

# STAR

## Star: A New Synthetic Commodity

### White paper v1.0

#### Abstract

So far, synthetic commodities such as bitcoin have low correlation with stocks, currencies and precious metals. However, there is also a high correlation between today's synthetic currencies and bitcoin. In this paper, we introduce STAR: a new synthetic commodity; It is suggested that the STAR protocol (described below) will produce a step function similar to the fluctuation fingerprint different from the existing composites.

# 1. Introduction

Monetary economists often emphasize two attributes of money: scarcity and use value. For monetary historians, the way in which these two attributes combine to produce money depends on the technical and institutional infrastructure at that time.

Commodity currency, that is, those currencies that are absolutely scarce and have non monetary use value, has always been very important in history. These are usually precious metals, and their supply-demand relationship may even change the process of large economies. To some extent, the use of precious metals is due to the need to limit counterfeiting, but it also increases the production cost of money, making it almost impossible to realize even the simple feature of multi denomination.

In view of this, the second innovation of "money" is to create real legal tender, which lacks both absolute scarcity and non monetary use value. Early attempts to introduce these funds ended in astonishing failure. Only with the promotion of the European Industrial Revolution and the ability to introduce currency "tokens" with high counterfeiting cost but low coinage cost can real legal tender be produced. In addition to production innovation, Fiat's successful integration also requires institutional adjustments, such as extensive monetization and issuance of government bonds in the form of bills.

Nevertheless, most paper money still had some connection with gold or silver, and the last step to Fiat was not taken until 1971, when it was suspended from being converted into commodity currency. Since then, Fiat's value has largely depended on the state's ability to force it to be used as payment (most currencies have this feature when paying taxes, but it is not its only source of value).

Today's institutional and technological infrastructure makes it possible to synthesize a third kind of currency commodity. Selgin and Goodspeed define it as a currency with absolute scarcity but lack of non monetary use value.

The vast majority of modern money exists in electronic form, and its cost is only the depreciation of electricity and hardware for storing money. Various financial institutions and their interrelated control and accounting systems ensure the value of money. However, the easy replication of electronic information makes it impossible for electronic money other than Fiat to exist.

Bitcoin's blockchain is a kind of technological innovation, which makes this absolutely scarce and worthless spectacle possible. Through the ubiquitous Internet, bitcoin can exist between computer networks as an encrypted and secure ledger, and the number is limited to 21 million.

Interestingly, so far, synthetic commodities have proved that the risk return trade-off

"different from stocks, currencies and precious metals" is not exposed to most common stock markets and macroeconomic factors. As "cryptofinance" continues to converge with traditional financial institutions, investors hope to diversify their portfolio through bitcoin, which is not highly related to traditional asset groups.

Although it is not clear how the new asset classes will behave in the period of macroeconomic recession, when the correlation between classes generally increases, it has been determined that behind the popular saying, "there is little evidence" that there are similarities between cryptocurrencies and traditional assets.

However, the current generation of synthetic goods are highly related to each other and bitcoin. Our starting point is, given today's changing technological and institutional landscape, can we create a synthetic commodity that is not highly related to bitcoin or other asset classes?

When bitcoin was first launched, there was no exchange or critical point in the ecosystem where information could be collected. However, since 2009, the institutional pattern has changed. With the advent of the bitcoin bull market in 2017, we now regulate exchanges worth billions of dollars. This modern exchange ecosystem provides liquidity and an effective means to find prices.

We believe that the next logical experiment is to create a new type of synthetic commodity using the information signals available in today's institutional infrastructure. Firstly, this paper introduces a new integrated commodity agreement STAR, which transmits the nominal exchange rate information to the token supply.

Then, we believe that the incentive mechanism introduced by STAR protocol design can not be realized by the existing price based trading strategy. On the contrary, we call for the establishment of a new trading strategy to take into account the additional supply information signals. Therefore, we expect the sample to produce obvious volatile fingerprints.

## 2. Agreement

STAR is a smart contract based on binance smart chain, which has been put on the cakeswap exchange.

STAR's platform token is used to stabilize the issuance of STAR, price stabilization mechanism and network governance.

The price stable digital currency being designed by STAR will provide a driving force for the next generation blockchain payment network. STAR has established a global e-commerce alliance with sustained growth of users, bringing the low-cost advantages of blockchain transactions to merchants and consumers. STAR's goal is to connect

digital currency with practical applications, grow into an open platform for innovative financial decentralization application (DAPP), and realize the real growth of blockchain economy. STAR was founded by a group of business, finance and blockchain technology experts to create a stable, safe and free world.

The price stability mechanism of STAR system depends on the Arbitrage Behavior of users. STAR protocol establishes a set of initial conditions and incentive mechanism for the network without centralized supervision of price or supply. Instead, it depends on a decentralized network of actors. When the agreement propagates the price information to the supply, the participants propagate the supply information back to the price.

The STAR protocol programmatically sets balanced supply targets, which is important because the promise of flexible supply needs to be strictly implemented. However, changing supply does not mean that participants will adjust their bids accordingly, nor does it mean that they will do so consistently. Instead, participants will respond to supply changes based on how fast or slow they think others will be.

## 2.1 expansion

Fast track participants have the opportunity to sell after an increase in supply but before any price adjustment occurs. As long as users are willing to sell fast enough, the price will fall. This may result in the following price and supply patterns:

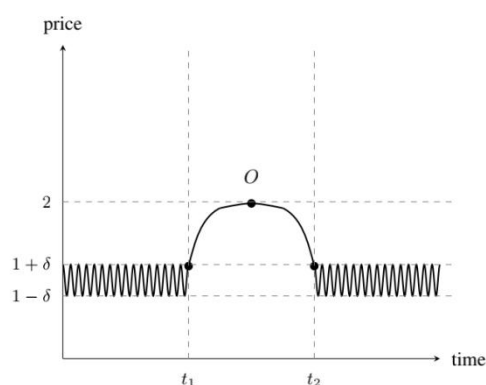


Figure 1: price expansion series

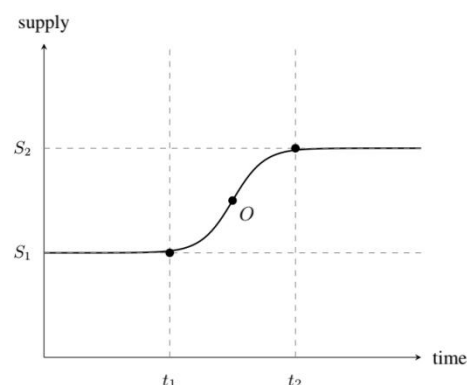


Figure 2: supply expansion series

As shown in the above figure, the price sequence (left) can end roughly at the beginning; However, the corresponding supply series (right) will end above where it began. To better assess the unique P & L relationship established, we examined the following  $P \times S$  or series: PSM

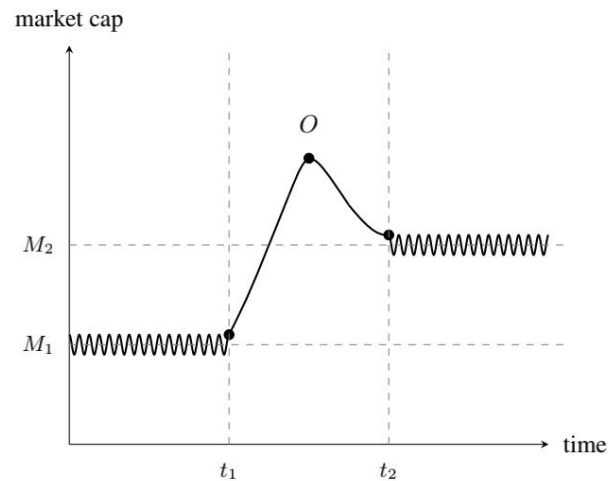


Figure 4: market value - expansion series

In conclusion, quick participants will see that, nevertheless, there is still an opportunity to sell more samples at a price higher than the next equilibrium point. This is because when the nominal exchange rate of the currency is the price target threshold, the system will expand to the holder in proportion and continue to expand every day until the price target returns.  $MT_1 < t_2 M_2$

A user who only looks at the price cannot distinguish between sales in and, because on all surfaces, the price sequence diagram is symmetrical. In contrast, an actor sees an asymmetric opportunity and can take advantage of it.  $T < ot > O$ -type p

## 2.2 Shrinkage

Contractile activity was similar. As long as enough participants pay attention to the opportunity to buy more networks at a cheaper price, the price will be revised upward to form a general price and supply model, such as:

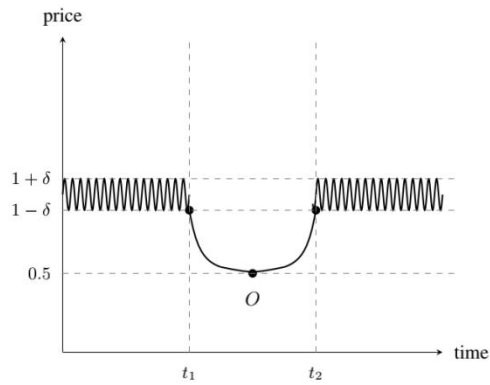


Figure 5: price contraction sequence

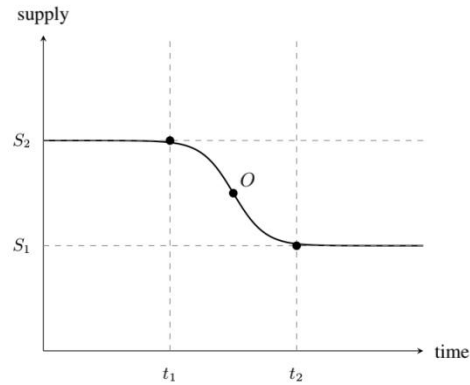


Figure 6: supply contraction sequence

In this case, the price series (left) seems to end roughly at the beginning; The corresponding supply series (right) depicts a different picture, which is lower at the end than at the beginning. To assess the market dynamics created, we can similarly look at the following  $P \times S$  or market value series:  $M$

## Market Value

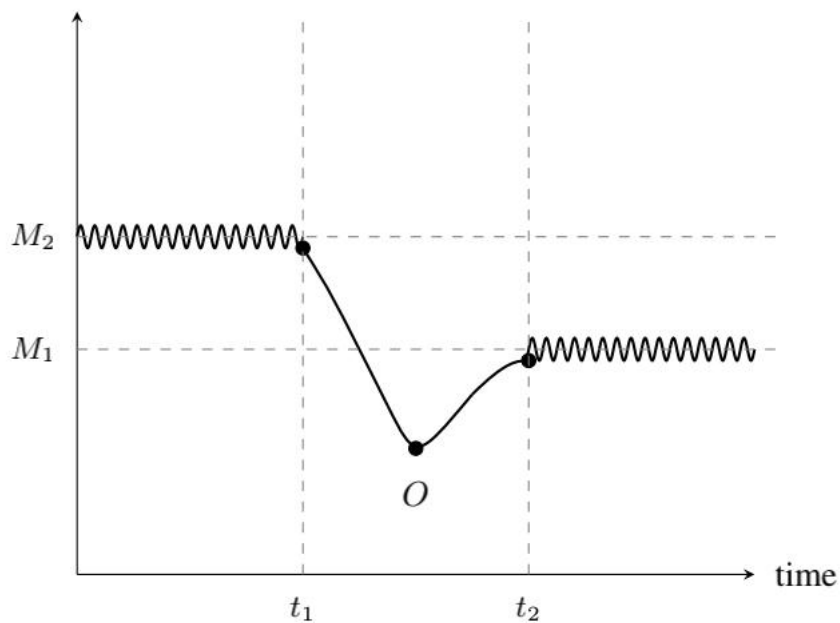


Figure 7: market value contraction series

To sum up, quick participants will see that although the system shrinks between the two, they have the opportunity to buy more samples at a price lower than the next equilibrium

point. This is because when the nominal exchange rate of the currency is the price target threshold, the system shrinks proportionally from the holder and continues to shrink every day until the price target returns.  $MT1 < t < t2M1 <$

Similar to the extended case, a participant who only looks at the price cannot distinguish between the bid price and the bid price, because the price sequence diagram is symmetrical. In contrast, an actor sees an asymmetric opportunity and can take advantage of it.  $T < ot > O\text{-type } p$

## 2.3 Balance

Within the threshold range of the target price, the supply policy does not intervene and the supply remains unchanged. This will result in the following price and supply patterns:

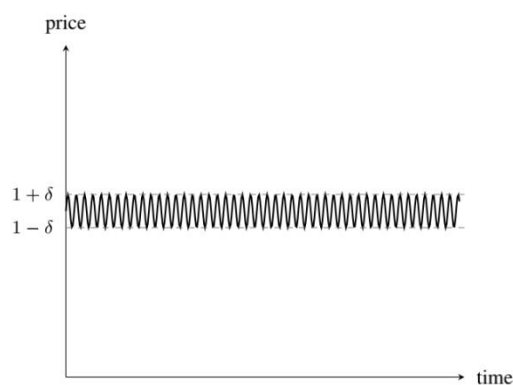


Figure 8: price equilibrium sequence diagram

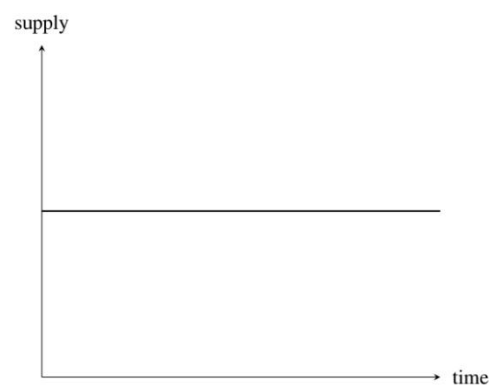


Figure 9: supply equilibrium sequence

## 3. Algorithm mechanism

When the STAR price reaches about 1.05usdt, the contract will automatically sell a certain quantity to stabilize the price to about 1.00usdt. When the STAR price reaches about 0.95usdt, the contract will automatically purchase a certain quantity and stabilize the price to about 1.00usdt.

## 4. Additional issuance

It is necessary to stabilize the STAR price. When the price reaches 1.05 usdt, the contract will automatically sell a certain number of STARS. If the STAR tokens held in the contract are not enough to sell, additional issuance will be carried out automatically, and the final price will be stabilized at 1.00 usdt.