

## TL;DR

Give some visibility to the Aave community about the pricing mechanism on Aave (oracle), specifically about WBTC, but possible to extend to similar asset types.

We don't see any problem with WBTC at the moment, but given its importance, its pricing strategy should have visibility and be opened to discussion

## Context

As probably the broad Aave community is aware, pricing assets on Aave is done via integration with price feeds of the Chainlink network. From the protocol perspective, this integration is fairly simple: every asset address has associated with another smart contract address, in charge of providing a numeric price; this address is (generally) one Chainlink price feed smart contract for a pair ASSET/ETH (or USD).

We used "generally" before because there are exceptions. They are required when, for example, due to the complex nature of the asset, apart from querying an ASSET/ETH (or USD) feed, you also need to apply some extra numeric transformation on top. One clear case is what sometimes happens with AMM LP tokens, on which, if not possible via Chainlink directly, it is necessary to have an adapter smart contract calculating the final price of the LP token from the prices of underlying.

We could say that the requirement for adapters is the most "technical" decision side of the pricing of an asset, but there are some other aspects to consider, affecting assets like WBTC.

## WBTC

Pricing becomes more complex when dealing with assets like WBTC. For context, WBTC is an ERC20 tokenization on Ethereum of locked BTC assets on the Bitcoin network, with the objective of "using" BTC on Ethereum-living applications via WBTC.

As extensively explained on the [WBTC portal](#), the system is based on a mechanism of Merchants (entities of the blockchain space, capable of request mint/burn of WBTC) and Custodians (mainly BitGo, keeping the BTC backing WBTC safe). This system has always been working well, and there is no symptom at the moment to think it doesn't

But from the Aave protocol perspective, the pricing of WBTC is actually different than other assets. Aave v2 Ethereum assumes the price of WBTC is equal to the price of BTC, by using a [BTC/ETH](#) feed.

For non-expert users, this can seem legitimate: if the system of creation/redeem of WBTC works and the BTC reserves are completely secure, why the price of WBTC would not be the same as BTC?

For more expert users, a counter-argument can be easily built: fundamentally, WBTC is not BTC. There is a strictly higher risk of holding WBTC vs BTC, doesn't matter if this risk converges to 0 in some cases on the secondary market of WBTC, it just exists.

For the Aave protocol, the rationale is actually a bit more complex, and there is good reasons to price WBTC based on BTC.

The liquidity of WBTC is not the same as the liquidity of BTC. They are actually in a completely different order of magnitude, with WBTC in the hundreds of millions daily volume, versus BTC being the most liquid crypto-asset, with tens of billions of daily volume. When WBTC was initially listed on Aave v1, this difference liquidity-wise was even bigger. Factually, it was not a good idea to price WBTC depending only on the secondary market.

But why this makes a big difference to Aave? There are ~\$3.7b WBTC minted at the moment (some of them not exactly on Ethereum, but bridged to other networks). Only Aave v2 Ethereum has ~\$550m of WBTC collateral. In addition, the risk parameters of WBTC are relatively highly capital-efficient, with an 82% Liquidation Threshold. This is possible because the system "assumes" that the asset listed has the liquidity not of WBTC, but of BTC.

Due to the previous reasons, the case of Aave is different to other protocols': there is a strong rationale to keep the pricing of WBTC based on BTC/ETH, considering there is no real reason to be concerned about the WBTC security model

That being said, all topics in the community should be opened for further discussion. And we would like to shed some extra light on the options.

During Aave v1 and part of Aave v2 times, there is no doubt that using BTC-based pricing was a better approach, but at the moment, if we compare with assets with similar fundamentals (like reserves-backed stablecoins), it is legitimate to at least

discuss if a WBTC/ETH (or USD) is really an acceptable mechanism, even considering the size of Aave.

From our perspective, especially in these times of market down-trend, a change to a WBTC/ETH pricing (or USD) on all the Aave pools can be considered, but we think the following is necessary:

- Risk parties should evaluate how solid parameters like the Liquidation Threshold are for such a swap. Also taken into account how problematic is [to lower it](#).
- A deeper analysis of sources of liquidity should be carried out. If the volume from the venues considered is not solid, swapping is definitely not a good idea if we compare it with the counter-party risk of the WBTC underlying system.

In addition, it is important to evaluate even deeper the underlying WBTC system, to understand the edge points of failures. This includes non-technical aspects like:

- Mint/burn historic speed.
- Legal wrappers around the system and implications for holders, Merchants, and Custodians of WBTC.

And technical ones, boiling down to:

- Does the current security setup of WBTC give good assurances?

If there are meaningful concerns with the previous points (we don't have any reason to think that at the moment), the usage of WBTC (non BTC) based feed can be considered.

## And what about other similar assets?

WBTC is actually not the only asset of a similar type on the protocol. At the moment, Aave has similar ones in nature listed, even if they superficially look quite different.

Interestingly enough, the strategy of pricing them is slightly inconsistent (but with rationale about it).

### “Stable” assets, reserve-backed

The so-called stablecoins, like USDC, USDT, or DAI. Generally, these are priced based on the secondary market, so the price feeds look like USDC/ETH, USDT/ETH, or DAI/ETH.

The reason not to price them, for example, via a USD/ETH feed is that complexity and trust in the underlying system have not been so good in past times. That, combined with their type of usage, could introduce risks not easy to calculate if priced based on USD.

### Bridged assets

Factually an asset like DAI.e is a reserve-backed one, given that it is based on 1) reserves locked somewhere (in this case, a smart contract on Ethereum) 2) a security mechanism and procedure minting/burning (in this case, the Avalanche bridge mechanics) 3) some secondary market for the bridged asset itself (in this case, for example, AMMs on the Avalanche network).

Different from stablecoins on Ethereum, bridged assets are actually priced on the underlying. This is obviously inconsistent, but the reason is that, for the Aave ecosystem to expand to new networks, there was not really any other solution than pricing, for example, DAI.e as DAI, given that using exclusively DAI.e secondary market liquidity could be extremely dangerous for the protocol.

Even if this risk exists, it can be reduced by introducing extra components, like the [Chainlink Proof-of-Reserve integration we are working on](#).

## Path forward on WBTC (and others)

From the BGD technical side, we will try in the really short term to introduce as much consistency as possible with the current pricing policies of the ecosystem, obviously submitted to decisions of the community via governance. Also, we consider that applying Chainlink Proof-of-Reserve will really add better assurance on the different assets.

Regarding WBTC, we have no reason to think Aave v2 Ethereum should swap to price it based on a WBTC/ETH feed, but we also believe it can be discussed.

We hope this post initiates some discussion for if anything should be improved or changed, more on the strategic and risk layers.