BUC (Basic Universal Coin)

Model Creator CHITRANJAN BAGHI
Smart Contract Programmer MAJJI SAI VAMSI

Abstract. A Decentralized Monetary System which tries to achieve Monetary Equillibrium. We see money as a special product which is specialized to do the accounting of economic goods and services and make trade efficient between two parties.

Since we treat it as a product we believe in demand and supply of this product when needed by the market but without causing **cantillon effect** which changes the share of wealth between economic actors. So our system increase supply and decreaase it without changing wealth share of the individuals.

This new system is trying to solve the problem of central bank's influence over monetary system and bring back monetary system to the public without the need of any central authority. To impliment this model in real world blockchain has played an important role in maintaining independence of its working.

Introduction

The current system depends on centeral banks and normal commercial banks for money creation.

The amount of money they create enter society unevenly and they influence interest rate which should have been set by the markets, not doing so disturb the very important money market.

No way the interest rate which are reaching zero and going negetive reflect real interest rate set by people's time preference.

In society where money is not centrally controlled the real market interest rate arise from time preference of people and people don't prefer negetive or zero interest rates. The current system goes against the fundamentals of economics.

What is that fundamental? That fundametal is that information in an economy is spread throughout the economic actors and price signals helps the whole economy in allocating scarce resouces. This basic fundamental mechanism has been broken for a long time when it comes to money, because money production has been monopolised by central banks.

Rather than providing money units based upon economics fundamental the current system's money production happens to support corporates, social wellfare, and to reduce unemployment. Working towards these goals is not a problem at all but tax money should be used by governments instead of inflated printed money.

Problem arise when they use their power to inflate money to support these programs and tax people savings with a hidden tax.

The BUC Model

Internal working of BUC model and its different component ensure that monetary equilibrium is reached.

In the BUC model the smart conrtact does this by increasing or decreaing money units based upon the daily money velocity.

velocity is calcuated daily as (Volume of token traded in that day / total token supply)

The tageted velocity is set as a variable in the smart contract so if it gets triggered it increases else it decreases.

As economic activity increase it will effect the movement of tokens between addresses, which may increase velocity to go above target, then smart contract treat it as a signal that more money units are needed to account for goods and services in the economy thus increase money units. When velocoity goes below target velocity then supply is reduced.

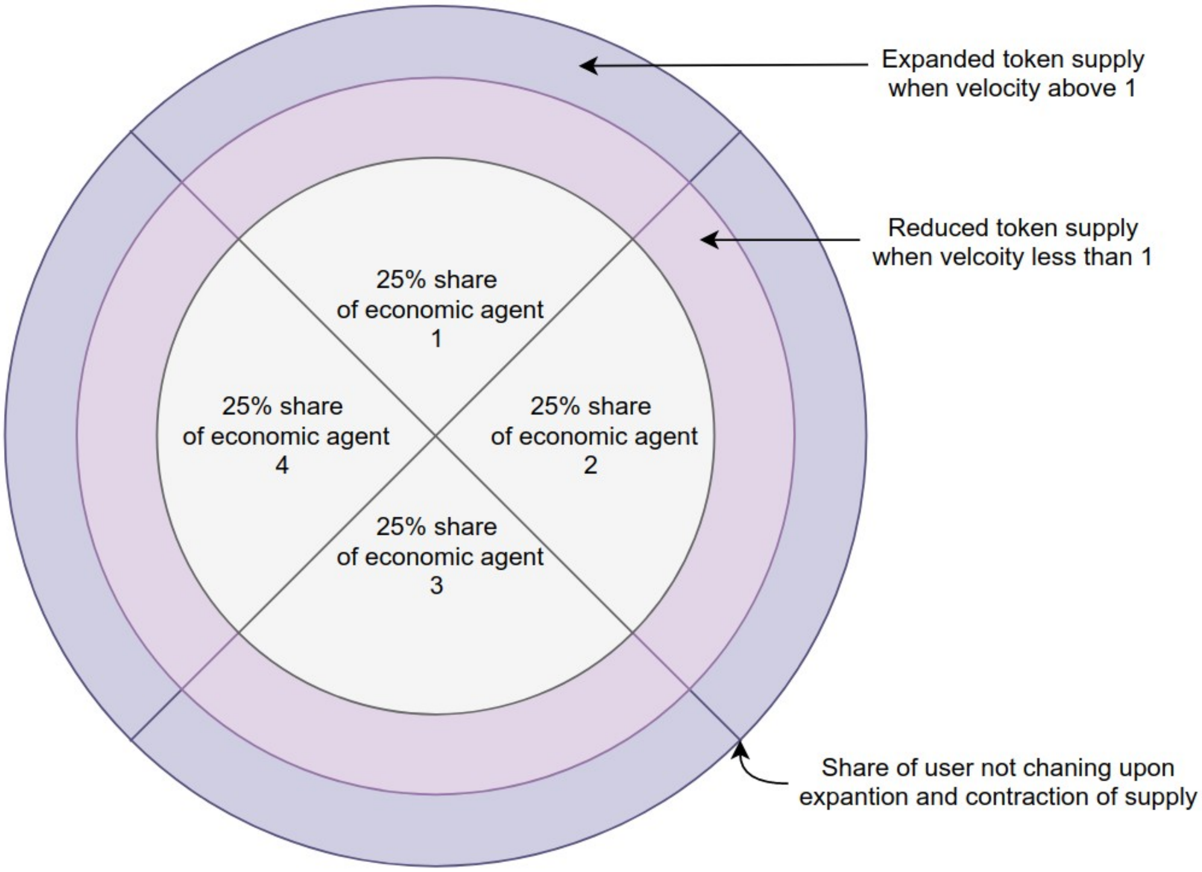
Target velocity keeps hunting to get triggered and upon triggering tries increase itself so that it doesn't get triggered. This is our hunting mechanism which tries to find out if enough money units are there to meet the demand.

To limit the manipulation or contract going heywire, we have set the increase and decrease of money supply at 0.005% upon triggering or not triggering.

Lets see how different part of this smart contract works.

How ownership remain same while token supply increase?

The ownership is decided based upon the percentage a user own. When users trade among themselves and transfer tokens, the contract check how many tokens have been moved and what percentarge the tranfered amount is of the total supply and it gets the percentage that is being transfered and then it updates the same for both user. Increasing percentage of reciever and decreasing percentage of sender.



In the image above the only way to change token distribution is by changing percentage and that can only change when users willingly trade their percentage share by sending and recieving tokens among themselves. The contracts expansion and contraction of supply doesn't make anyone more or less wealthy thus **no cantillon effect** in the system.

Why have the above mechanism?

The above mechanism seperates the ownership from money units. The money units expand to allow for accounting of goods and services. But the share of each user which is claim on Goods and services in an economy remains same.

Imagine total supply as 100% claim on all goods and services in an economy, so if you have 10% share in the economy you have right to 10% of goods.
This 10% is not taken away from you because of money increase or decrease, you will always hold 10% of the share of the economy.

Note: To remove tokens from lost account, we have a mining function which just allows any economic actor to claim tokens of a lost account, we consider an account lost if tokens in it have not been moved for a very long time like 10 years.

This way markets can be provided with the money units they need for trading without doing any injustice to savers who hold the money unit.

How New money units are distributed among owners?

As our hunting mechanism is checking daily velocity and checking if its triggered or not. The contract is always looking what the token activity is trying to say, if activity decrease so does money supply and if acivity picks up supply increase, the economy will always get the money it needs based upon the activity.

Conclusion

In the current system and in real world we are trying to gain more money to gain more share of economy for ourselves.

as that money that we earn is nothing but share on the the goods and services in the economy.

Here as well one's share changes only when one provide value and trade tokens among economic agents.

With this new Monetary system the economy will have optimum amount of money units. As the inputs which guide how many units to generate originates from economic agent's activities. No central authority controls or manages how much to increase supply by and to whom to distribute.

Definations

Monetary Equilibrium: Monetary equilibrium is a situation where the supply of money equals the demand, given a particular constellation of prices.

cantillon effect: A Cantillon effect is a change in relative prices resulting from a change in money supply, which was first described by 18th-century economist Richard Cantillon. Making lots of cheap money available via banks does not automatically mean that demand for everything will rise simultaneously. Instead, history shows that certain assets take favor over others, leading to rising in some areas of the economy and falling prices in others.