

# NYSE Daily TAQ to CRSP Link

*Version 1.1, February 2022*

## ***Executive Summary:***

Following the [Monthly TAQ to CRSP link \(1993-2014\)](#), WRDS links Daily TAQ (2003-present) headers and CRSP headers for users subscribing to both Daily TAQ and CRSP. The Daily TAQ to CRSP link matches securities based on symbol roots in Daily TAQ and ticker in CRSP, along with the symbol suffixes and share classes. This linking map is helpful to connect the WRDS [\(Millisecond\) Intraday Indicator Dataset \(IID\)](#) to CRSP and adds value to empirical market microstructure and empirical asset pricing research.

## ***Matching Algorithm:***

We match Daily TAQ with CRSP based on symbol root – to – ticker pairs and symbol suffix – to – share class pairs. Name-based matching is no longer used as symbol-based matching delivers reliable matched pairs. The link file populates the (trading) days when both CRSP and Daily TAQ has non-missing observations and the symbol-based match indicates a reliable matched pair. Please note that Daily TAQ and CRSP are distinct in coverage. CRSP does not include certain classes such as preferred stocks, rights and warrants, etc.<sup>1</sup> On the other side, TAQ includes warrants, certificates, preferred stocks and more.<sup>2</sup> CRSP covers stocks listed on five major exchanges – NYSE, NYSE ARCA, NYSE American, Nasdaq, and Bats. Daily TAQ covers 13 major US exchanges, including the five exchanges covered by CRSP. As CRSP is smaller in terms of coverage, we constrain the matched output to common stock class A, class B, and class C shares.

## ***Matching levels:***

**Level 1:** CRSP ticker is matched with Daily TAQ Symbol Root; and CRSP share class is matched with Daily TAQ Symbol Suffix.

**Level 2:** For the ones that cannot be matched using level 1 criteria, match CRSP ticker with Daily TAQ symbol root. (this tier is less reliable as symbol suffix may be different from CRSP share class values.)

**Level 3: [2010 to present]** CUSIP-based matching. To improve matching quality and ensure unique matches at share class level, we use the CUSIP information from the Daily TAQ master files. However, the TAQ master files is only available after 2010. WRDS is working with NYSE to obtain the vintage TAQ master files (2003-2010). Once we have those, we will release a version 2.0 of the matching that incorporates the CUSIP level matching into the linking. Note

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<sup>1</sup> For the complete list of securities covered by CRSP, please check here:  
<http://www.crsp.uchicago.edu/products/documentation/stock-data-universe>

<sup>2</sup> For the list of symbol suffixes covered by Daily TAQ, please check here:  
<http://www.nasdaqtrader.com/content/technicalsupport/specifications/dataproducts/nasdaqfifthcharactersuffixlist.pdf>

that level 3 is not in the linking and has a separate file on wrds-cloud<sup>3</sup> at: /wrds/wrdsapps/sasdata/linking/taqmclink/taqmclink\_cusip\_2010.sas7bdat. When using the CUSIP linking file, please note that “date1” is when the first time TAQ reports the CUSIP in the master file. “Date2” is the last time TAQ master file has a record of the CUSIP. The CUSIP-level linking is accurate for the sample period between “date1” and “date2”.

**Stock Headers in the Link File:**

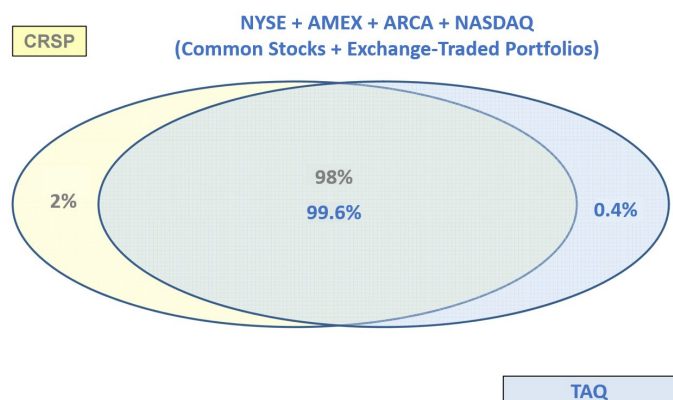
**CRSP:** PERMNO, CUSIP Header, CUSIP, Ticker, Share Class

**Daily TAQ:** Symbol Root, Symbol Suffix

**Matching Effectiveness:**

- Testing universe: CRSP  $\cap$  Daily TAQ
- Testing exchanges: NYSE, NYSE American, NYSE ARCA, and Nasdaq<sup>4</sup>
- Security universe: common stocks and ETFs<sup>5</sup>
- Data coverage: 09/10/2003 to 12/31/2021
- Stock identifiers in the sample: 13,107 unique PERMNOs
- Matched results: 12,871 of the 13,107 PERMNOs in CRSP are matched to 13,622 unique symbol root symbol suffix pairs in Daily TAQ. The match rate is 98.2% of CRSP universe. The unmatched 1.8% CRSP stocks are Nasdaq OTC tickers (not covered in TAQ).
- Note that ticker-level matching may contain few duplicates, especially for multi-share class stocks with inconsistent share class information. You can use CUSIP-based matching (level 3) to clean the duplicates.

**Graphic View of Matching Effectiveness:**



<sup>3</sup> You can refer to the support here regarding how to access wrds-cloud via SSH: <https://wrds-www.wharton.upenn.edu/pages/support/the-wrds-cloud/using-ssh-connect-wrds-cloud/>

<sup>4</sup> CRSP primary listing exchange (PRIMEXCH) in ('N','A','Q','R');

<sup>5</sup> CRSP Share class (SHRCD) in ('10','11', '73').

***Access and Updates:***

The Daily TAQ – to – CRSP link file can only be access via [web query](#).

The link file utilizes SAS indexes on symbol roots for fast access.

The link file will be updated at annual frequency with a minimum 2-month lag<sup>6</sup>, depending on (i) the version of CRSP your school has subscribed to (ii) if your school has subscribed to the most recent year of NYSE Daily TAQ.

***Support:***

If you have questions about the Daily TAQ to CRSP link, please contact WRDS research team at [jun5@wharton.upenn.edu](mailto:jun5@wharton.upenn.edu) or submit a support ticket on the WRDS website.

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<sup>6</sup> CRSP Monthly is updated with a 2-3 months lag. For example, CRSP Monthly updated 2019 December data in 2020 February.