Questionnaire - Synthetix (Havven)

Questionnaire

Note: you can decline to answer certain questions (like marketing / go to market) which may be trade secrets and we will put in "declined to answer due to current trade secret".

a. General

    i. **Which blockchain / DLT are you building on top of?**

       We have launched on Ethereum and we have also announced that we plan to launch on EOSIO by the end of 2018.

    ii. **How does the stablecoin work?**

       Havven uses a dual-token model that stabilises the stablecoin price through a novel incentive mechanism. nUSD, our stablecoin, is backed by our collateral token, HAV. nUSD transactions generate fees, which are distributed to HAV holders as incentive to collateralise and stabilise the system.

    iii. **What is your revenue model?**

       $30m was raised during the initial token sale in February, 2018. This provides funds for several years' runway. Additionally, the fees generated by nUSD transactions are distributed to HAV holders, so as the

Havven Foundation holds a significant HAV amount it will also receive a significant proportion of nUSD fees to provide further revenue. We are also planning to raise $6m in our planned private sale to bring Havven to the EOSIO blockchain.

iv. When we say something is stable what do you think it means? And when it comes to monetary policy specifically?

At the moment, our model for stability is popular fiat currencies, such as the U.S. Dollar. This is despite the fact that the U.S. Dollar actually does fluctuate in value (up to around 1% a day with respect to other fiat currencies). We use this as our model for stability because goods priced in popular fiat currencies typically have a stable price in the short-to-medium term, which is important to money users.

Stability to us means stable with respect to an external asset, and at the moment the useful asset for this purpose is USD, since goods are already priced in USD. However, it's possible to envisage a post-fiat future in which pricing goods in USD is non-viable, in which case another external asset would need to be used.

v. What is your revenue model?

We use a fee-for-service revenue model. The Havven Foundation holds a significant amount of HAV tokens, which receive fees from nUSD transactions. As it is likely to take some time for this to become sustainable, in the interim we are using the funds raised in our token sale to cover operational costs.

b. Launch & marketing

i. What does the market need to be confident in the stability of your token?

Beyond a mere glance at the stable price (currently displayed on CoinMarketCap), it may take some time to demonstrate to the market that nUSD will stay stable through periods of volatility. Also, confidence in its stability will increase if it can be sustained even as the market cap increases.

ii. How are you bootstrapping to that level of confidence?

While the market cap (and thus, supply) of nUSD is relatively low compared to the potential total addressable market for stablecoins, we are providing liquidity on several exchanges to ensure that users can convert nUSD into and out of other cryptoassets.

iii. What are your go-to-market strategies?

We plan to continue partnering with other blockchain platforms who need a decentralised stablecoin.

c. Economics

i. What is your coin stable with respect to?

The U.S. Dollar. And other currencies in the future.

ii. How much volatility can this peg withstand? Is that the same for upwards and downwards pressure? How wide is the band of behavior it can support?

The stablecoin is currently overcollateralised at a 5:1 ratio. Holders of the HAV token are incentivised to manage the supply of nUSD, which will stabilise the nUSD price.

iii. How easy is it to analyze the band of behavior from which it can recover?

It is fairly simple to model the system up to the point where it becomes undercollateralised. We have done those from a microeconomic standpoint and with an agent based model, the results of which are available on our site. If the system experiences a drop in the collateral price over a short period that results in the circulating stablecoins being undercollateralised it is currently unclear what the response of the market will be. The response will likely be determined by the expectations of recovery.

iv. How expensive is it to maintain the peg/stability mechanism?

The cost of maintaining the peg is borne by HAV holders who have issued nUSD, as they are incentivised to buy nUSD if it is sold below par in order to unlock their HAV, at which point they can sell them to recover the costs. But in principle, at any time the HAV holders must be prepared to buy back and burn the entire supply of stablecoins, which could represent somewhere between 10-100% of the market cap of the collateral token. They can do this with the funds they receive when they initially issue nUSD.

v. How transparently can traders observe the true market conditions?

All transactions and the collateral pool are on-chain, so it is simple to determine via etherscan or some other block explorer the state of the network and the relative value of the collateral versus circulating currency.

vi. Which monetary theory (theoretical) assumptions do you think are not true and how does your protocol account for that?

Havven relies on a similar approach to the commodity money, except the rules are more explicit and the relation between the asset and the tokens that represent a claim on that asset is more transparent as everything is available on-chain. Because Havven tracks fiat currencies it is reliant on the monetary policies of the central banks that maintain those currencies. So in that sense we take an agnostic view to monetary policy and are simply trying to enable people to make payments on-chain in a denomination they are used to to allow for simple price comparisons.

vii. Does your stablecoin supply scale in response to demand? If so, how?

Yes. If nUSD transaction volume increases, then the fees collected from nUSD transactions increase. It is assumed that this will increase demand for HAV tokens, thus increasing the HAV value. If the HAV value increases, then more nUSD can be issued against it. The ability of nUSD to scale is directly tied to demand for HAV, which is directly tied to nUSD transaction volume.

viii. Who provides the capital to maintain exchange rate peg? How are they compensated / Why do you think they would continue to lock up capital, given other investment opps?

HAV holders maintain the peg, as the proportion of fees they receive is determined by how successfully they do so. They aren't required to continue locking up capital to help the supply of nUSD scale. It's expected that as nUSD usage increases, the value of HAV will increase due to the fees accrued by nUSD usage. This increase in HAV value allows for the issuance of more nUSD, preventing the need to lock up more capital.

ix. An eventuality plan in case of a "black swan" event.[1,2] The 1% case will happen eventually.

The system is designed to be resistant to price shocks, but building in such mechanisms comes at a cost to efficiency. We therefore take the approach that we want a reasonable trade-off skewed towards safety initially, hence the price buffer of 80%. Eventually this requirement will be eased as the system grows in adoption, but the trade-off as this occurs is the system is more at risk of systemic failure. Philosophically, we believe that the utility such a system provides is so valuable as to be worth this risk. Central bank monetary schemes are also subject to black swan risk, but the utility they provide is so valuable that no reasonable person would propose that we abolish them for that reason alone.

d. Tech

i. Are any novel consensus mechanisms used, over and above the underlying blockchain?

We rely on the underlying consensus mechanism of Ethereum and EOS.

ii. What transaction throughput can the blockchain currently handle and how does it plan to scale? Do its plans coincide with your plans for your estimated demand?

N/A

iii. **What tradeoffs does your protocol make and why did you make those tradeoffs? (supply/demand, temporarily peg breaking) (censorship resistance) (privacy tradeoffs) (accuracy of present market data and ease of manipulation of the data feed protocol uses (responsiveness of market and ease of manipulation)**

The primary trade-off in our mechanism is charging small fees in order to incentivise issuers to participate in the system. This creates some friction for users, but we believe without a direct relationship between demand for the coin and rewards for stabilisers that no stablecoin can scale.

iv. **Are there any centralized components of your system? Would any of these be easy for govs to shut down?**

Currently the main aspect of centralisation is the oracle, though this could potentially be run in a distributed fashion. Other than that everything else is on chain so it is essentially as robust as Ethereum/EOS is.

v. **Does your protocol require information outside the blockchain such as a feed of price data? If so, how does this oracle work? Who manages it, what are the incentives for managing it, and what happens if the data they provide has a glitch?**

Currently our oracle is run by the Havven Foundation, but we are working with several teams planning to release decentralised systems to handle price feeds and other off-chain data.

vi. **Which participants can see which transactions? What is the data and metadata available, and to whom? How does this impact privacy?**

The entire system is on-chain.

vii. **Are you doing anything with formal verification? Smart contracts used?**

We have not formally verified the contracts, but all code has been audited by multiple parties.

viii. **What is the rebase period? (Length of time between currency adjustments.)**

The system allows issuance at any time as each participant has full discretion over their collateral. The exchange rate between HAV and nUSD updates around every 5 minutes.

ix. **Can we make this automated?**
   1. **Do we use a smart contract, or network rules of the blockchain operators?**

This is currently semi-automated by the oracle.

e. Regulation
   i. **What are your perceptions of local and global regulation in supporting stable coin, asset backed token economies?**

Currently regulators are reasonably unaware of the risks of stablecoins. This is likely to change as the difference between BTC and other major cryptoassets becomes clearer.

   ii. **What could be done to improve regulation in terms of speed, quality, value for your company?**

We believe in open and permissionless value transfer, so nothing.

f. Testing
   i. **What kind of simulations have you done and what have they helped you learn? (simulating broad array of market conditions)**
      1. **Mental models for simulations**
      2. **Econometric models**
      3. **Agent-based Modelling / Computer simulations**
      4. **Other (Please describe)**

See previous answers.

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[1] https://en.wikipedia.org/wiki/Black_swan_theory