Gild Lab.

Whitepaper 2

Making money with ETHg

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Contents

Whitepaper 2 - Making money with ETHg

Making money with ETHg

Speculation

Because ETHg is an ETH/XAU pair any speculative profits should be denominated in ETH or XAU.

Strategy: ETHg price is above XAU

If at any point ETHg:XAU spot price is greater than 1 an immediate profit can be taken.

For example, let ETHg be worth x XAU and ETH worth y XAU.

Gilding mints ETHg at the ETH:XAU spot price, so locking 1 ETH yields y ETHg.

- Gild 1 ETH for y ETHg
- Sell y ETHg for xy XAU
- Sell xy XAU for xy/y ETH

If x > 1 then the gilder now holds more ETH than they locked in order to gild.

Steps 2 and 3 look a lot like order routing on a DEX where intermediate tokens (in this case XAU) cancel out.

This means that any intermediate tokens between ETHg and ETH will allow this to work.

If ETHg:XAU spot price is greater than 1 then the ETHg contract will mint more than 1 ETH worth of ETHg for 1 ETH locked. The ETHg contract does NOT know the ETHg:XAU spot price, it ONLY knows the ETH:XAU spot price.

The ETHg supply should rapidly expand when the contract is minting profitably.

Strategy: ETH price will go up relative to ETHg

Broadly ETH has outperformed XAU over its history.

Given that ETHg can't substantially and sustainably outperform XAU over a long period, we'd expect ETH to also outperform ETHg over time (see above).

If a user expects that ETH will go up relative to ETHg they can do the following:

- Gild 1 ETH for x ETHg
- Sell x ETHg for y ETH
- Wait for y ETH to be worth more than x ETHg
- Buy x ETHg for less than y ETH
- Ungild 1 ETH

The user now holds more than 1 ETH. They effectively leveraged their ETH without liquidation risk.

The amount of additional ETH the user holds is whatever the price ratio between 2 and 4 is, multiplied by y ETH, which is itself the ratio of ETHg to XAU token.

For example, if ETH is worth 2 XAU and ETHg is worth 0.5 XAU then:

1 ETH => 2 ETHg => 1 XAU => 0.5 ETH From here there are two ways that ETH can appreciate relative to ETHg.

- ETH to XAU ratio can remain constant while ETHg to XAU ratio drops
- ETH to XAU ratio can increase while ETHg to XAU ratio remains constant
- Of course, in reality no price stays constant, both of these can move independently or even cancel each other out. What matters is the overall ETH to ETHg ratio, because ETHg MUST be purchased to ungild the original ETH.

Because of the vault system, no matter the current price of anything, 2 ETHg is always required for this example to ungild 1 ETH.

If the ETHg to XAU ratio drops to 0.4 and ETH is still worth 2 XAU then:

2 ETHg => 0.8 XAU => 0.4 ETH

This means we can ungild our original 1 ETH for 0.4 ETH while we're holding 0.5 ETH, a 0.1 ETH profit.

Similarly if the ETHg to XAU ratio remains 0.5 and ETH is worth 3 XAU then:

2 ETHg => 1 XAU => 0.333 ETH This means we can ungild our original 1 ETH for 0.333 ETH while we're holding 0.5 ETH, a 0.167 profit.

Strategy: ETH price will go down (temporarily) relative to ETHg

If you think this will happen then you can mint ETHg but DONT sell it immediately.

Instead you can just hold ETHg in your wallet.

If ETH price drops relative to ETHg you can then buy ETH

If the ETH price does NOT drop then you can ungild your original ETH and lose nothing relative to hodl.

For example, ETH price is 4 ETHg (e.g. ETH is 2 XAU @ 0.5 ETHg ratio)

1 ETH => 2 ETHg (gild)

If ETH price becomes 2 ETHg (e.g. ETH is 1 XAU @ 0.5 ETHg ratio)

Now you have 1 ETH in a vault and you can buy another 1 ETH with the ETHg. If the price recovers back to ETH at 4 ETHg then you can sell 0.5 ETH to ungild your original ETH and be holding 1.5 ETH total.

If the price never drops and ETH increases to 6 ETHg you can use your 4 ETHg to ungild your 1 ETH (which is now worth more).

If we compare this to trading at 2 and 6 ETHg prices rather than gilding.

1 ETH => 4 ETHg (sell high)

4 ETHg => 2 ETH (buy low)

Total 2 ETH profit

1 ETH => 4 ETHg (sell low)

4 ETHg => 2/3 ETH (buy high)

Total 1/3 ETH loss

So the gilding offers a lower risk and reward way to pre-empt market dumps, in that it has an “undo” button up until a sale is made. This protects against opportunity cost when the market in fact goes against you to the upside.

Also note that if the ETHg to XAU ratio stays steady during a drop then gilding when the ETH market is “high” has a similar effect to “stabling up”, because it can be sold in small amounts to pay for expenses in XAU terms, and then bought back later for a similar price to ungild, rather than trying to chase the ETH market, which rarely works out well.

This dynamic is why we should expect the ETHg price to be relatively unstable during an ETH crash. People who preempt the crash can premint a lot of ETHg then dump it for ETH when they believe the crash has hit a bottom, in anticipation of ungilding their original ETH for profit when the market recovers.

Strategy: ETHg is going up/down relative to XAU

Anyone who sees the ETHg to XAU ratio as “high” or “low” and is willing to hold assets on both sides of the pair can trade back and forward for a profit.

Many people range-trade assets and ETHg cannot be worth more than 1 XAU.

If the ETHg to XAU ratio becomes very low then either:

- ETHg to ETH is also low also which encourages ungilding (buying and burning)
- XAU is outperforming both ETHg and ETH
- In the former case the buybacks should bring the ratio higher. In the latter case, people may wish to sell their XAU for ETHg, or if XAU is sustained at a high price, employ the above strategies (which are ETH:ETHg price denominated).

If people are just really dumping ETH and the asset is dead, then ETHg is dead also. It’s hard to see how people would want to use ETHg the asset on the ethereum network, but also hate ETH the asset en masse.

The more people trade the ETHg/XAU range, the tighter the spread and more predictable the prices will be over time, and the more money that LPs will make, and the more people will feel comfortable holding ETHg as a stable-ish token.

Strategy: Buying and selling vaults

Every vault is itself an ERC1155 NFT.

We’ve barely discussed how the vaults themselves can be traded, but in theory they are all worth something.

After the ETHg has been sold off, there exists a vault that someone else with ETHg could use to unlock the ETH inside.

This potentially leads to nice secondary markets.

Maybe in the future we could have people opt in to listing their vaults on an order book, maybe even totally on chain, and then people could be gilding and ungilding each other's vaults if they hit a certain price, kind of like a limit order/threshold.

Strategy: Providing liquidity

As the ETHg/XAU pair is range bound it is relatively safe to provide liquidity for it on all standard AMMS with minimal IL.

This is incredibly rare, typically only stables can say this.

As long as there is volume then fees can believably offset IL, especially if the LP manages their own risk and enters/exits carefully. For AMMs that minimise IL such as bancor, balancer, platypus, curve, etc. there's even more reason to be optimistic.

As discussed above, the main thing to enable leverage is to get from ETHg into some XAU token that can then be traded elsewhere back to ETH.

One of the main reasons that XAU tokens aren't paired against each other is because they broadly see each other as competition and don't trust each other.

Individual ETHg:XAU token pairings don't have this problem. A single ETHg:XAU pairing on an AMM can go to shit due to a problem with that XAU token without impacting other pairings.

ETHg contracts & code

Website

https://bitter-queen-1482.on.fleek.co/#/

Github

https://github.com/thedavidmeister/ethgild

Audit

More information in the comments of ethgild.sol.

More documentation

More information in the comments of ethgild.sol.

Contract deployment

ETH mainnet contract: 0x10e79d0117865b48c825f7db7533ed619d68aac3 Deployed to ETH mainnet with tx: 0xd4b4c3e18dacbe34a836f112c0650f0870a6bc4f977cceb286cd94442ed643e9