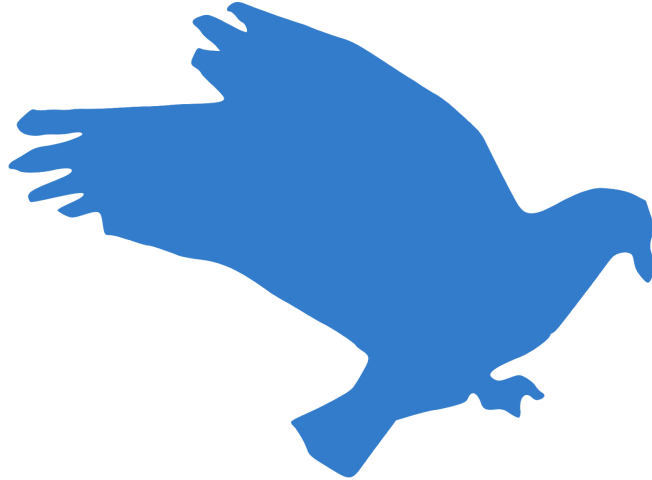


# DeFi Money Market Ecosystem



Earn Interest on Digital Assets Backed By  
Real-World Assets Represented On-Chain.

Whitepaper

[www.DeFiMoneyMarket.com](http://www.DeFiMoneyMarket.com)

*By the DeFi Money Market Foundation*

Authored by: [Gregory Keough](#), [Corey Caplan](#), [Derek Acree](#), [Adam Knuckey](#)

*February 2020*

<b>High-Level Overview</b>	<b>3</b>
<b>Current Market Reality</b>	<b>3</b>
<b>Overview DeFi Money Market Ecosystem</b>	<b>3</b>
<b>The DeFi Money Market</b>	<b>4</b>
<b>Current Options for Earning Interest</b>	<b>5</b>
<b>DMM Backed by Real-World Assets</b>	<b>5</b>
<b>DMM &amp; Chainlink Collaboration</b>	<b>6</b>
<b>Architecture</b>	<b>8</b>
<b>Two Stable Coin Money Market Accounts</b>	<b>11</b>
<b>Risks and Their Mitigation</b>	<b>11</b>
<b>DMME Governance – Transition to DMM DAO</b>	<b>12</b>
<b>Road Map</b>	<b>13</b>
<b>Examples</b>	<b>14</b>
<b>Conclusion and Open Invitation</b>	<b>14</b>
<b>Glossary</b>	<b>15</b>

# High-Level Overview

Launching now, users of the DeFi Money Market (DMM) Ecosystem will be able to receive 6.25% interest on their DAI and USDC by depositing them into the DMM Ecosystem and holding the corresponding `mDAI` and `mUSDC` assets. The DMM Foundation has plans shortly after launch to release `mETH`, offering a similar high-yield savings on the world's second largest cryptocurrency by market capitalization, Ether. All yield provided to ecosystem participants is backed by real-world assets that generate income greater than interest owed, and all of these real-world assets are transparently made available on the [DMM Explorer](#). Additionally, the DMM Foundation's collaboration with Chainlink adds an extra layer of security and trust to the ecosystem by writing essential data on-chain that details the ecosystem's health and collateralization.

## Current Market Reality

*The Disappearance of Earned Interest on Money  
from a Global Monetary System Gone Mad*

There is roughly \$238 billion currently in cryptocurrencies with exponential growth predicted in the coming years. There is \$90.4 trillion of physical money and money held in easily accessible accounts in the world which we believe will be rapidly converted in the next 10 years to some form of digital currency. The vast majority of the world's currencies (in digital or traditional form) are earning little, zero, or even negative interest.

For the last decade, negative interest rates and negative yielding debt (bonds that are actually worth less, not more, if held to maturity) have been growing rapidly, destroying potential returns for investors and turning the financial system, as we know it, on its head. There is currently \$17 trillion of negative yielding debt globally, which is more than 25% of global investment grade debt.

These two trends (growth of digital currencies and limited ways to earn interest) have massive implications for the crypto ecosystem, global citizens, those living on a pension, investors, governments, and more. In this centralized fiat-based upside-down world, savers are penalized, and borrowers get paid to borrow money.

Governments globally have asked us all to suspend logic and ignore one of the most basic concepts of financial literacy, the time value of money.

*The Time Value of Money, a pillar of all economic systems for thousands of years,  
has essentially disappeared. We don't buy it.*

## Overview DeFi Money Market Ecosystem

*A permissionless and fully decentralized protocol to earn interest on any  
Ethereum digital asset backed by real-world assets represented on-chain*

The DMM Ecosystem (DMME) is building a vibrant global community to provide a decentralized, transparent and permissionless environment to empower all citizens to again earn interest on their currency backed by real-world assets represented on-chain. The DMME is an Ethereum-based and decentralized protocol that allows the creation of DeFi Money Market Account's (DMMA) - a new DeFi native asset class that allows any holder of an Ethereum-based digital asset to earn interest and is backed by real-world assets represented on-chain.

The DMME protocol operates in a simple and transparent manner, so anyone can readily understand it as well as verify the veracity of the on-chain assets and collateralization.

## The DeFi Money Market

*DeFi Money Market (DMM) acts as a bridge between Ethereum digital assets and real-world assets while allowing holders to earn interest completely on-chain*

The DMME has several essential and complementary components that work together to generate income and provide transparent real-world backing for any digital asset.

The DMME is composed of different and separate **DeFi Money Market Accounts (DMMA)**. DMMA's are specific to each individual Ethereum digital asset (Dai Money Market, USDC Money Market, etc.) which empowers consumers to remain in and choose the digital asset class that best suits their needs or requirements.

DMMA's are created when a specific Ethereum asset is converted to the **DeFi Money Market token (DMM)** through a smart contract that has a specific Annual Percentage Yield (APY). When a DMMA is created for a specific digital asset (using USDC as an example), USDC is swapped for the DeFi Money Market token (DMM). The corresponding amount of USDC is pledged to be returned for the digital asset provided (in this case USDC) plus a prescribed amount of interest. When withdrawn, the DMM is converted back to USDC plus the interest. As an example, if a person deposited 1 USDC and the APY was 6.25% and held the corresponding DMM for one year, they would get back 1.0625 USDC . Interest is accumulated per block and people may enter and exit the DMMA with no time restrictions.

DMM is created by applying the **DeFi Money Market Wrapper (DMMW)** - an ERC20 smart contract wrapper that can be placed on any Ethereum token to generate income and provide additional diversification and security through backing by real-world assets represented on-chain. Access to the token is borderless, making it accessible everywhere, and also provides total transparency to the ecosystem's collateralization. The DMMW can be placed around any Ethereum digital asset providing an easy and instant way of adding the ability to generate consistent interest payments, all secured by real-world assets represented on-chain.

The DeFi Money Market Wrapper allows the Creation of the DMM token, allowing anyone to automatically start earning income on their digital assets backed by real-world, income-generating assets.

To be considered a DeFi Money Market Account (DMMA), outside of the requirements of it being decentralized, transparent, and permissionless, DMMA's must have the following additional and essential attributes:

1. It earns consistent interest.
2. It is backed by real-world assets that generate income, which allows the interest to be paid.
3. The backing of the assets is made transparently available on-chain.
4. DMME is always over collateralized in two significant ways:
  - a. The real-world assets backing DMM are always greater than DMM issued
  - b. Income generated by the assets is greater than the APY (meaning, income generated is greater than payments due).

We believe the overcollateralization, diversification, and consistency in interest rates makes the DMMA a compelling addition to the Ethereum ecosystem.

All of these points are important distinctions, as unlike traditional Money Market Accounts, DeFi Money Market Accounts are not backed by the Federal Deposit Insurance (FDIC) or other centralized government entities. The DeFi Money Markets are based on the total transparency and view into the verifiable assets, not faith in the sovereign centralized government systems. Furthermore, there are no minimums so anyone can start earning interest on as little as \$1.

## Current Options for Earning Interest

*DMME looks to provide stable returns 5x to 6x a traditional money market account –  
launched now mUSDC and mDAI APY 6.25%*

While there are a growing number of interesting ways to earn interest on crypto, most of these options lack the essential elements of the DMMA, specifically the real-world backing and 100% transparent view into the underlying assets. We believe many people would like to diversify some of their holdings into new ways to earn interest on crypto holdings and will find the over collateralized income streams, stable rates of the DMMA, and on-chain view into the underlying backing as attractive.

The goal of the DMME is to provide the ability for anyone globally to once again be able to earn interest on their money. Current traditional Money Market Accounts provide for very low interest rates globally (Europe: -0.46%, UK: -0.67%, US: 1.5%, Japan: 0%). The DMME looks to provide consistent and stable returns at a rate many times superior to traditional alternatives (our two initial products mUSDC and mDAI both carry an APY of 6.25%). We believe and hope the DMME will be the beginning of a multi trillion-dollar opportunity and shift to the return of earned interest to the global monetary landscape.

In the coming weeks, the DMM Foundation will be looking to add mETH which will allow users to receive the same high-yield interest rate that is offered in the other two mAssets.

# DMM Backed by Real-World Assets

While there have been many wonderful developments in the Ethereum ecosystem on new ways to earn interest on your crypto holdings, we believe a crucial gap that needs to be filled is blending real-world assets with digital assets. By bridging these two ecosystems, we are able to bring the strengths of both ecosystems to the table. This allows us to create a more robust product while providing total transparency in a relatively-trustless and borderless manner to the underlying assets.

## DMM & Chainlink Collaboration

*We believe DMME is poised to rapidly capture part of the multi trillion-dollar market seeking secured yield*

The DMME team is collaborating with Chainlink to provide reliable and tamper-proof inputs and outputs for the DMM smart contract. Chainlink's decentralized oracle network provides the same security guarantees as the smart contract themselves, eliminates any single point of failure and maintains the overall value of the DMM smart contracts to assure it is highly secure, reliable, and trustworthy.

Chainlink's role in this system is to reliably and securely take information on the assets that back the DMM Ecosystem, and publicize them on-chain. This includes the flow of funds that underpin the system, as well as the valuations of these loans. Between the two prior bits of information, Chainlink will be able to accurately and transparently portray the health and collateralization of the DMM ecosystem as well as inject the necessary information for ecosystem participants to know how their crypto is being allocated to generate interest.

There are 3 different states the cryptocurrency could be in the DeFi Money Market Ecosystem. For the sake of continuing with our example, we will use USDC:

1. A portion of the USDC deposited is held to provide ongoing liquidity to the DMMA, allowing users to withdraw their initially-deposited funds, plus interest, whenever they would like. Initially, we will keep this *reserve ratio* (the amount of crypto purposely kept in the smart contracts) higher to ensure there is sufficient liquidity. As we gather more data on the usage of the protocol, we will adjust this ratio accordingly, in order to put more of the allocated capital to work.
2. The deposited cryptocurrency is transferred out of the smart contract and into fiat, to be allocated to more real-world assets that produce income streams. This intermediary process may take multiple business days, since it operates at the mercy of the legacy financial system. We will explore ways we can work with Chainlink to make this step in the process more transparent.
3. The fiat that was transferred out in state (2) is allocated to real-world assets that produce income. As soon as the fiat is allocated, Chainlink will receive the new data and publicize it on-chain.

The real-world assets backing DMM include vehicles, property and other "hard" real-world assets, which are income-generating. The assets pledged serve as collateral for DMM and are

secured through a first lien, senior-secured position (meaning it is above all other rights and have first priority in the event of lack of payment). If income payments produced by the loans are not met, the secured asset can be sold to recover the capital and add collateral back to the system. The income produced by the loans is used to cover the interest payments due when DMM is converted back to the original digital asset, plus interest. All the loans produce greater income streams than interest due to holders of DMM, which acts as an overcollateralization of DMM and will generate revenue for the eventual DAO that will run the protocol.

The initial backing of DMM will be a pool of vehicles (cars, trucks, etc.) located in the United States of America, which we believe is the first time that vehicles have been tokenized to provide interest in this manner. The reason we chose this as the first asset class is because the core team has deep domain experience spanning several decades in this space, generating income production of between 15% - 20% return over the last 5 years. Additionally, this asset class has several other substantial benefits as a backing for DMM when compared to other real-world assets. Some of these benefits include:

- 76.3% of U.S. workers use a personal vehicle to commute to work.
- Historical trends show consumers pay for vehicles before their real estate or rent.
- Vehicles are one of the most liquid asset classes in the world – there are 2x weekly auctions in every major city where they can be sold for cash on the spot.
- Unlike real estate, there is no long foreclosure process – in the event of lack of payment. Rather, the asset can be recovered without additional legal action.
- The asset can be transported for nominal fees to maximize resale value.
- Risk is diversified amongst many individual investments and geographies.
- Shorter term (average one year) provides for greater liquidity.
- The average car age is 5 -9 years old, meaning the majority of the depreciation has already occurred. Vehicles depreciate 10% - 30% in the first few years of ownership and then depreciation slows substantially. Additionally, the loans are shorter term, so it is unlikely the vehicle will depreciate markedly during the loan's 1-year term.
- All borrowers must complete and provide income verification and prove the ability to repay.
- In most states, in the event a party is not current on their vehicle payments, a registration hold can be placed on the vehicle. As a result, their license plate cannot be renewed until the owed sums are paid. This prohibits them from legally driving the vehicle until the owed sums are paid in full.

Valuation of the underlying assets in this class in the DMME are provided by a third-party oracle. In this case Black Book ([www.BlackBook.com](http://www.BlackBook.com)). Since 1955, Black Book has been the primary valuation tool for dealers, auto finance companies and others to provide precise automotive data and analytics. This function is performed for each individual asset, as opposed to bundled together. This information provides a clear view into the underlying backing of the DMM token.

These factors combine to make a stable asset pool for DMM and backs it with consistent, predictable income streams to pay the interest on DMM. We believe it is a strong first use case.

The diagram on the proceeding page showcases this flow of funds, from the user's perspective:

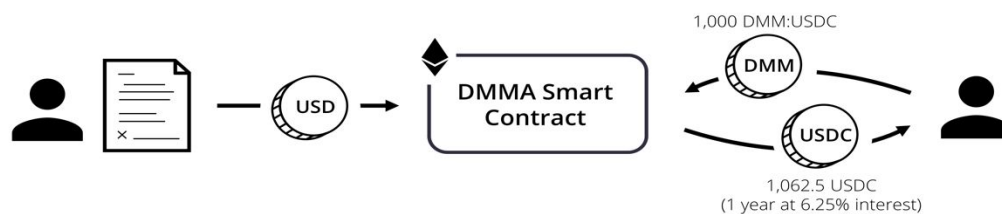
1 The user deposits USDC to the DMMA Smart Contract and receives DMM:USDC tokens in return at the current exchange rate.



2 A portion of the deposited funds are converted to USD and loaned out through loans collateralized with real-world assets.

3 The loans are repaid with interest, which is deposited back into the DMMA Smart Contract.

4 The user returns their DMM:USDC tokens to the DMMA Smart contract, receiving their original USDC and any interest accrued.



## Architecture

The architecture for the DMM Ecosystem can be broken down into three components – a suite of Ethereum smart contracts, a treasury management function, and Chainlink-compatible data feed for providing off-chain data to the suite of smart contracts or public consumers of the data.

The suite of smart contracts revolves around the creation of the DMM token as well as its governance. The owners of the DMM Ecosystem contract currently have the ability to issue new token wrappers that support the DMM criteria, like `mDAI` and `mUSDC`. Additionally, there are basic configuration variables that are governed by the contracts' owners, like:

- Setting the minimum collateralization level of the system.
- The current interest rate and its corresponding growth/decay function.
- The amount of locked up cryptocurrencies that can be withdrawn at once and over specified time intervals to be allocated to the corresponding real-world assets.
- The minimum reserve ratio of what percentage of the underlying cryptocurrencies must remain in the contract for ongoing redemption of the locked principal plus interest.
- The time delay that occurs when any of the above configuration variables are changed.
- Pausing the system, in case of emergency.

The prior configuration variables as well as the protocol's governance is handled by an upgradeable controller contract. This controller contract subscribes to the *proxy* pattern, which allows new functionality and bugs to be patched by the governors of the protocol.

In addition to the above configuration variables, the other responsibility that will fall on to the governors of the protocol (as well as the eventual DAO) is the allocation of excess funds that are earned by the real-world assets. As the income streams are over collateralized, we believe



the excess funds in the system could be substantial and will be shared with the DAO. More information on this is described below. Before the transition to a DAO, the ownership will be managed by a *Gnosis Safe* multi-signature wallet that hits a proxy contract with time-delays of 1 hour. As the protocol matures, it is our intention to increase these delays significantly.

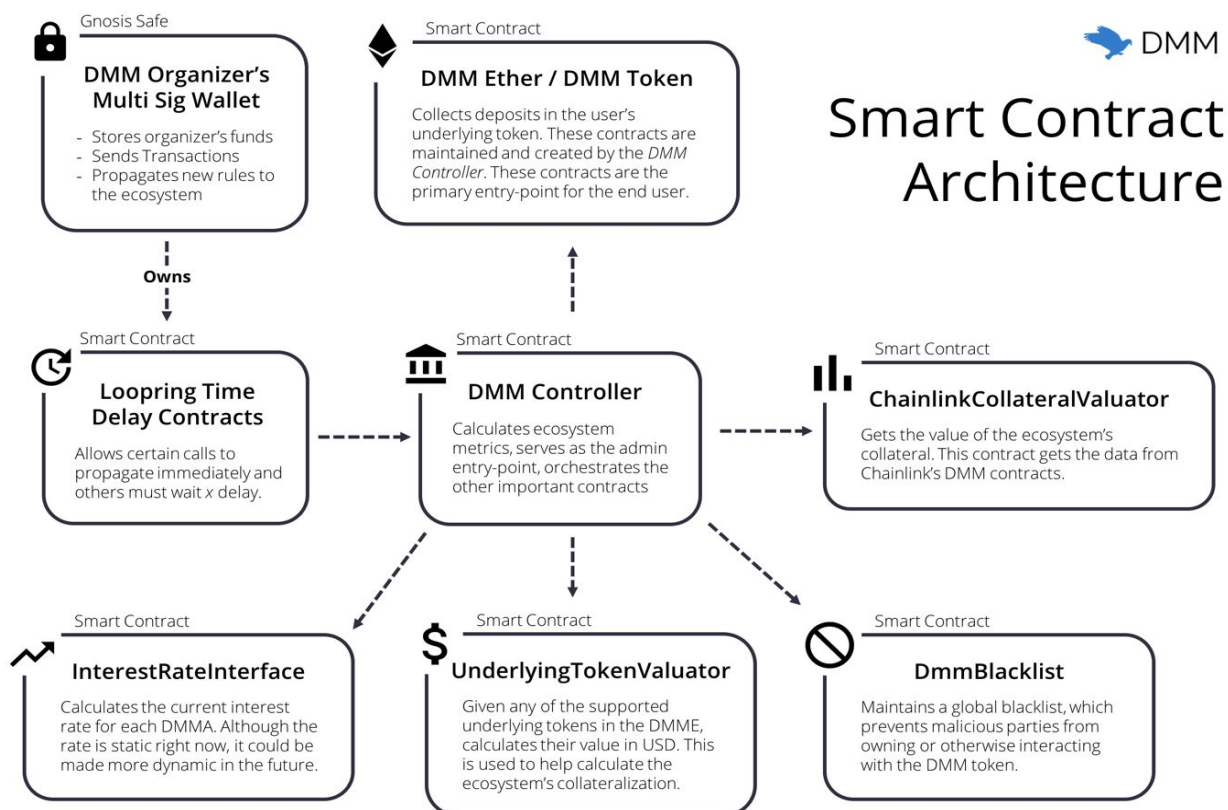
The way the interest rate is determined is relatively abstract. It could be a dynamic function that's based on demand or it could be a static number that is set by the governors. Since the core contract will point to the interest rate contract that conforms to a specific interface, it is trivial to point to any number of new interest rate contracts that fundamentally change how interest is accumulated. The interest is also accumulated by applying it to an ever-growing exchange rate between the DMMA and its underlying token. The idea is similar to Compound Finance's `exchangeRate` between `cTokens` and the underlying asset.<sup>[1]</sup> Whenever a `mint` or `redeem` occurs, the interest rate is updated at the start of the transaction, to reflect any changes that occurred since it was last indexed.

Each DMMA is represented as an ERC-20 token. The symbol for each token will be the underlying token's symbol, prefixed with the letter *m* (for example, `mUSDC`). Each user's balance (and thus the interest earned) is represented as the user's balance of the corresponding ERC-20 token. Additionally, users are able to `mint` and `redeem` tokens for themselves to start earning interest. Aside from the typical functions that exist in an ERC-20 token, the following user-facing functions also exist in the contract's ABI:

ABI	Description
<code>mint(uint256 amount)</code>	Transfers <code>amount</code> of tokens around which this DMMA wraps from <code>msg.sender</code> to the DMMA contract. Then, sends the corresponding amount of DMM to the <code>msg.sender</code> .
<code>redeem(uint256 amount)</code>	Transfers <code>amount</code> of DMM tokens from <code>msg.sender</code> to the DMMA contract. Then, sends the corresponding amount of underlying to <code>msg.sender</code> .
<code>mintFromGaslessRequest(</code> <code>address owner,</code> <code>address recipient,</code> <code>uint nonce,</code> <code>uint expiry,</code> <code>uint amount,</code> <code>uint feeAmount,</code> <code>address feeRecipient,</code> <code>uint8 v,</code> <code>bytes32 r,</code> <code>bytes32 s</code>	Transfers <code>amount</code> of DMM tokens from <code>owner</code> to the DMMA contract. Then, sends the corresponding amount of underlying to the <code>recipient</code> . This function allows the <code>owner</code> to mint without submitting the transaction to the blockchain directly. Instead, an off-chain "relayer" can send it (and potentially collect a fee). The fees for <i>all</i> gasless requests are paid in DMM.  Similar functions exist for redeeming,

)	transferring, and setting an allowance (which is similar to DAI's permit paradigm). For brevity, these functions have been omitted from this table.
---	---

The following diagram showcases the initial smart contract architecture for the system:



The data feed that serves the off-chain data from Chainlink to the suite of smart contracts is composed of a couple of smaller components. Firstly, updates to existing loans, removal of old loans, and insertions of new loans are reflected by a simple RESTful API that is served to Chainlink nodes from the organization. Since these loans utilize a digital process for taking a first-lien position against the automobile, the validity of these liens can be seen through the digital liens proof file for each asset (this is the sanitized image of the government file showing lien status, all personal information is sanitized to assure consumers privacy rights are protected). The way these liens are independently validated changes on a state-by-state basis in the US. Also, the valuation of the underlying vehicles that back the loans are pulled from Black Book to provide a consistent way to determine the collateralization of the loans and therefore the entire DMM Ecosystem.

In the future, reserved DAI in the smart contracts can be locked in the DSR. The idea behind

this concept is that the owners of the protocol may lend excess tokens that are locked in the protocol and withdraw them dynamically at redemption time. The priority of the governors of the protocol will be to *never* put the funds at additional risk. The DSR is one such example that is safe, because it's not being lent against, as opposed to other on-chain protocols that provide yield.

## Two Stable Coin Money Market Accounts

*Launched now, USDC and DAI DeFi Money Market Accounts Earning APY 6.25%  
ETH DeFi Money Market Account (coming soon)*

Our first two use cases for DMM are stable coins. We chose DAI and USDC because there is considerable volume, liquidity, and access. We also believe the ability to earn interest and the diversification provided by DMM with its real-world asset backing makes for an attractive addition for holders of these stable coins.

USDC Money Market ( $m_{USDC}$ ) – Due to its volume, market penetration and use by many institutional power users, we believe using USDC with the DMME is attractive as a strategy to diversify risk as well as earn a stable interest rate.

DAI Money Market ( $m_{DAI}$ ) - The Maker/Dai community is familiar with the concept of collateralization, complex financial instruments, and has a deep love for transparency and DeFi. We see this as a first step to the many ways we can work with the Dai community, further adding value to the DeFi ecosystem.

While the initial interest rate for the two initial DMMA is set at 6.25% APY the DMME governance will vote on an ongoing basis as to the rates.

While our first two use-cases are both stable coins, the next DeFi Money Market Account will be for Ethereum (ETH), allowing the roughly \$20+ billion of ETH to earn consistent interest backed by real-world assets represented on-chain. When  $m_{ETH}$  is released, it will provide the same yield, have the same level of diversification, and, of course, its yield will be backed by real-world, income-producing assets. If you would like to be alerted when  $m_{ETH}$  is available please visit our [website](#) and enter your email to be informed.

## Risks and Their Mitigation

There are many potential risks that the system faces. It is absolutely essential that ecosystem participants take these risks seriously and take all necessary steps to mitigate them. This section outlines some of the risks identified as well as the ways the ecosystem participants plan on mitigating them.

### **Hacks and Malicious Exploits:**

Perhaps the largest and most obvious risk is an exploit in the deployed smart contracts in which the hacker may break or steal the funds that underpin the system. In such a situation, assets held in reserves for paying out interest could be stolen without any chance of recovery. Because of the severity of this issue, smart contract security best practices are of the highest priority for

DMM development. The codebase for the smart contracts has been reviewed by independent teams that have deep domain expertise in developing secure smart contracts. They also are undergoing an audit by one of the top smart contract auditing firms in the industry.

There is always the possibility of unforeseen errors and irrational actors that could seek to attack the system. Properly aligning economic incentives should help mitigate irrational actors from attacking the system. The ecosystem's administrators also have the ability to pause the system, which will prevent new DMM from being minted and redeemed. The main configuration also prevents new DMM from being added to the total supply without sufficient collateral being placed on-chain via Chainlink.

#### **Initially Centralized Architecture:**

The failure of the ecosystem's semi-centralized infrastructure in the early days of the ecosystem's is another important and addressable problem. Early in the ecosystem's maturity, the ecosystem's organizers are responsible for budgeting for expenses, hiring personnel to continue development & marketing, seeking partnerships and investment opportunities, and managing legal risk & interfacing with regulators. Although the DeFi Money Market Foundation has excellent domain expertise in key areas, failure in any of these key areas could set the protocol back or, at worst, be fatal to the ecosystem. We plan to mitigate this by transitioning the ecosystem's control and direction to governance token holders, which will be designed to align incentives and create a sustainable way for key participants to contribute to the growth and continued success of the DMM Ecosystem. Additionally, the community and infrastructure that will be built by fellow companies/projects in the Ethereum community will further add to the resilience of the project.

#### **The System's Underlying Assets:**

While there is risk surrounding the assets that back the system, the general nature of DMM and the overcollateralization of both the assets backing DMM and the income streams provided are in place to protect the overall DMME. There have been sufficient steps taken to mitigate risk by keeping the loan-to-value (LTV) ratio well below industry averages. This means that any repossessed assets when sold should recover the principal, plus interest. Additionally, the vehicle-based loan business has typically seen minimal instances of repossession with significant recovery of the loan's principal. To further diversify risk, these loans are distributed across geographic regions in the US and frequently have thousands of borrowers coming in and out of loans. This diversifies risk away from only having a few underlying loans back the system and guarantees fresh liquidity coming in and out of the ecosystem.

#### **Treasury Management:**

We believe the treasury management portion of how crypto that is converted into fiat is not transparent enough. We will be looking to work more closely with Chainlink and other industry participants to see how we can make this intermediary step in the process more transparent, so ecosystem participants can see where every dollar is, all of the time. It is also worth noting that our initial tranche of assets being tokenized is \$10m and are already producing income. Meaning, the first users to enter the ecosystem and put crypto into a DMMA will be extremely overcollateralized.

# DMME Governance – Transition to DMM DAO

*As the Assets Backing DMM Provide Over Collateralized Income Streams,  
Excess Income Flows Into the DMM DAO*

One of the core beliefs of the DeFi Money Market Ecosystem is that every stakeholder in the ecosystem should participate in the decision-making continuously, without having to rely on or trust anyone. The DMME's members will be initially sourced from the core team and community members and is composed of owners of the governance utility token, which holds voting rights, based on ownership, within the ecosystem's continuous approval voting system for new features as well as its direction resulting in a democratic and decentralized structure. Governance tokens are fixed in quantity and it is anticipated that within 12 months of launch, ownership will be completely distributed and decentralized.

The distribution of governance will occur over two distinct transitions. The beginning of the process to decentralization, starts with a transitional DAO acting as custodian, essentially the role DMME's core team fulfilled in the ecosystem at implementation. This initial transition will remove central points of control and help ensure that the protocol is unable to be captured or censored, while also exploring the movement of treasury control from the core team members to a DAO. The transitional DAO will consist of a limited number of members with equal voting rights. Membership will evolve to include key token holders or their representatives, along with fewer members of the core team. A critical aspect of this migration is that a single legal entity will no longer be responsible for the protocol or its control. Multiple independent entities will act as service providers to the DAO, with no service provider having unilateral control over the protocol or its governance. Functionally, this will look like multiple independent teams financed by revenue from the DAO to maintain critical functions for the ecosystem's protocol.

The DMM DAO will be established after the transitional DAO, and the timing of this will be managed using the existing and evolving voting protocols. The structure of this DAO is to be determined, but the core team's initial view is to develop a representative democracy. This will allow token holders to elect using their token holdings for a specific DAO representative. All votes by all representatives will be available for review and if token holders are displeased with the positions taken by a representative(s) they can withdraw their support and the representation will be removed.

The DAO's participants will also share the ecosystem's success and revenue. Generally, the DAO will be overcollateralized with income-producing assets and, as the ecosystem grows, this overcollateralization combined with its related income stream will allow for to be determined reserves to be established and maintained. With reserves in place and growing income streams, governance token holders will receive DMM DAO rewards, which will lead to a robust, vibrant ecosystem and infrastructure.

## DMM Governance Token: DMG

The DeFi Money Market (DMM) DAO governance token, DMG, is the tool through which the community governs and grows the DMM ecosystem and the underlying protocol. As we look to

build a vibrant global community, DMG is a critical component that will engender broad participation and mitigate centralized governance risk. Specifically, DMG effectuates governance of the ecosystem via the DMM DAO, which has control over the Ethereum smart contracts and its adjacent assets.

Ownership of DMG represents the right to govern the parameters of the DMM Protocol as well as governance over the ability and decisions surrounding the introduction of new assets to the ecosystem in regards to both asset type and asset location. Additionally the decentralized community governing the DMM DAO can vote to modify the DMG tokenomics and utility, which could include a claim on the excess revenue generated from within the DMM ecosystem. The DMG token is a fork of Compound's COMP governance token (featuring native delegation and vote weighting) with added capability such as meta-transaction support and a native burn function.

### **DMG Supply Distribution:**

The DeFi Money Market DAO will be composed of a total of 250,000,000 DMG Governance Tokens.

The distribution of the total DMG supply is as follows:

- 30% will be sold in multiple different Public Token Sales over time.
- 30% will be reserved to incentivize ecosystem developers, partners, and integrations with other protocols to ensure DMM is a vibrant growing and decentralized ecosystem.
- 40% will go to the DMM Foundation for continued development, support, and other general corporate purposes.

60% of the total supply (150M DMG) has been deposited into timelocked smart contracts with varying vesting periods. The addresses for these contracts can be found on our main GitHub page here. The Foundation's 40% allocation of the supply (100M DMG) is locked up until November 15th, 2020 which then begins to vest equal amounts of DMG every Ethereum block until a year later on November 15th, 2021 when the last amount unlocks. 10% of the supply (25M DMG) from the incentives allocation and 10% of supply (25M DMG) from the sales allocation are both locked until November 15th 2020 when the full amount releases. This means currently 40% of the supply (100M) is not locked up.

Once unlocked, a portion of these DMG funds can be used to grow the ecosystem or can be deposited back into another time-locked smart contract for a longer period of time. These contracts will greatly reduce the liquid supply of DMG and will limit the DMM Foundation's voting power to ensure the community has a greater say in the DMM DAO.

Initially 10% of the supply (25M) has been allocated for the first private + public sale. The private sale has been a major success, while the public sale will be taking place June 22nd as an Initial DEX Offering (IDO) across two decentralized exchanges following a quasi-bonding curve structure. The first sale location will be [dmg.defimoneymarket.com](https://dmg.defimoneymarket.com), which is powered by Dolomite (an orderbook DEX using the Loopring protocol) with a frontend forked from Uniswap v1. The second sale location ongoing at the same time will be [mesa.eth.link](https://mesa.eth.link), which is powered by the Gnosis Protocol (a ring-trade DEX) with a frontend governed by the DXdao. The public sale will be available from 6/22/2020 through 7/22/2020 or until all tokens available have been sold. More information on the sale structure will be released in an upcoming blogpost as the public sale nears.

In summary, 10% of the supply (25M DMG) will be circulating, 40% of the supply will be unlocked/liquid (100M DMG), and 60% of the supply is locked up in timelock smart contracts (150M). After the public sale completes, we will be using some of the funds raised and a share of our DMG to help bootstrap liquidity pools on DEXs including but not limited to Uniswap and Dolomite. This creates secondary markets for DMG to enable users to enter the DMM DAO without incurring a large amount of slippage. The circulating supply will rise over time as provide liquidity and we will keep the community up to date on this.

### **Use of Funds:**

The focused development of the protocol and the DMM ecosystem (DMME) are top priorities. To this end, funds raised will be used for protocol development, marketing, grants, business development, funding loans for the introduction of additional asset classes into the ecosystem, operations, seeding the secondary market on Ethereum DEXs, legal, reserves and other general corporate purposes. As a developing ecosystem, the proposed use of funds is subject to change based on new challenges and opportunities identified as the ecosystem matures.

## **DMM DAO Revenue and DMG Token Growth Model**

The current revenue model for the DMM DAO is quite straightforward and is composed of four main areas:

1. Excess interest revenue
2. Token burns, which can be initiated by a vote from the decentralized DMM DAO and done through excess interest revenue or via origination fees
3. Voting and staking for asset introduction, which is in the process of being decentralized and should result in a significant number of tokens being moved away from the liquid supply
4. If an individual or a group owns a block of DMG and reserves Principal or Affiliate membership to introduce assets into the DMME, they will also generate asset introduction or origination fees.

Like some of the other best token projects in the industry, we anticipate the DAO making minor tweaks to the token's growth and revenue model as time progresses and more information about the protocol's usage is obtained.

### **Revenue from Overcollateralization of Interest Income Streams:**

Further, as the DMME is overcollateralized — with real-assets yielding more than payments due to mAsset holders — the DMM DAO is the recipient of a positive income stream that can be used to fund further loans, capitalize related assets, burn DMG or otherwise grow the ecosystem. The DMM DAO is unique in that it is one of the few DAOs that is already producing revenue and has a straightforward revenue model that grows as DMM's AUM grows. There is currently \$8.5M in car equity loans backing all current mTokens, visible on the DMM swap app.

As all the assets introduced to the ecosystem are overcollateralized on an income production basis (as the DMM currently generates 6.25% interest for mTokens holders while the underlying assets generate in total between 8% — 12% interest, there is a constant generation of additional income), these excess income streams assure that 1) That payments of the 6.25% to depositors are made and 2) Excess amounts accrue to the DMM DAO. While still in its infancy, to date the DMM DAO has generated approximately 5.5% annualized revenue on an asset

based basis. Just in the month of April alone, circulating mTokens grew 180% to \$227k worth of user-deposited funds. Additionally to date, there have been over \$670k worth of mTokens purchased in total.

### **Revenue through rights to governance over asset introduction:**

A certain percentage of DMG tokens are required to introduce assets into the DMME (to assure that all DMG holders interests are aligned). The first few test assets are being developed by partners working directly with the DMM Foundation. Some of these assets can include real estate, aviation, and construction equipment. More details can be found in our Chainlink article. Upon the issuance and sale of DMG, we will be rolling out over the next 12 months the fully decentralized onboarding of assets into the DMME. Below we list a high level view on how we envision this to work. While not definitive, we look forward to working with DMG holders and the community to create a unique system that can be scalable on a global basis.

Revenue from % of Origination or Asset Introduction Fees for Principal and Affiliate Members: Principal or Affiliate Members (see full information on how this operates below) will contribute 5% of the Origination or Asset Introduction Fees charged to DMG holders on a pro rata basis.

### **DMM DAO Uses of Revenue:**

Once the DMM DAO vote reaches a threshold agreed upon by the DMG holders, the DAO may elect to purchase DMG tokens off the open market to burn them, increasing token demand and lowering the supply available. Token burns will be tracked on a governance dashboard designed to provide transparency into the revenue the DMM DAO engages in and generates. As development, marketing, and maintenance becomes increasingly decentralized, we anticipate a portion of the DAO's revenue will be used to pay for future protocol work and development

## Road Map

The technical roadmap for the DMME is impressive in nature and can be categorized as five major developments.

1. Adding support for more categories of real-world assets, which can further back the system and provide yield to token holders.
2. Adding more tools that further improve transparency, adding trust as more people join (and stay in) the ecosystem.
3. Integrations and APIs that will allow for existing tools to hook into the DMME, which will grant the project more users & exposure.
4. Improving the treasury management function to become more efficient & transparent as the ecosystem matures.
5. Implementation of the DMM DAO which can govern the protocol, fund development, add assets and receive rewards.

## Examples

### ***Diversification Out of Home Country Currency and Risk:***

Globally it is very typical for those with higher incomes to diversify risk through the purchase of



assets (mostly property) outside of their home country. This has been driving real estate prices higher in many markets in Europe and North America, since many people have been buying these properties to transfer currency and risk out of their home country and generate some income. With that being said, this has been almost exclusively the domain of the upper tiers of the economy, because the middle and emerging classes do not have the capital, contacts, and infrastructure to do this even though they would likely appreciate the same form of diversification. DMM can act as an equalizer in this manner since it provides all these benefits but can be done for as little as \$1. As DMM is asset-backed, now any citizen can have these same benefits of diversification and income regardless of income level, providing greater financial inclusion and opportunity for all citizens, regardless of country or socio-economic position.

***DeFi Money Market Fiat Gateway (DMMFG):***

To enable the above example, we will be creating software for fiat on ramps into the DMME. This will enable anyone to globally participate in the community and have a part in aggregating fiat streams for those who want to diversify into an asset that is free from government intervention, debasement, censorship or control as well as produces income. We believe this will be of particular interest in areas of the world with high inflation, governments debasing their currency, or for those who would like to diversify in country asset and currency risk. We believe this will help in unlocking the trillions of dollars in negative to zero interest financial products globally and a good reason for adoption of Ethereum-based assets.

## Conclusion and Open Invitation

The DMME was designed to solve the crucial \$17 trillion problem of once again allowing for global citizens to earn interest on their money. While initially focused on holders of digital assets, we believe the ability to earn interest with a fully-transparent view into the backing, and over collateralized income streams will provide another reason for those in the fiat world to join the Ethereum community.

While our two initial use cases launched today are both stable coins, we look to collaborate with others in the Ethereum community to create additional DMMA's for the many different digital assets that currently exist and believe DMM will provide for the ability of any Ethereum digital asset to earn interest providing greater diversification and stability in interest rates. The founders of the DeFi Money Market Ecosystem have set forth an aggressive but prudent plan to grow the DMME embracing the ideals of decentralization and focused on the widespread adoption of DMM through close working relationships with all in the Ethereum community. We welcome the ability to work with and collaborate with all as we look to build a global vibrant DMME community.

# Glossary

**DeFi Money Market Ecosystem (DMME):** An Ethereum-based and decentralized protocol that allows the creation of DeFi Money Market Account's (DMMA) - a new DeFi native asset class that allows any holder of an Ethereum-based digital asset to earn interest and is backed by real-world assets represented on-chain.

**DeFi Money Market (DMM):** An ERC20 token created when a specific Ethereum asset is converted through a smart contract providing a specific Annual Percentage Yield (APY) secured by real world tokenized assets that are over collateralized.

**DeFi Money Market Wrapper (DMMW):** An ERC20 smart contract wrapper that can be placed on any Ethereum token to generate income and provide additional diversification and security through backing by real-world assets represented on-chain.

**DeFi Money Market Account (DMMA):** Specific to each individual Ethereum digital asset (mDAI, mUSDC, etc.) which empowers consumers to remain in and choose the digital asset class that best suits their needs or requirements.

**DeFi Money Market Fiat Gateway (DMMFG):** Software for fiat on ramps into the DMME. enabling anyone globally to participate in the community and have a part in aggregating fiat streams for those who want to diversify into an asset that is free from government intervention, debasement, censorship or control as well as produces income.

**DMM DAO:** A DAO that owns and governs the DMME, and receives the excess income streams so that it shares in the ecosystem's success and revenue.

# Appendix

1. <https://compound.finance/documents/Compound.Whitepaper.pdf>