

# Questionnaire - MakerDao

2.0

## 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?**

Ethereum mainnet

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

The Dai stablecoin is the byproduct of the Dai Credit System--a permissionless and decentralized suite of smart contracts which let users pledge assets and borrow (create) Dai against them. The system is entirely p2p and Maker custodies/controls nothing in the system. The core concept behind Dai is that there is always more than \$1 in collateral for every 1 Dai in existence. Our smart contracts make sure of this by liquidating loans which become "undercollateralized"--a parameter set by the Maker governors for each asset type. A more in-depth description of the philosophy and mechanics of the system can be found in this post: [https://medium.com/@greg\\_10160/maker-for-dummies-part-2-3b364f86bbfd](https://medium.com/@greg_10160/maker-for-dummies-part-2-3b364f86bbfd)

iii. **What is the purpose of your coin? What does it aim to achieve, and which problems does it solve?**

Dai is a better peer-to-peer cash. It excels as decentralized money where bitcoin has come up short due to its volatility. The Dai Credit System provides equal access to credit to all counterparties, regardless of their means, connections, or reputation. Dai and its credit system are a decentralized, egalitarian version of our current monetary system.

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

Stability is a relative term. Dai is stable relative to the US Dollar, for the time being. Our system lets the Maker governors make Dai stable relative to any arbitrary metric.

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

Dai is always created as a loan. Loans have interest rates. This interest rate is passed on to MKR holders (the Maker Foundation's primary source of revenue) via token-burning and to Dai holders via a "reward rate." With that, Maker is a DAO (Decentralized Autonomous Organization) and does not have a traditional business model--all income accrues into the MKR token.

**b. Launch & marketing**

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

In order to have confidence in Dai, the market need only understand its underlying mechanics. Anyone, at any time, can view our smart contracts and ensure that there is greater than \$1 of collateral for every Dai outstanding. We do not ask Dai holders to extend any sort of trust. They should trust in the stability of Dai only if it is mathematically supported by the assets backing it.

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

Education, business development, and financial transparency..

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

Declined to answer due to current trade secret

**c. Economics**

**i. What is your coin stable with respect to?**

US Dollars

**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?**

Our current system has only one type of collateral, ether. As stated above, so long as the dollar value of the ether in the smart contracts is greater than the amount of Dai outstanding, the peg is naturally supported. The volatility of ether that would cause this peg to fail would have to be quite rapid and substantial. To provide circumstantial evidence, ether has seen multiple 70%+ drops since the initial Dai launch and the liquidations have went off without a hitch. With that, we know that this system is not scalable due to its reliance on ether. Going forward (Q4'18), we'll be releasing the next implementation of the system where a wide range of tokenized assets can be pledged to borrow Dai. This diversifies the portfolio so that the peg can withstand theoretically unlimited volatility in any single asset type. Beyond this, if the system becomes undercollateralized, the MKR holders are diluted before Dai holders, adding an extra level of support.

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

Relatively simple with the correct assumptions about the correlation of the underlying collateral portfolio.

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

**1. How transparently can traders observe the true market conditions?**

The peg maintains itself as market participants are naturally incentivized to arbitrage around \$1 (so long as the smart contracts have more dollar value than Dai outstanding).

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

The idea that money can be created from nothing is categorically untrue and has been disproved countless times throughout history. Stablecoin implementations asking users to extend trust to the currency itself (e.g. Seigniorage Share models) *will* collapse. Dai asks its holders to extend no trust whatsoever. Our monetary theory is that money is always created from credit, because money is in its essence a derivative of credit.

- vi. **Does your stablecoin supply scale in response to demand? If so, how?**

Yes. If demand for the stablecoin pushes the price over \$1, market participants can borrow Dai at \$1 and immediately sell it for greater than \$1, making an arbitrage profit.

- vii. **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?**

Market makers in the short term, borrowers in the long term. They will lock up capital because they are incentivized to do so, if the incentives do not meet the appropriate risk profile then they will adjust.

- viii. **An eventuality plan in case of a “black swan” event.<sup>1,2</sup> The 1% case will happen eventually.**

An emergency shutdown procedure which allows the Maker governors to force a redemption of Dai for collateral (pushing the volatility risk back to the Dai holders, but preserving their capital in the face of an attack).

d. Tech

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

No

- 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?**

Limited by the throughput of ethereum. The Dai Credit System is not throughput-heavy and Dai can be exported to second layer solutions when being used for value transfers.

- 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)**

As all decisions are made by the Maker governors, the system itself does not implicitly make tradeoffs but exports this role to the governors. A substantial trade-off they will make on a regular basis is setting collateralization ratios so that they are sufficiently conservative but also maximize loans outstanding.

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

No and no.

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<sup>1</sup> [https://en.wikipedia.org/wiki/Black\\_swan\\_theory](https://en.wikipedia.org/wiki/Black_swan_theory)

- 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?**

Yes. There are many oracle providers and they are voted in by the governors. If their data is faulty, there are several fail-safes that prevent it from impacting the system, but if it does we can enact an emergency shut-down as all data is entered with a 1hr delay.

- 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 the public ethereum blockchain and can be viewed, in real time, by everyone.

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

All smart contracts in our upcoming implementation will be formally verified. We are the first to do this, to the best of our knowledge.

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

N/A

- ix. **Can we make this automated?**

1. **Do we use a smart contract, or network rules of the blockchain operators?**

Our entire system is run by smart contracts.

e. Regulation

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

Declined to answer due to current trade secret

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

Declined to answer due to current trade secret

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)**

Our risk team employs many statistical models. We will release these as collateral is proposed for entry into the system. Please see:

<https://medium.com/makerdao/makerdao-governance-risk-framework-38625f514101>

