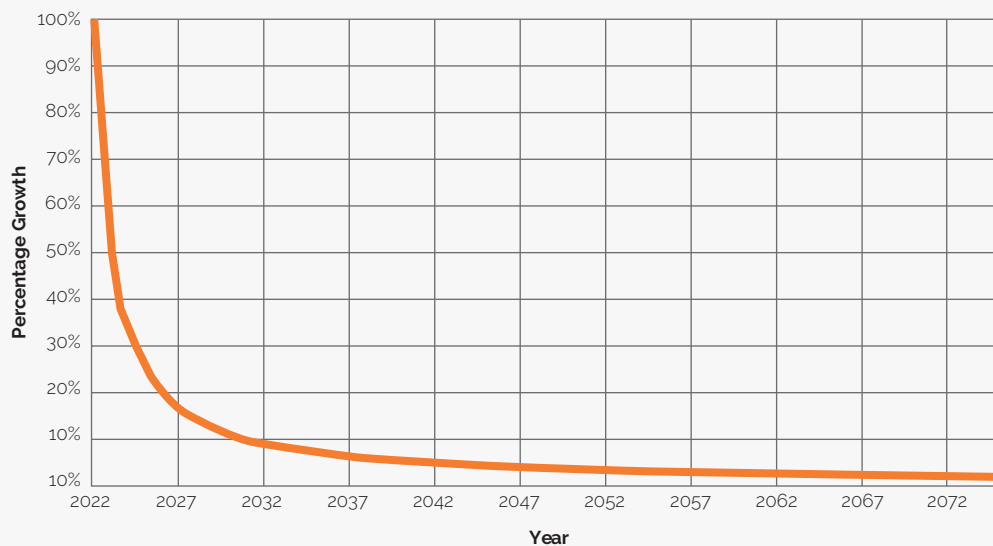
Future Focus

Governance

Tian has no governance. When it is launched the initial BNB liquidity tokens will be burned, the keys to the contract burned, and any other means of control for the protocol forfeited. The monthly gas fees will be paid by a creators wallet, and this wallet will be entirely under control of the contract. It will be supplied with 1 billion Tian that is fairly purchased, and the hope is the reflections from transaction fees would be able to pay the ~$10 monthly gas fees to mint new coins. This address will also accept donations to make sure the protocol can keep running indefinitely in a decentralized way! Tian will be launched entirely in the hands of the community.

Since Tian cannot be changed after launch, our team will focus on marketing, social media, podcasts, promotion, and fundraising for an Audit. We also will work on improving the "Tian Method" and get ready to launch on other blockchains. We also will work on our own Swap (so you can stake Tian), NFT marketplace, our own Blockchain, our own Digital Collectible network, and other ideas. We are not rushing to do any of these things though, and you shouldn't base your investment in Tian on any of these future plans.

無為 **Wu wei** is a concept literally meaning "inexertion", "inaction", or "effortless action".
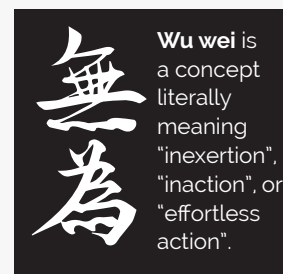
Conclusion

Firstly we must emphasize that Tian is Experimental.
To the best of our knowledge, a formulaic stablecoin has never been attempted. Therefore we not only have typical DeFi risks like the risk of bugs or other unforseen issues in the contracts, but also the risk of; "what does the launch of a Formulaic Stablecoin look like"? Does the price spike and crash, do we slowly grow, or do we constantly go down in value toward oblivion? I think with good education letting people know that the best way to approach this is invest a small amount of money monthly, that we might just be able to reliably and stably grow.

Tian is Free Money. Free from Central Bank Control, Free from Dilution, Free from Economic Rents, Free from burdensome fees, and Free from a ballooning unit of account. It is also free from looming regulation of pegged stablecoins. It is, to the best of our design, partially free from the volatility of the wider crypto market and whale manipulation. Tian is free from key holders and governors and developer power. Adopt Tian and Be Free.
Tian is for the Poor. Tian is for the Rich. Tian is for Corporations. Tian is for Governments. Tian is for Breakaway Societies.
Tian is for All.

The
T-Team

CaptivatingCatz
Developer and Executive of Tian. Catz is a Computer
Scientist, Web Designer, content creator and leader.
 Catz runs CaptivatingCatz.com and has a passion for
Music, Art, and NFT's.

PlantBaby
Art Designer and Hype man of Tian. PlantBaby has a
background in as an advertising agencey Art Director, is an
avid Vegan, a believer in humanity, a giver of Good Energy.

Mercy
Web Host and Back-end operator for Tian. Mercy is an IT
expert and web developer and runs Aossome.com.

GiverofMemory
Designer and Technologist of Tian. Giver is a
multidisciplinary designer with Degrees in Nutrition and
Mechanical Engineering; with expertise and innovative
designs in Biology, Physics, Chemistry, and of course,
Cryptocurrency. Giver has dozens of inventions in the
Crypto space, hopefully many of which will someday
come to fruition. Giver runs NatureVault.org and has a
passion for cheese

Tian
tian.fi
reddit.com/
twitter.com/
discord.com/
telegram.com/