## **IBES CRSP Linking Table by WRDS**

IBES CRSP linking table provides the historical matching of IBES TICKER with CRSP PERMNO.

## **Linking Procedures**

IBES ID files (usfirm = 1) and CRSP DSENAMES are used for linking. The historical linking (using relevant dates) was established within the IBES universe and these are the different scores used (the lower, the better):

Table 1. Score

1	8-digit historical CUSIP matching. IBES CUSIPs and the CRSP NCUSIP
2	Historical ticker matching plus 6-digit CUSIPs and similar company names (spedis <sup>1</sup> < 30)
3	Historical ticker matching plus 6-digit CUSIPs and company names are different (spedis≥30)
4	Historical ticker matching and similar company name (spedis < 30) but 6-digit CUSIPs are different
5	Historical ticker matching but 6-digit CUSIPs and company names are different
6	No matching or multiple PERMNOs match with single IBES TICKER or multiple IBES TICKERs match with single PERMNO that cannot be solved.

<sup>1.</sup> A SAS<sup>©</sup> function which determines the likelihood of two words matching, expressed as the asymmetric spelling distance between the two words.

For the same group (ticker, permno, ncusip), minimum score is used if links are established by different procedures.

## **Data Items**

**TICKER** A unique IBES identifier assigned to each security that is consistent throughout IBES History

**PERMNO** A unique permanent security identification number assigned by CRSP to each security

**NCUSIP**\_The 8 character historical CUSIP identifier for a security (from CRSP)

**SDATE** Effective start time of link

**EDATE** Effective end time of link. It is either NAMEENDT (taken from CRSP DSENAMES file) or last available dates in IBES for that particular IBES TICKER, whichever is earlier. Missing means the latest date is up to date.

**SCORE** See definition in table 1.

## **Notes**

Both PERMNO and IBES TICKER are security identifiers. For the same time period, the relationship is one-to-one. When one-to-many relationship appears during the linking process, we used the following strategies to keep the most likely one:

If one PERMNO maps to multiple IBES TICKER or one IBES TICKER maps to multiple PERMNOs, we keep the one link that has the minimum score for the group (PERMNO, SDATE, EDATE) or (TICKER, SDATE, EDATE). For those ones with the same score, we select the one with similar company name and trading ticker symbol. If the above criterions fail, we assign score 6 to those cases.

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