

Explore Realised Extractable Value (REV) on the Flashbots Transparency Dashboard

Special thanks to @ryager @sui414 @taarushv

tldr:

- Explore post-merge REV (Realised Extractable Value) data on the Flashbots Transparency Dashboard.
- Flashbots invites the research and data communities to collaborate on illuminating REV.
- Pre-merge data from December 14, 2019 - September 15, 2022 is available here.

Flashbots mission is to enable a permissionless, transparent, and sustainable ecosystem for MEV. Today we are debuting post-merge REV (Realised Extractable Value) data on the Flashbots Transparency Dashboard. REV quantifies the actual value extracted from the blockchain from MEV opportunities. This release of REV data kickoffs a call to action to the MEV community to collaborate on building a clearer picture of the MEV ecosystem.

image2858x392 30.1 KB

REV - Realised Extractable Value

MEV is a theoretical metric representing the total value that can be extracted permissionlessly from the re-ordering, inclusion or censoring of transactions within a block being produced on a blockchain. MEV data is routinely mischaracterised as total MEV. That is why we like to think of MEV data in terms of REV.

- MEV: how much a block proposer can theoretically extract given a set of user transactions, initial state and contracts.
- REV: the actual value extracted from the blockchain from MEV opportunities.

Fragmentation of data sources and the sheer breadth of the MEV industry complicates painting a clear and accurate picture of MEV. Most MEV data only gives a glimpse of REV. Challenges to collecting MEV data:

1. CEX-DEX and other activities are not covered due to lack of available data. CEX data, particularly high frequency CEX data, is proprietary or expensive.
2. mev-inspect-py, which powered the MEV-Explore dashboard, only covers 9 protocols and only covers liquidation and arbitrage, but not other strategies such as sandwich.
3. Tracking token price movements to quantify MEV is fragmented due to oracle disparities which greatly undervalues MEV.

As diagramed in Chart 1 from my presentation from MEVconomics.wtf, only DEX-DEX (decentralised exchange to decentralised exchange) MEV data can be collected permissionlessly and CEX-DEX (centralised exchange to decentralised exchange) MEV data is typically locked behind institutional gatekeeping. This means the MEV research and data communities must either rely on paid services for access to data or incomplete pictures of the ecosystem.

image960x540 53.5 KB

Chart 1: MEV activities since the merge - Elaine Hu (MEVconomics.wtf)

To address the limitations of current data collection and in order to better estimate REV, we are announcing an update to our methodology. Instead of using mev-inspect-py to track the REV, we use the block proposer's balance difference before a block is proposed and after. This new methodology will power a new set of charts that will live on the Flashbots Transparency Dashboard.

Flashbots Transparency Dashboard

The Flashbots Transparency Dashboard is divided into two sections:

- Ecosystem REV Data
- Flashbots Relay Data

image2860x1080 284 KB

image2866x1368 401 KB

Post-merge data can be downloaded quarterly from Flashbots Data.

Illuminating the Dark Forest

While we are excited to unveil the updated Flashbots Transparency Dashboard and the Flashbots Data download, we are conscious of the work still to be done and the reality that we cannot do it alone. Quantifying REV and providing a clearer and more accurate picture of the MEV ecosystem is critical to our collective mission:

- Illuminate: bringing transparency to MEV.

- Democratise: democratising access to MEV.
- Distribute: enabling sustainable distribution of MEV.

Piecing together data from across the ecosystem and building and collaborating on new methodologies will help us achieve this important mission. As the MEV ecosystem becomes more sophisticated with protocols such as MEV-Share that have brought to life the concepts of programmable privacy and MEV redistribution, REV data will play an increasingly important role for optimising these solutions for users, wallets, dapps, searchers, builders, and validators.

We look forward to continuing our mission to illuminate the dark forest and to provide transparency on our products and the broader MEV ecosystem, as well as providing contributors and collaborators the data they need for research. If you are interested in collaborating or have ideas about new methodologies or structures, please join the public discussion on the Flashbots Forum [here](#).

Thank you to the Flashbots community and all of our data partners as we continue to illuminate, democratise, and distribute MEV!

image1872×1052 90.7 KB