
Miltons DAO

When appealing for the dispossessed, it's a right, not a charity—Thomas Paine

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Membership sustainable income business based on risk free asset

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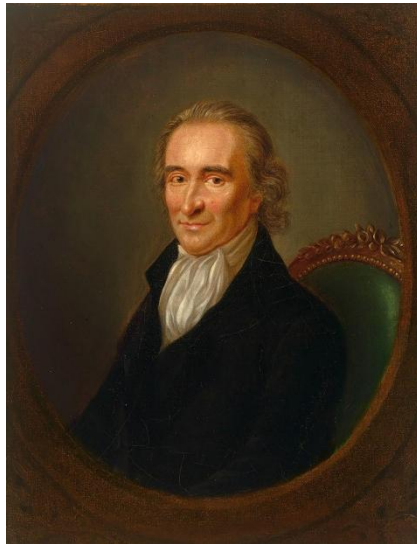
1. Introduction

In order to commemorate the remarkable contributions of Milton Friedman and Thomas Paine in the field of social welfare, and to carry out a financial experiment in the encrypted digital assets industry, we jointly initiated this reform with the community enthusiasts in the digital currency field. It is a career that arising from the field of digital economy and creates constant income to those who shares with same consensus with it.

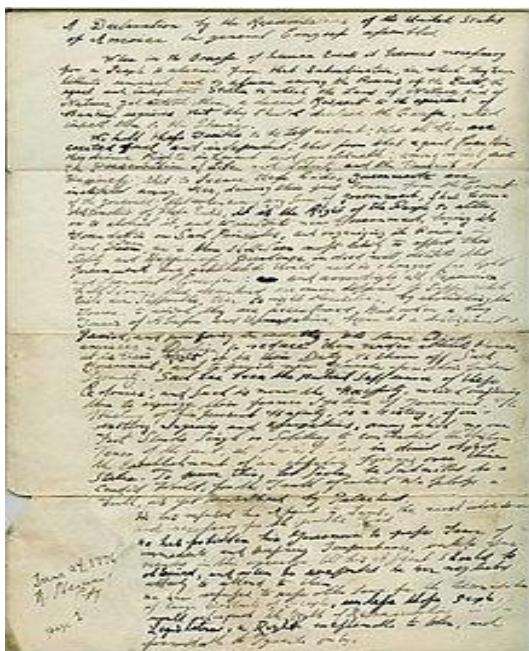
As early as 1795, the great American statesman Thomas Paine proposed in *AGRARIAN JUSTICE*, *"It is not charity but a right, not bounty but justice, that I am pleading for...The national bank shall issue bank notes upon the security of the bonds in its possession. The notes so issued, shall be applied to pay the pensions of aged persons, and the compensations to persons arriving at twenty-one years of age...That property would pay fifty pounds into the fund, and if there were only two children under age they would receive fifteen pounds each (thirty pounds), on coming of age, and be entitled to ten pounds a year after fifty."* The U.S. Social Security Administration acknowledged that *AGRARIAN JUSTICE* was the first proposal for old-age pension and basic income or civic dividend. If the social wealth at that time converted to the one today accordingly, then the compensation will be of 3,000 US dollar per month.

It's an asset-based egalitarianism, and the theory holds the viewpoint that through the redistribution of resource, equality is possible by the way of providing capital grant at adulthood. In the policy, some common names, such basic capital and equity, which are involved this theory and they are synonyms in the framework

of equalism of opportunity. Thomas proposes that the nation shall share the social dividend, that obtains during the exploitation of natural resources and in the process of industrialized, with every member of society, and pay to every member through the fund created by the centralized government. However, due to the limitation of social development and the perfection of the governmental agencies, and Thomas theory was criticized, to some degree, at that time. The policy of egalitarianism that based on the assets, is often criticized not the true egalitarianism. Due to the capability and talent of different people for mastering the finance and wealth is different, those people who don' t have formal financial education are always tend to " free " themself by wasting the capital or " delegating " . Stewart White proposed that outcomes of inequality will emerge, unless the education to corrects the thoughts, because people are different fundamentally from the capability of managing the assets. With the development of society, people' s education level is significantly improved and the excellence of the thoughts is revealing gradually.



Thomas portrait



Thomas participated in the drafting of the American

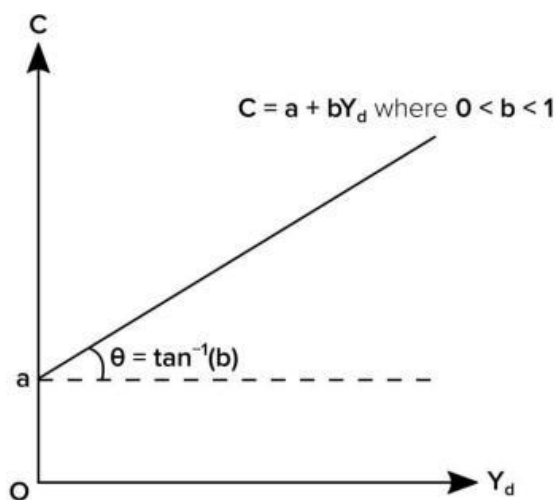
Declaration of Independence

With the development of economics, more and more social economic problems can be quantified by formulas, and economics are gradually moving towards mathematical stage. Milton, the only Nobel economist who won the prize in 1976, further put forward the hypothesis permanent income. In his theory, John Maynard Keynes supports the economic policymaker by emphasizing their agreement against the ability of fine tuning for macro economy. For Keynes, consumption expenditure is connected to disposable income by a parameter called the marginal propensity to consume (the total amount in US dollar that the customer would like to spend). Due to marginal propensity to consume (MPC) itself is a function of income, so it is a fact that the extra increase of disposable income will increase the consumer spending. It must be stressed that connecting the current spending with current disposable income stimulate the total demand greatly. Because the changing of the income will lead to the changing of the total needs immediately. ((this is the essence of the Keynesian case of multiplier effects). It's the same with tax reduction policy. According to Keynesian basic theory, the government can always carry out countercyclical fine-tuning of the macroeconomic system by managing the needs. Although Friedman disputed this, he argued in a 1961 journal article that Keynesian macroeconomic fine-tuning would subject to "a long and variable lag." However, it's a fact the theory of permanent income is mainly concerned with long-term dynamics and relationships, while Keynes is mainly focusing on short-term concerns. Friedman's argument, which challenges the use of fiscal policy in smoothing business cycles, is challenged and emphasized that the relationship between consumption and disposable income still follows (more or less) the mechanism assumed by Keynes.

Friedman expounds his theory under the condition that the hypothesis is confirmed. In this case, to Friedman, there are two motivations for a consuming unit to spend more or less than its incomes: one is to balance its expenditure through proper

time of loads; second, is to obtain interest income from deposits under the situation that the interest rates are positive, or gain benefit from borrowing in the case that the interests rates are negative.

According to PIH, the distribution of consumption over a consecutive period is the result of the optimization of the method, which each customer tries to maximize its utility. At the same time, no matter what the ratio of income and consumption in a period, all those expenditures are allocated in the optimization process, in short, the consuming individuals are not only trying to optimize in across periods, but also in each period.



Consumption function model

a : Self-consumption b: MPC, Y_d : Disposable income.

Assuming that a consumer(possibly infinite-lived) who maximizes his expectation of the utility lifetime, C , and between t and T , and his incomes (y_t) will be determined by the utility function $u(\cdot)$ against each period(t). He can the spend it on consumer goods(c_t) or save it in the way of assets(A_t)until a next period , which the actual interest(r) will remain unchanged.

If the consumption utility in a future period is discounted with an interest of $\beta \in (0, 1)$, and $E_t[\cdot]$ will regard the available information as the condition to expect for the value(t), then, the consumer's problem is:

$$\max_{\{c_k\}_{k=t}^T} E_t \sum_{k=0}^{T-t} \beta^k u(c_{t+k})$$

and is subjected to:

$$A_{t+1} = (1 + r)(A_t + y_t - c_t).$$

(1)

In an infinite time, we impose it with a condition of No-Panzi game condition, and the requirement of:

$$\lim_{t \rightarrow \infty} \left(\frac{1}{1+r} \right)^t A_t = 0.$$

then a consumption function will be obtained:

$$c_t = \frac{r}{1+r} \left[A_t + \sum_{k=0}^{\infty} \left(\frac{1}{1+r} \right)^k E_t[y_{t+k}] \right].$$

(2)

Both expressions (1) and (2) grasp the essence of the permanent income assumption: the current consumption is determined by the combination of current non-human wealth (A_t) and human capital wealth (y_t), and the proportion of total wealth consumed today is further determined by the interest rate (r) and length of the time optimized by the customers.

However, for those who criticized the hypothesis of permanent income, such as Frank Stafford, criticized that the hypothesis of permanent income lacked of liquidity constraint. While other researches have made adjustment to this hypothesis aiming at some situation, and discovered that the assumption of permanent income is compatible with liquidity Constraint, which is not explained in the original hypothesis, and it's also compatible with other market failures.

Alvarez-Cuadrado and Van Long (2011) proposed that those consumers who have more wealth put their permanent income into saving account, which is in inverse to the expectation of permanent income hypothesis.

At the same time, Milton also stressed the importance of capital freedom, and proposed that the government should act as a measure and judge, rather than intervene economy excessively. His book *Capitalism and Freedom*, inspired by a series of lectures he gave at Wabash College, brought him national and international attention outside of academia. Published by the University of Chicago Press in 1962, it consists of papers that use non-mathematical economic models to discuss the issues of public policy. It sold more 400,000 copies in the first 18 years of its publication and has sold more than 500,000 copies since 1962 and has been translated into 18 languages. Friedman discussed the necessity to

transform into a classical liberal society, and in the long term, a free market would be of great help to the nation and individuals, and would resolve the efficiency problem that the United States and other major nations of the 1950s and 1960s are currently facing with. He read through all the chapters from the function of the government, supply of currency and the plan for social welfare, to the special chapter that related to professional licence, and pointed out an issue from each chapter. Friedman ended capitalism with his "Classical Liberalism [sic]" and proposed that liberal governments should not intervene in things that should not have to, instead, intervene only when absolutely necessary for the survival of their people and nations. He tells how a nation's best capabilities come from its free market, while its failures come from government intervention. He tells how the nation's best capability comes from its free market, and its failure comes from government intervention.

There should be a media to balance equalitarianism and liberalism. In the past, it is acted by the centralized institutions, while the means of production are mainly the resources or tools that laborers used for production, which generally include land, plant, machinery and equipment, tools, raw materials, etc. However today, data itself has become one of the most important means of production in the world and it can be seen that domestic and foreign giant Internet companies are arising, which rely on data and become the type of companies that have most concentrated wealth in human history. We hope to build a consensus community in the form of DAO organization, to create a sustainable income business for sharing the dividends of times, which come from the development of digital economy. On the basis of our predecessors, we put forward a set of economic models to promote the community's evolution.

2. DAO

Decentralized Autonomous Organization (DAO) , sometimes referred as Distributed Autonomous Corporation (DAC), is an organization that reflected by open and transparent computer code and controlled by shareholders and is not affected by the central government. The financial transaction records and procedure codes of DAO is stored in the blockchain, while the traditional DAO organization is gathered by the key idea of the Internet social platform and its influence gradually emerged after 2017.

3. Miltons

We put We put forward a new currency system, named Miltons, which is based on pictured trust social, which based on the personalized cryptocurrency and the trust social between those currencies. The purpose of this system is to create a currency system, which is tightly controlled by the communities polices and the behavior of MLS tokens is tightly controlled by DAO to distribute the currencies. As time goes on, it will lead to the equalization of wealth under the case that the contribution of the community members is equal. Based on Miltons' the theory of free choice, it will lead to the path of free creation and play a role as universal basic income. When a new user joins Miltons, and use the address as a member unit, then by pledging, this unit can mint coins and add them to their account, thus forming the basis of their DAO assets, meanwhile, it can also get MLS discounted price by buying bonds.

In the early stages, those decentralized financial infrastructures constitute the current DeFi, such as decentralized trading applications DEX (Uniswap, SushiSwap, etc.), load application (Compound, Aave, MakerDAO, etc.), stablecoin applications

(Curve), and smart pool application (Yearn, etc.) and so on. Most projects of DEFI1.0 experienced the early dividends period of APY, however, when the market calmed down, most APY is currently quite slow and lose its liquidity seriously and only some powerful projects survives.

In consideration of DAO and the economic model and the current DEFI, we construct the DIFI 2.0 Miltons. The DEFI application, which built on the basis of the protocol, was innovated from 0 to 1, and then form the second generation protocol, which is called DeFi 2.0. For example, we design a new Token economy model to change the profitable method of DeFi' s liquidity, increase the capital utilization and transfer risks smoothly, which has a more reasonable community form and structure.

Nest we will expound in details:

4. Key words

MLS(Core Token)

Miltons DAO project token, can either used for pledging or trading, there is no quality restriction and its inflation or deflation will be accomplished by the smart contracts based on the support of the Issuing an unlimited number of assets will accomplish inflation or deflation through smart contracts and assets of national treasury.

sMLS (stake MLS)

By staking the token of MLS, sMLS will be acquired. sMLS can not be traded but can be used to rebase, as long as MLS is in the status of staking, it will be rebased automatically everyday and the amount of sMLS will also increase automatically.

When stake is canceled, sMLS and MLS will be exchanged by one to one. sMLS' s advantage is to avoid the high handling fee that occurred during the manual rebase of MLS.

PMLS

PMLS is used for the initial tokens allocated to the advisory team and the early-stage partners, which has a unlock time, and when adding a DAI, it can be exchanged with MLS by one to one and it will be destroyed automatically after the exchange.

$$\text{PMLS} + 1\text{usdt} = \text{MLS}$$

GMLS

GMLS is a kind of community governance token, which acquired by staking MLS and can be exchanged with MLS with an exchange rate of one to ten, that is, by staking ten MLS, one GMLS will be acquired, and GMLS is not tradable.

Destroy

When the price of MLS is lower than 1usdt, the foundation will repurchase and destroy it to ensure that the price of MLS is not lower than 1usdt.

Current Index

The Current Index can track your earnings from staking.

Index starts at 1 at the very beginning, and increases at each period. If you staked at that time, and never unstakes any sMLS, your balance today would be X times, and x stands for Current Index.

You can track your location by the Index marked when you stake or unstake. You will get the increasing rate of the sMLS balance using the Index when you

cancel the stake to divide the one at the time of staking.

PCV (Protocol Controlled Value)

Protocol Controlled Value, is the amount of funds owned and controlled by vault, and the more PCV, the better for the protocol and users.

RFV (Risk Free Value)

Risk Free Value is money the vault guarantee to support MLS, and similar to asset depreciation, RFV is a conservative approach to asset valuation. The identification way for protocol and reserve bonds is much different from the one of liquid bonds and RFV.

Liquid bonds consist of a pair of assets such as MLS -usdt. On the premise that using US dollar for pricing, usdt is a stable currency, and the price will not fall; while the price of MLS fluctuates greatly, and at risk of falling.

If the value of LP is confirm at the market price of that time, and issued a an amount of MLS accordingly, when price of MLS declined, the the value of MLS will not equal to 1 Dai. So when confirm the price of LP, it should take it into consideration the influence of price decline and should consider the depreciation.

While reserve bonds are generally deposited in stable coins, there is no problem of depreciation and the more it is deposited, the more profit will be obtained. Reserve bonds can effectively promote the minting of MLS. For example, the current price for MLS is \$1000:

Deposit in liquid bonds :

Xiao Ming deposits one MLS and 1000 Dai, the market value is \$2000, and RFV is \$62, (Calculation formula: $2\sqrt{11000} \times 99\%$), then only 62 MLS can be

minted.

Deposit in reserve bonds: Both RFV and market value is \$2000, then 2000 MLS and be minted.

POL (Protocol Owned Liquidity)

protocol owned liquidity is an innovation of Miltons. Unlike other liquidity mining, it can not be withdraw by the users once it is deposited in to the protocol and the protocol has control over the liquidity. The protocol does not need to attract the users to deposit liquidity by paying them high liquidity rewards, because high liquidity rewards are unsustainable and will only attract wrong customer in most cases.

DCV (Deflation Control Variable)

Deflation Control Variable, is the scaling factor at which protocol defined buy pressure changes. A higher DCV means more buy pressure from the protocol, resulting in a higher deflation. A lower DCV means less buy pressure from the protocol, resulting in a lower deflation.

BCV(Bond Control Variable)

Bond Control Variable, is the scaling factor at which bond prices change. A higher BCV means a lower discount for bonders and higher inflation by the protocol. A lower BCV means a higher discount for bonders and lower inflation by the protocol.

Annual Percentage Rate

Annual percentage rate, is the annualized interest rate without taking the effect of compounding into account.

APY (Annual Percentage Yield)

Annual Percentage Yield, is the normalized representation of an interest

rate, based on a compounding period over one year.

Note that APY provided are rather ballpark level indicators and not so much precise future results.

Liquidity Bonds (LP Token Bonds)

Liquidity bonds are LP token bonds. Examples are OHM-DAI LP bonds and OHM-FRAX LP bonds.

PCV (Protocol Controlled Value)

Protocol Controlled Value, is the amount of funds the treasury owns and controls. The more PCV the better for the protocol and its users.

Reserve Bonds

Reserve bonds are single asset bonds. They are sometimes referred to as "naked" bonds. Examples are DAI bonds and FRAX bonds.

Reward Rate

Reward rate is the configured percentage distributed to all stakers on each rebase relative to the total supply. The reward rate is precisely set by the policy team.

Reward Yield

Reward yield refers to the actual amount of MLS received by each staker on each rebase. The reward yield is a rough target from a policy point of view. It can almost never be maintained precisely due to fluctuation of the amount of MLS staked.

LP (Pancakeswap Liquidity Provider)

Pancakeswap Liquidity Provider , is a token, which is acquired by the liquidity provided by Pancakeswap, for example, liquidity bond MIL/USDT purchased by LP token.

TaaS (Treasury as a Service)

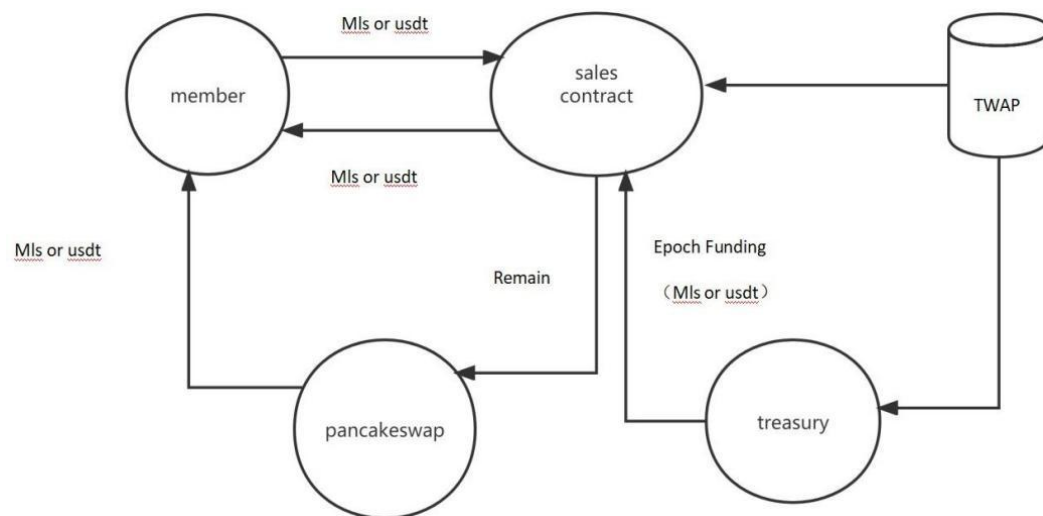
Treasury as a Service, is the business model of decentralized custody of partnership funds. Miltons DAO is designed for TaaS by selling bonds and absorbing partners' liquidity into its treasury.

TWAP (Time Weighted Average Price)

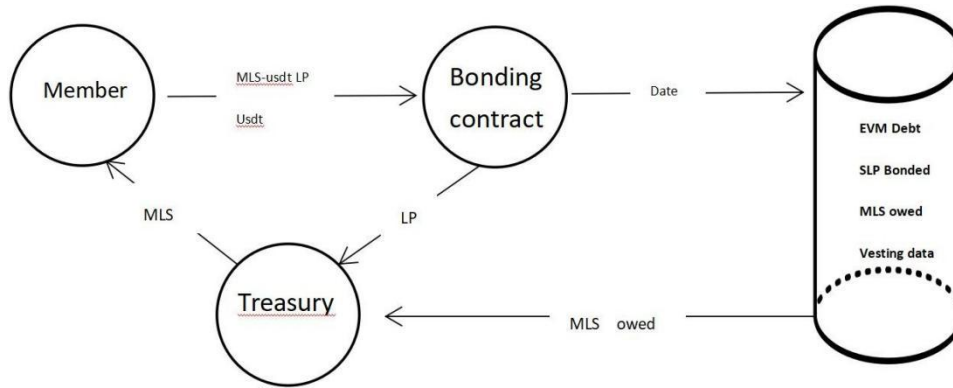
Time Weighted Average Price, is the average price of an asset over a specified time. TWAPs are used to represent the fair value of an asset as defined by the market.

5. Economic Graph of Miltons

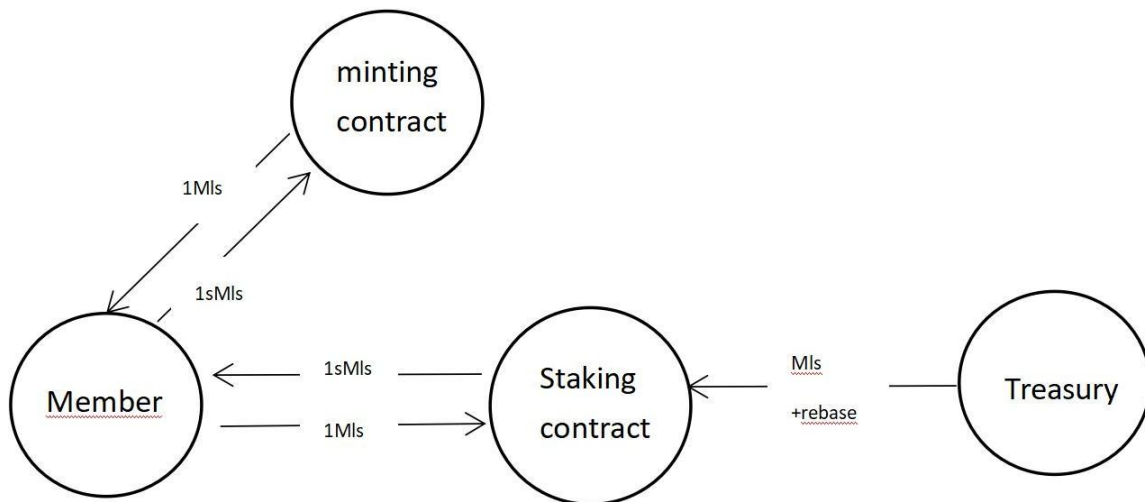
A. Marketing's logic



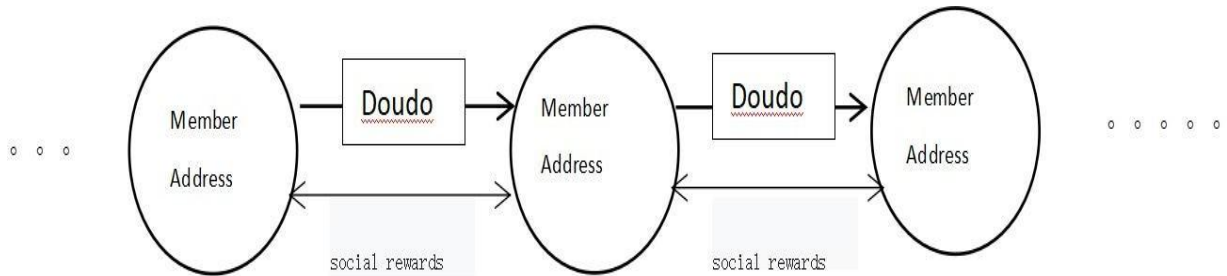
B. Bonds subscription and return



C. Staking



D. Social graph



6. Miltons formula

A. Stake

$$\text{Desposit} = \text{withdrawal}$$

During the period of stake and unstake, MLS and sMLS will always exchange in a ratio of one to one, and the amount of MLS deposited into the staking contract will always be the same with sMLS, and both the amount withdrew will stay the same.

$$\text{Rebase} = 1 - (\text{MLSDeposits} / \text{sMLSOutstanding})$$

The department of treasury will deposit MLS with distributors, while it will be deposited into the staking contract by the distributors, which will create an imbalance between MLS and sMLS. To correct the imbalance, we will reset sMLS and rebase to make sMLS back to par, and then one sMLS will be equal to one staking MLS.

B. Bonds

$$\text{BondPrice} = 1 + \text{Premium}$$

$$\text{Premium} = \text{debtRatio} * \text{BCV}$$

Premium is the system's debt ratio and a scaling variable of BCV. BCV allows us to control the rising speed of bond price. The premium determines the profit bringing from the protocol, which in turn determine the shareholder. This is because new MLS is minted from the profits and then distribute to all stakers.

$$\text{debtRatio} = \text{bondsOutstanding} / \text{Mlssupply}$$

The debt ratio is the total supply amount of MLS divide the total amount that promised to the bondholders, which allow us to measure the debt of the system.

$$\text{Bondpayout}_{\text{reserveBond}} = \text{marketValue}_{\text{asset}} / \text{bondPrice}$$

Bondpayout determines the amount of MLS that sold to the bond dealer. For

Reserve bonds, its bond price is determined by its market valued, which is provided by the bond providers. For example, If 100 DAI, are provided by a user, then its value will be 250 DAI and the user will get 4 MLS.

C. Minting of MLS

$$\text{MLSsupplyGrowth} = \text{MLS}_{\text{stakerss}} + \text{MLS}_{\text{bonders}} + \text{MLS}_{\text{DAO}} + \text{MLS}_{\text{phomexercise}} + \text{MLS}_{\text{social rewards}}$$

- There is no upper limit for the supply of MLS, when its supply is increased:
- MLS will be minted will distribute to the stakers.
- MLS is minted for bonds, and this situation will appear with each purchase of bonds.
- MLS is minted for DAO, and this situation will appear with each purchase of bonds.

DAO acquires the same amount of MLS with binder.

-
-
- MLS is minted for social reward, then the more the social graph is developed, then less the reward will be acquire form the total amount.
 - LS minted for teams, investors, consultants or DAO, should this situation happens, all the parties mentioned above will will take over their pMLS.

D. The support of MLS floor price

$$MLS_{\text{backing}} = \text{treasuryBalance}_{\text{stablecoin}} + \text{treasuryBalance}_{\text{otherAssets}}$$

Every MLS in circulation will be supported by Olympus Treasury. The asset s in the treasury can be divided into two categories: stable coins and non-stable coins.

$$\text{treasuryBalance}_{\text{stablecoin}} = RFV_{\text{resverBond}} + RFV_{\text{LPBond}}$$

When the bonds are sold out, the balance of stable currency in the national treasury will increase. For different bonds, the RFV measuring methods will be also different.

$$MLS_{\text{LPBond}} = 2\text{qrt}(\text{constantProduct}) * (\% \text{ownership of the pool})$$

For LP bonds such as MLS-usdt bonds and MLS-FRAX bonds, RFV is calculated differently because the protocol needs to mark its value. Every MLS in circulation that supported by LP token, are in a relationship of cycle. To guarantee all MLS in circulation are supported, the value of those LP tokens are remarked by the protocol, hence, here comes the name of No Value at Risk (RFV).

D. Asset pricing model

For a fixed bond asset, its expected return rate and expected return rate of the market portfolio can be expressed by the relationship below:

$$E(r_i) = r_f + \beta_{im} [E(r_m) - r_f]$$

$E(r_i)$ is the asset's expected return rate

r_f is the ratio of risk free asset

β_{im} (Beta) is the systematic risk parameter of the asset(i).

$$\beta_{im} = \frac{Cov(r_i, r_m)}{Var(r_m)}$$

$E(r_m)$ is the expected return rate for market portfolio (m), generally, can be replaced by the average return rate of the stock price index or the average return rate for the overall stock.

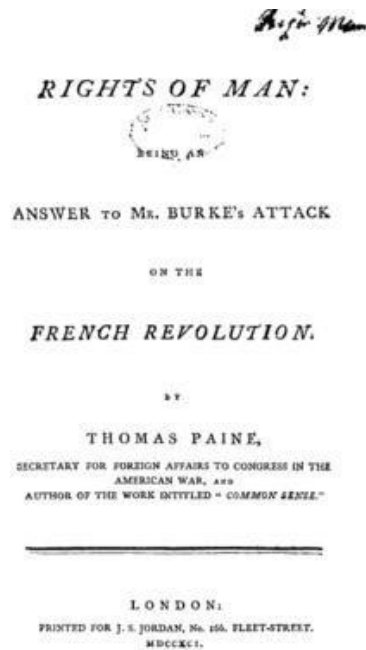
$E(r_m) - r_f$ is market risk premium), that is, the the difference between the expected return rate of market portfolio and return rate of risk-free rate.

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