

# bittrex: An R client for the Bittrex Crypto-Currency Exchange

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## Software

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## Summary

Package `bittrex` (Kane 2017) is a RESTful R (R Core Team 2017) client for the Bittrex crypto-currency exchange (“Bittrex Crypto-Currency Exchange” 2017). The package provides functions for all endpoints supported by the exchange including the ability to retrieve price, volume, and order book information as well as the ability to trade crypto-currencies.

Calls to the exchange are categorized as either public, which includes requests for price, volume, and order book information, and private, which includes all requests requiring an account including placing buy or sell orders. Public calls can be used directly by installing the package. Private calls require that you create an account and create an API and secret key with appropriate permissions.

Private calls retrieve the API and secret key using the `BITTREX_API_KEY` and `BITTREX_SECRET_KEY` environment variables. These may be set by the user before opening the R session or, they can be set using the `'bittrex_authenticate'` function.

While this package can be used to trade currencies, its primary goal is to allow finance and economics researchers to gather exchange data, including transaction prices, orderbooks, and volumes for individual crypto-currencies. A few research avenues currently being explored include: - Comparisons between semi-regulated markets (`bittrex`) to traditional, regulated markets. - Microfinancing for start-ups using initial coin offerings. - Quantifying the value of non-traditional products and services. - Systemic risk of multiple crypto-currencies on the same block chain. - Crypto-coins as a proxy for sports betting where sports betting is illegal.

## References

- “Bittrex Crypto-Currency Exchange.” 2017. Accessed June 2. <https://bittrex.com/>.
- Kane, Michael J. 2017. “Bittrex: An R Client for the Bittrex Crypto-Currency Exchange.” <https://github.com/kanepiusplus/bittrex>.
- R Core Team. 2017. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.