



Enigma Market Note. July 15, 2022

## Update: MakerDAO to Launch \$100M DAI Vault Backed by Real-World Loans



- TYPE: COLLATERALIZED DEBT/LENDING
- CHAINS: ETHEREUM
- MARKET CAP, MKR: \$0.900B
- MARKET CAP, DAI: \$8.00B
- TVL: \$7.00B

### Introduction

Last week, MakerDAO decided to launch a DAI vault backed by loans originated by Huntington Valley Bank to create DeFi's largest stablecoin pool backed by real world assets.

The \$100M DAI vault credit facility will provide additional lending capital to the publicly held regional bank. Under the proposal, a MakerDAO trust will participate in up to 50% of qualifying loans originated by HVB. The bank can borrow DAI against the loans held in the trust. As HVB originates and services the loans it will pass MakerDAO's share of the yield after fees to the trust custodian for delivery to MakerDAO. The new measure represents a turning point for DeFi that will collateralize a decentralized stablecoin with real-world assets on an institutional scale.

### Participants

MakerDAO is familiar breaking ground as the first decentralized lending protocol credited with pioneering DeFi on Ethereum. Despite key changes since 2017, the protocol's USD-pegged stablecoin DAI remains over-collateralized by crypto and stable assets locked in user vaults. Users pay a DAI Stability Fee upon repayment to unlock their collateral. When a vault's collateral is impaired, the user has a short time to act before the vault is liquidated at auction.

MakerDAO added real-world assets, or RWA, collateral to DAI vaults in 2020. Before the HVB proposal, RWA accounted for 2% of total collateral and backs 0.5% of all DAI in circulation. These RWA vaults are owned and maintained by partner businesses each with distinct legal structures. These experimental vaults outperformed other assets by nearly three times over the last year for 3.7% APY. Their success paved the way for HVB and MakerDAO to nearly triple the size of RWA collateral with the new proposal.

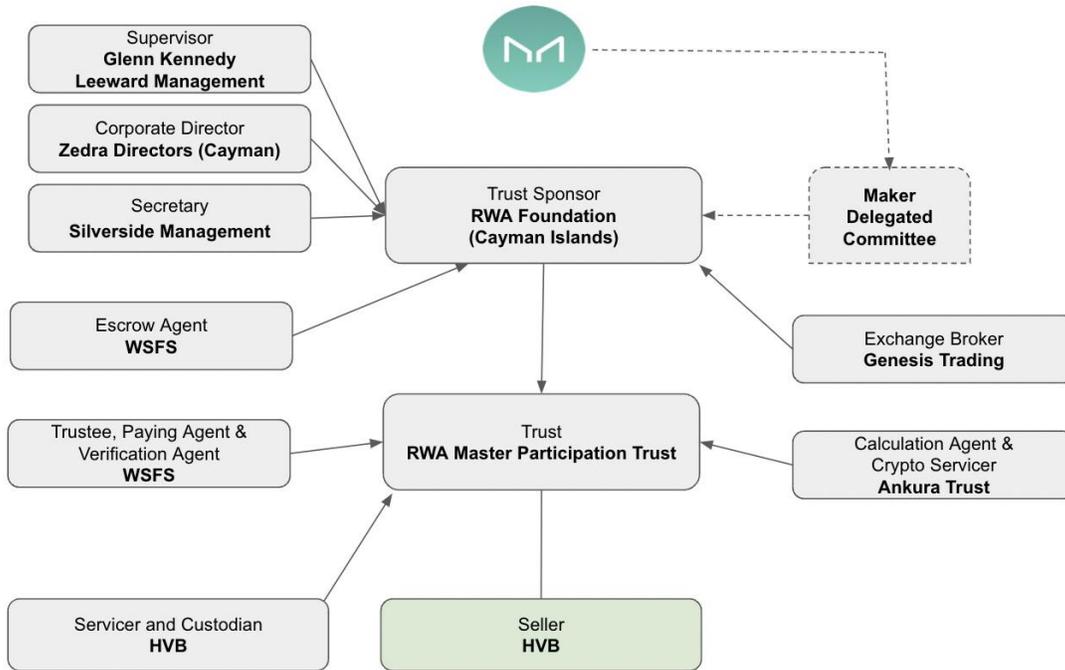
Huntingdon Valley Bank, or HBV, is US-based, Pennsylvania chartered commercial bank owned by HV Bancorp. Inc (NASDAQ: HVBC). The participation agreement will make HVB the first bank to collateralize stablecoins with real world loans in the trust structure proposed. With this trust, or one structured like it, MakerDAO can engage other entities for similar relationships. This agreement creates a template for traditional firms to meaningfully participate in DeFi.



### Transaction Structure

Under the agreement, MakerDAO will establish a Delaware Statutory Trust, or DST, that can participate, or purchase qualified HVB loans. The bank proposed specific credit and economic guidelines under which to originate the loans from high-performing and non-cyclical industries. Instructed by MakerDAO's governance, the DST would purchase a total 50% interest in the loan portfolio pari passu with HVB interest. The full participation portfolio would collateralize up to \$100M of DAI through one year following implementation. Finally, HVB would remit the protocol's portion of net yield, after selling, governance, and reporting (SG&R) fees to MakerDAO through the DST.

"Diagram #1 Transaction Parties," from MakerDAO Governance Forum, 6/15/2022.



The HVB loans must meet eligibility criteria for the Trust to approve and purchase. Since 2Q21, HVB originated \$151M of loans similar to the participation agreement. HVB expects most loans to last five years with few up to ten-year terms. Loan Categories include Commercial Real Estate Mortgages, CRE-secured Construction Loans, Lender Finance Lines, Business Loans, and SBA Loans. The bank will apply standard client selection and credit analysis to produce term and revolving loans within the top half of the bank's credit rating scale.



### Transaction Economics

Once MakerDAO initially funds the MBPTrust it works directly with HVB to purchase loans and transfer cash flows back to MakerDAO First, HVB originates loans and proposes participation to the Trust. Next, the Trust's Calculation Agent verifies the loans meet the eligibility criteria and approves funding. Then, the Trust executes a Purchase Certificate and transfers cash to HVB. Over the life of the loan, HVB pays the trust its pro rata principal + interest after taxes and fees. Finally, the Trust passes all cash flows net of expenses to MakerDAO each month.

Summary Terms		
<b>Counterparty:</b>	Huntingdon Valley Bank (held by HVBancorp Inc. NASDAQ: HVBC)	
<b>Real World Assets:</b>	HVB originated loans	
	50% held by HVB, 50% held by MakerDAO Trust, pari passu	
Eligible Collateral:	Loans within eligibility criteria	
Leverage:		
Maximum Loan-to-Value (LTV):		80%
Expected Average LTV:		70%
<b>Lender Legal Entity for the benefit of MakerDAO:</b>	MakerDAO Bank Participation Trust	
	Delaware Statutory Trust for the benefit of MakerDAO	
<b>Initial Debt Ceiling:</b>		\$100M
12 month goal debt ceiling:		\$1B
<b>Return Due Maker:</b>	Net principal + interest of underlying participations	
	Net of taxes and fees	
<b>Yield Benchmarks:</b>		
Floating: SOFR Avg 30D		0.083%
Fixed: US Treasury "Like-Term" (5Y UST)		2.310%
<b>Minimum Net Yield to MBPTrust over Benchmarks:</b>		
Floating: SOFR Avg 30D		0.750%
Fixed: US Treasury "Like-Term" (5Y UST)		0.300%
<b>Expected Fixed &amp; Floating Rate Composition:</b>	50%	50%
<b>Expected Net Yield to MBPTrust (net of S, G, &amp; R Fees):</b>		3%
<b>Stability Fee:</b>		0%
	"Retroactively adjusting the vault stability fee to match the net yield... from the MBPTrust"	

MakerDAO's participation agreement expands HVB's lending business. Currently, HVB can lend \$7M maximum per borrower relationship. The MBPTrust loans reside outside of the bank's balance sheet and do not count against their lending limit. The participation capital allows HVB to continue loan growth beyond its balance sheet capacity.



### MakerDAO Profitability

Based on the expected yield, the participation loans will exceed historic Stability Fee yield and provide monthly cash flow to MakerDAO. Other CDPs and RWA vaults earn 0.3% APY. Borrowers pay DAI Stability Fees on top of the principal at repayment. While the MBPTrust will remit HVB loan interest and principal monthly to the MakerDAO Surplus Buffer, any excess cash in the Trust account can be invested in ETFs or money market funds containing US Treasuries of at most 3-month terms.

#### MakerDAO Summary Balance Sheet *USD & DAI in millions* 11-Jul-22

Liabilities	<i>Non-custodied assets in CDPs that mint/lend DAI</i>					DAIUSD		\$0.9976		
	Pct Assets	Value	Collateralization	Debt Ceiling, DAI	Utilization					
<b>Total Liabilities</b>	<b>100.0%</b>	<b>\$9,137</b>	<b>138.6%</b>	<b>34,643</b>	<b>19.1%</b>					
Stablecoins	58.8%	\$5,377	100.7%	12,310	43.5%					
Non-stable tokens	38.5%	\$3,520	342.0%	21,974	4.7%					
LP positions (Uni V2)	1.9%	\$174	94.6%	300	61.5%					
Real world assets	0.7%	\$67	161.0%	59	70.3%					
<b>Assets</b>	<i>Total DAI lent across CDPs that yields Stability Fee revenue to MakerDAO</i>									
	Pct Assets	Debt Value	DAI Minted	Fees 1Y, DAI	APY	DSR Cost, 1Y	Pct Cost	Net APY		
<b>Total Assets</b>	<b>72.2%</b>	<b>\$6,592</b>	<b>6,608</b>	<b>16</b>	<b>0.2%</b>	<b>-</b>	<b>0.0%</b>	<b>0.2%</b>		
<i>Per Asset source:</i>										
Stablecoins	58.4%	\$5,338	5,351	0	0.0%	-	0.0%	0.0%		
Non-stable tokens	11.3%	\$1,029	1,031	15	1.4%	-	0.0%	1.4%		
LP positions (Uni V2)	2.0%	\$184	184	0	0.0%	-	0.0%	0.0%		
Real world assets	0.5%	\$41	41	2	3.7%	-	0.0%	3.7%		
Surplus Buffer	0.9%	\$80	80	-	0.0%	(121)	0.0%	0.0%		

#### MakerDAO Projected Balance Sheet *USD & DAI in millions* 11-Jul-22

Liabilities	<i>Non-custodied assets in CDPs that mint/lend DAI</i>					DAIUSD		\$0.9976		
	Pct Assets	Collateral	Collateralization	Debt Ceiling, DAI	Utilization					
<b>Total Liabilities</b>	<b>100.0%</b>	<b>\$9,233</b>	<b>138.4%</b>	<b>34,743</b>	<b>19.3%</b>					
Stablecoins	58.2%	\$5,377	100.7%	12,310	43.5%					
Non-stable tokens	38.1%	\$3,520	342.0%	21,974	4.7%					
LP positions (Uni V2)	1.9%	\$174	94.6%	300	61.5%					
Real world assets + HVB	1.8%	\$162	134.0%	159	76.4%					
<b>Assets</b>	<i>Total DAI lent across CDPs that yields Stability Fee revenue to MakerDAO</i>									
	Pct Assets	Debt Value	DAI Minted	Fees 1Y, DAI	APY	DSR Cost, 1Y	Pct Cost	Net APY		
<b>Total Assets</b>	<b>72.3%</b>	<b>\$6,672</b>	<b>6,688</b>	<b>19</b>	<b>0.3%</b>	<b>-</b>	<b>0.0%</b>	<b>0.3%</b>		
<i>Per Asset source:</i>										
Stablecoins	57.8%	\$5,338	5,351	0	0.0%	-	0.0%	0.0%		
Non-stable tokens	11.1%	\$1,029	1,031	15	1.4%	-	0.0%	1.4%		
LP positions (Uni V2)	2.0%	\$184	184	0	0.0%	-	0.0%	0.0%		
Real world assets + HVB	1.3%	\$121	121	4	3.2%	-	0.0%	3.2%		
Surplus Buffer	0.9%	\$80	80	-	0.0%	(121)	0.0%	0.0%		



The projected loans will improve MakerDAO’s profitability at low risk to the protocol’s digital balance sheet. Like a traditional bank, Maker’s liabilities are the vaults that back DAI. The DAI outstanding represents assets that earn DAI yield in Stability Fees. The existing RWA vaults earn the highest yield at 3.7% APY, nearly three times the non-stable digital asset vaults. These risky vaults are 342% over-collateralized to DAI minted. The proposed HVB loans would have no effect on other vault leverage because all vaults are separate and the new facility would maintain 80% LTV, just above the total RWA LTV of 76%. Overall DAI debt ceiling utilization would increase 20 bps to 19.3%.

For a marginal increase in risk and profitability, the proposal would triple the DAI supply backed by RWA. At 3% yield, the HVB RWA would increase Return on Equity - including MKR tokens as equity - by 30 bps to 2.3% annually. The MKR token, however, does not receive a dividend nor a claim to the protocol’s cash flows.

MakerDAO Profitability and Solvency		
USD & DAI in millions		
Return on Equity		
	Actual	Projected
Net Income, DAI	\$16	\$19
Equity, MKR Mkt Cap	\$904	\$904
<b>Return on Equity</b>	<b>1.8%</b>	<b>2.1%</b>

**A New Path for DeFi**

The entire DeFi industry at a \$15B market cap easily overshadows \$100M of traditional loan collateral. Even the \$151B Stablecoin vertical surpasses the HVB proposal in value. However, the transaction’s structure and composability represent a potentially critical DeFi innovation. As a DST, the MBPT provides a legal entity to benefit MakerDAO’s treasury and balance sheet, despite the DAO’s uncertain legal status. Beyond legal risk, the proposed structure mitigates credit and leverage risk for MakerDAO while preserving profitability. The proposed structure represents a replicable way to collateralize stablecoins with performant traditional assets in a financially sustainable way.



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