



# DATA DESCRIPTIONS GUIDE

## CRSP US STOCK & US INDEX DATABASES

**CRSP**® | CENTER FOR RESEARCH  
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An Affiliate of the University of Chicago Booth School of Business

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# CHAPTER 1: BACKGROUND

## CRSP CALENDARS

A CRSP calendar is a set of time periods with header information about those time periods. The calendar time periods are chosen as points of interest rather than all calendar days, and therefore a daily calendar contains only the dates where trading was conducted on a major US exchange. Data are never provided on weekends or trading holidays. The standard identification of a time period is the date, an integer in YYYYMMDD format, at the end of the period.

There are currently five calendars provided with CRSPAccess databases: daily, monthly, weekly, quarterly, and annual. The daily calendar is used to derive the others so that the last trading date in each month, week, quarter, or year is used to build those respective calendars.

Time series data are always associated with one of these calendars. The list of time series observations is synchronized with a calendar so that the *n*th time series observation is associated with the *n*th calendar period.

A Calendar Name and an integer Calendar Identification Number identify each calendar. The calendars supported in CRSPAccess databases are:

| Calendar  | ID  | Name                       | Beginning Date |
|-----------|-----|----------------------------|----------------|
| Daily     | 100 | Daily Trading Calendar     | 19251231       |
| Monthly   | 101 | Month-end Trading Calendar | 19251231       |
| Annual    | 300 | Annual Trading Calendar    | 19251231       |
| Quarterly | 310 | Quarterly Trading Calendar | 19251231       |
| Weekly    | 500 | Weekly Trading Calendar    | 19260102       |

## STOCK DATA UNIVERSE

CRSP stock data includes data from NYSE, NYSE MKT, NASDAQ, Arca and Bats stock exchanges.

**The following items are included in our stock databases:**

- Common Stocks
- Certificates
- ADRs

- Shares of Beneficial Interest
- Units (Depository Units, Units of Beneficial Interest, Units of Limited Partnership Interest, Depository Receipts, etc.)
- ETFs
- Closed-End Mutual Funds
- Foreigns on NYSE, NYSE MKT, NASDAQ, Arca and Bats
- Americus Trust Components (Primes and Scores)
- HOLDRS Trusts
- REITs (Real Estate Investment Trusts)

**CRSP stock databases exclude:**

- Rights and Warrants
- Preferreds
- Units Representing Common Stocks Bundled with Rights or Warrants
- Over the Counter Bulletin Board Issues
- When Issued Trading

## DEVELOPMENT OF THE CRSP STOCK FILES

| CRSP STOCK FILE DATA DATES BY EXCHANGE |                                    |                                  |
|--|------------------------------------|----------------------------------|
| EXCHANGE                               | MONTHLY STOCK FILES BEGINNING DATE | DAILY STOCK FILES BEGINNING DATE |
| NYSE                                   | 12/31/1925                         | 12/31/1925                       |
| NYSE MKT                               | 07/31/1962                         | 07/02/1962                       |
| NASDAQ                                 | 12/29/1972                         | 12/14/1972                       |
| Arca                                   | 03/31/2006                         | 03/08/2006                       |
| Bats                                   | 01/31/2012                         | 01/24/2012                       |

The CRSP Data Files were developed by the Center for Research in Security Prices (CRSP), Booth School of Business, University of Chicago. Lawrence Fisher and James Lorie, during their tenure at the University of Chicago, built the CRSP stock file and originated its basic design and content.

The original CRSP stock file contained month-end prices and returns from the New York Stock Exchange (NYSE) dating from December, 1925. Daily and monthly American Stock Exchange (NYSE MKT) data and Daily NYSE data beginning in July, 1962, were respectively combined into monthly and daily NYSE/NYSE MKT files providing

price and return information on NYSE/NYSE MKT common stock securities. CRSP's data coverage expanded in 1987 to include NASDAQ daily and monthly stock data, with information for domestic common stocks and ADRs traded on the NASDAQ Stock Market beginning December 14, 1972.

In 2005, CRSP completed the compilation and merging of daily data between 1925 and 1962 for securities that traded on NYSE in that period, resulting in seamless daily and monthly data for securities trading on NYSE between as early as December 1925.

Arca daily and monthly data were added in July 2007 for securities with primary listings on that exchange. Arca coverage begins on March 8, 2006.

On October 1, 2008, NYSE Euronext completed its acquisition of the American Stock Exchange LLC.

The Bats exchange was added with data beginning January 24, 2012.

### NASDAQ MARKETS

The NASDAQ Stock Market<sup>SM</sup> consists of three subsets of securities, the NASDAQ Global Market, Global Select Market, and the NASDAQ Capital Market. The Securities are tiered based on criteria setting minimum levels for: annual income, numbers of publicly traded shares, market capitalization, share price, and number of market makers. A security may move between tiers as its status changes.

Prior to July 2006, the Global and Global Select Markets were combined in a single tier called the NASDAQ National Market. The NASDAQ Capital Market was called the NASDAQ SmallCap Market. The NASDAQ National Market was initiated in April 1982 for larger and generally more actively traded NASDAQ securities. The NASDAQ National Market Securities had to meet higher financial and non-financial criteria than other NASDAQ stocks, and were subject to last-sale reporting. In June of 1992 the regular NASDAQ segment of The NASDAQ Stock Market was renamed The NASDAQ SmallCap Market and for the first time these became subject to real-time price and volume reporting.

The CRSP Access NASDAQ security data include

closing bid, closing ask, and the number of trades, formerly included in the CRSP Supplemental NASDAQ Data File. The latter data items have been reported for issues listed on The NASDAQ National Market since November 1, 1982. Issues listed on The NASDAQ SmallCap Market have had these data reported since June 15, 1992.

For a more detailed description of how to identify The NASDAQ Market Tiers, see the NASDAQ National Market Indicator definition in the NASDAQ information history array described in the data definitions section.

### DATA ACCURACY OF THE CRSP STOCK DATA

CRSP stock files are designed for research and educational use and have proven to be highly accurate. Considerable resources are expended in ongoing efforts to check and improve data quality both historically and in the current update. Data corrections to historical information are made as errors are identified and are detailed in the Release Notes that accompany each data cut.

Historical corrections to security data may result in changes to historical CRSP index returns and levels. In any given year, the calendar year-end stock database may ship as the standard "Z-Cut", as well as a second "X-Cut" if there have been substantial or significant corrections applied at year end. Both data cuts reflect corrections, however, the "Z-Cut" contains routine minor monthly corrections while the "X-Cut's" year-end data edits typically required more extensive research efforts and may hold a greater potential to impact the CRSP indexes.

### DATA SOURCES

#### ORIGINAL CRSP MONTHLY DATABASE

- December 1925-January 1928: Commercial and Financial Chronicle, "Bank and Quotation Section"
- February 1928-December 1960: Bank and Quotation Record, an expansion of the Bank and Quotation Section.

The collection and initial correction of cash dividends

in the original CRSP Monthly Database was performed as follows:

- 1937-1960: annual issues of Moody's, Standard and Poor's Dividend Records, or the annual section of the Standard Corporation Records were used, depending on which was in the University of Chicago Library
- 1926-1936: Moody's Quarterly Dividend Record

Since the only known complete file of this last publication was in Moody's New York offices, the data from the earlier period were recorded in the Moody's offices by trainees working for the research division of Merrill Lynch, Pierce, Fenner & Smith Inc.

### PRE62 DATABASE

The primary source for the Pre62 daily data was The New York Times newspaper. In cases where the stock information was either missing from The New York Times or the available data were questionable, The Wall Street Journal Newspaper served as CRSP's secondary data source. For the years prior to 1933, CRSP compared distribution data from The New York Times and The Wall Street Journal with that in the original database. CRSP determined that The New York Times and The Wall Street Journal ex-date data were more complete and accurate than the original data. Based on these findings, CRSP made the decision to rely on The New York Times as the primary data source for distribution ex-date data from 1925 through 1933.

### CRSP US STOCK & INDEX DATABASE

#### NYSE and NYSE MKT

- July 1962-September 1, 1972: daily price and dividend data provided by Standard & Poor's Price Tape and Punched Card Dividend Service
- July 1962-March 1987: High, low, and volume data provided by Interactive Data Services, Inc. (IDSI), a subsidiary of Interactive Data Corporation (IDC)
- September 1972-April 1987: Interactive Data Corporation (IDC)

The Standard & Poor's Price Tape and Punched Card Dividend Service was acquired by IDC.

- April 1987-September 1999: Interactive Data Services, Inc. (IDSI)
- 1999-present: Interactive Data Corporation

#### Arca

- March 2006-present: Interactive Data Corporation (IDC)

Coverage of companies with primary listings on Arca who have traded since 3/8/2006.

#### NASDAQ

- December 12, 1972-August 31, 1984: Interactive Data Corporation (IDC)
- November 1, 1982-present (with the exception of February 1986): National Association of Securities Dealers (NASD)
- November 1, 1982-August 31, 1984: Interactive Data Corporation (IDC) was used as a secondary source to NASD
- February 1986: Interactive Data Services, Inc. (IDSI)
- March 2004-present: Interactive Data Corporation used as secondary source

#### SIC Codes

Mergent was the primary source for SIC Code for NYSE, NYSE MKT & Arca securities from 20010824 through 2009. IDC has always been a continuous alternate source of SIC codes, so no holes in coverage were introduced by the elimination of the Mergent data. The differences in codes resulting from our change in source did not impact the CRSP Indexes.

#### NAICS Codes

In the December 2009 Stock Database, CRSP removed NAICS codes provided by our source, Mergent, and replaced them with NAICS codes from Interactive Data Corporation. Mergent was CRSP's only source for NAICS beginning 20010824. The IDC NAICS codes begin 20040610.

## CHAPTER 2: DATA DEFINITIONS

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## CHAPTER 2: DATA DEFINITIONS

A.

### ACQUIRING PERMCO

Acquiring PERMCO is the PERMCO of another company linked to a distribution. If the Acquiring PERMNO is nonzero and represents an associated security, Acquiring PERMCO is set to the PERMCO of that security. If Acquiring PERMNO is less than 1000, then Acquiring PERMCO can still be set. In this case, it represents a link to a company tracked by CRSP rather than a specific issue. For example, if a company pays cash to shareholders in a merger, then the Acquiring PERMCO is set to the PERMCO of that company.

Acquiring PERMCO is zero if not applicable, unknown, or associated with a company not tracked by CRSP. Data in this field is incomplete prior to 1985.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Distribution Event Array |
| Data Type                               | integer number           |
| Unit of Item                            | ld                       |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | STK                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| stk_print Option(s)                     | /di                      |
| C USAGE                                 |                          |
| Object                                  | dists_arr                |
| Array                                   | dists[ ]                 |
| Element                                 | accomp                   |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | dists_arr                |
| Member and/or Array                     | dists()                  |
| Element                                 | accomp                   |

### ACQUIRING PERMNO

Acquiring PERMNO is the PERMNO of another security linked to a distribution where a stock was received in a spin-off, exchange, merger, or other distribution event. It can also link to a security that was acquired in a merger causing a shares increase.

Acquiring PERMNO is set to a number less than 1000 if inapplicable or unknown. If multiple distributions exist with the same Distribution Code and Ex-Distribution Date, they are numbered in the Acquiring PERMNO field. Data in this field are incomplete prior to 1985. Acquiring PERMNO may point to four-digit securities. Data for these securities are not included in the databases. Acquiring PERMNO values between 1 and 9 do not represent securities. These values as used to distinguish multiple distribution records with the same Distribution Code on the same Ex-Distribution Date.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Distribution Event Array |
| Data Type                               | integer number           |
| Unit of Item                            | ld                       |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | STK                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| stk_print Option(s)                     | /di                      |
| C USAGE                                 |                          |
| Object                                  | dists_arr                |
| Array                                   | dists[ ]                 |
| Element                                 | acperm                   |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | dists_arr                |
| Member and/or Array                     | dists()                  |
| Element                                 | acperm                   |

## AMOUNT AFTER DELISTING

Amount After Delisting is the value of a security after it delists from an exchange. The amount can be either an off-exchange price, an off-exchange price quote, or the sum of a series of distribution payments. The Amount After Delisting is used to calculate the Delisting Return. This amount is set to zero if the security is still active, if no price or payment information is available, or if the stock is worthless.

**Monthly:** If no value after the Delisting Date exists, but daily prices exist after the previous month's last trading date, then the Amount After Delisting is set to the last daily trading value found in the Price or Bid/Ask Average. This price is a daily price for activity that occurred during the delisting month.

| GENERAL INFORMATION                     |                         |
|---|-------------------------|
| Primary Concepts                        | Delisting History Array |
| Data Type                               | real number             |
| Unit of Item                            | USD                     |
| DATE RANGE AVAILABILITY                 |                         |
| Daily                                   | 1925                    |
| Monthly                                 | 1925                    |
| DATABASE AVAILABILITY AND UTILITY USAGE |                         |
| Database Formats                        | CRSPAccess              |
| Product Types                           | STK                     |
| ts_print Daily Usage                    | n/a                     |
| ts_print Monthly Usage                  | n/a                     |
| stk_print Option(s)                     | /de                     |
| C USAGE                                 |                         |
| Object                                  | delist_arr              |
| Array                                   | delist[ ]               |
| Element                                 | dlamt                   |
| FORTRAN-95 USAGE                        |                         |
| Type or Subtype                         | delist_arr              |
| Member and/or Array                     | delist()                |
| Element                                 | dlamt                   |

## ARRAY STRUCTURE SIZE

Array Structure Size is the number of bytes needed in each structure element for this array type in a CRSPAccess object structure.

| GENERAL INFORMATION |   |
|---------------------|---|
| Primary Concepts    | Base CRSPAccess Data Structures, Time Series Objects, Event Array Objects, Header Objects |

| Data Type                               | integer number      |
|---|---------------------|
| Unit of Item                            | Set (no. of bytes)  |
| DATE RANGE AVAILABILITY                 |                     |
| Daily                                   | -                   |
| Monthly                                 | -                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |                     |
| Database Formats                        | CRSPAccess          |
| Product Types                           | STK, IND            |
| ts_print Daily Usage                    | n/a                 |
| ts_print Monthly Usage                  | n/a                 |
| stk_print or ind_print Option(s)        | n/a                 |
| C USAGE                                 |                     |
| Object                                  | CRSP_*              |
| Array                                   | n/a                 |
| Element                                 | size_of_array_width |
| FORTRAN-95 USAGE                        |                     |
| Type or Subtype                         |                     |
| Member and/or Array                     |                     |
| Element                                 |                     |

## ARRAY TYPE CODE

Array Type Code is an integer code which defines the type of data in a CRSPAccess object structure array. It can define a basic data type or a CRSP-defined structure.

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Base CRSPAccess Data Structures, Time Series Objects, Event Array Objects, Header Objects |
| Data Type                               | integer number  |
| Unit of Item                            | Code  |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   | -   |
| Monthly                                 | -   |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK, IND  |
| ts_print Daily Usage                    | n/a   |
| ts_print Monthly Usage                  | n/a   |
| stk_print or ind_print Option(s)        | n/a   |
| C USAGE                                 |   |
| Object                                  | CRSP_*  |
| Array                                   | n/a   |
| Element                                 | arrtype   |
| FORTRAN-95 USAGE                        |   |
| Type or Subtype                         | crsp_ts or crsp_array   |
| Member and/or Array                     | n/a   |
| Element                                 | arrtype   |

## ASK ADJUSTED, END OF PERIOD

**Category:** Prices

**Data Type:** Floating Point

**Description:**

- Daily – Closing ask on the trading date being accessed, adjusted for distributions.
- Monthly – Closing ask on the last trading date of the month of the period being accessed, adjusted for distributions.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAAccess |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | adjask      |
| Monthly ITEMID                          | madjask     |
| Header                                  | Adjask      |
| SUBNO                                   | 0           |

## ASK ADJUSTED, LAST AVAILABLE NONMISSING

**Category:** Prices

**Data Type:** Floating Point

- **Description:** Daily – Last available non-missing closing ask as of the trading date being accessed, adjusted for distributions.
- Monthly – Last available non-missing month-end closing ask as of the trading date being accessed, adjusted for distributions.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAAccess |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | adjask      |
| Monthly ITEMID                          | madjask     |
| Header                                  | Adjaskprev  |
| SUBNO                                   | 1           |

## ASK, END OF PERIOD

**Category:** Prices

**Data Type:** Floating Point

**Description:**

- Daily – Closing ask on the trading date being accessed.
- Monthly – Closing ask on the last trading date of the month of the period being accessed.

**Extended Information**

Ask is available both daily and monthly for all securities on the NYSE, NYSE MKT, NASDAQ, and Arca. Ask prices for NASDAQ are handled a little differently than for NYSE/NYSE MKT and outlined as follows:

### NASDAQ

Ask is available for issues trading on the NASDAQ Stock Market during time periods when Ask or High Price can contain the high price.

Since July 1980, NASDAQ has used the inside quotation as the closing bid and ask, with the close being at 4:00PM Eastern time. The inside quotation is the highest bid and lowest ask for each trade date.

Ask is reported for all NASDAQ National Market securities since November 1, 1982 and for all NASDAQ securities since June 15, 1992, with the following exceptions due to source limitations:

- Ask is missing for 15 NASDAQ National Market securities in December 1982.
- Ask is missing for all NASDAQ National Market securities in February 1986.

### NYSE/ NYSE MKT

The ask for NYSE and NYSE MKT securities is not the inside quotation, but the ask price from the last representative quote before the markets close for each trading date. Due to source limitations, only an unrepresentative quote was available on many days. This unrepresentative quote showed very large spreads, frequently a bid of a penny and an ask of approximately double the price. These were usually posted by a market maker not on the primary listed exchange, who was required to post a quote but not interested in making a trade. From 1992 on, Bid and

Ask were set to 0 when CRSP determined that the available quote was unrepresentative of trading activity, pending further research.

Ask data for NYSE are available from December 31, 1925 through the most currently completed month for securities when no closing price is available. Between December 31, 1925 and February 23, 1942, a continuous series of ask data are available whether or not a closing price is available. Between February 24, 1942 and December 27, 1992, ask is available only in cases when a closing price is missing. Beginning December 28, 1992, a continuous series of ask data are available.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ask        |
| Monthly ITEMID                          | mask       |
| Header                                  | Ask        |
| SUBNO                                   | 0          |

### ASK, LAST AVAILABLE NONMISSING

**Category:** Prices

**Data Type:** Floating Point

**Description:**

- Daily – Last available non-missing closing ask as of the trading date being accessed.
- Monthly – Last available non-missing month-end closing ask as of the trading date being accessed.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ask        |
| Monthly ITEMID                          | mask       |
| Header                                  | Askprev    |
| SUBNO                                   | 1          |

### ASKHI ADJUSTED, MAXIMUM IN PERIOD

**Category:** Prices

**Data Type:** Floating Point

- **Description: Daily** – Highest trading price during the day, or the closing ask if trading price not available, adjusted for distributions. Ask identified by a leading dash -.
- **Monthly** – Highest trading price during the month, or the highest bid-ask spread if trading price not available, adjusted for distributions. Bid-ask spreads identified by preceding dash -.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | adjaskhi   |
| Monthly ITEMID                          | madjaskhi  |
| Header                                  | Adjaskhi   |
| SUBNO                                   | 0          |

### ASKHI, MAXIMUM IN PERIOD

**Category:** Prices

**Data Type:** Floating Point

- **Description: Daily** – Highest trading price during the day, or the closing ask if trading price not available. Ask identified by a leading dash -.
- **Monthly** – Highest trading price during the month, or the highest bid-ask spread if trading price not available. Bid-ask spreads identified by preceding dash -.

#### Extended Information

**Daily:** Ask or High Price is the highest trading price during the day, or the closing ask price on days when the closing price is not available. The field is set to zero if no Ask or High Price is available. If the Price or Bid/Ask Average is negative, this field contains the closing ask. If positive, this field contains the highest trade.

Daily trading prices for the NASDAQ National Market securities were first reported November 1, 1982. Daily trading prices for The NASDAQ SmallCap Market were first reported June 15, 1992. Therefore, Ask or High Price for NASDAQ securities is always an ask before these dates.

Monthly: Monthly files contain the lowest daily Price or Bid/Ask Average during the month. The field is set to zero when no Price or Bid/Ask Average was available during the month a value is found for incomplete months. If Price or Bid/Ask Average contains any bid/ask averages, these will be marked with a negative symbol. The absolute value of Price or Bid/Ask Average is used to select the lowest, but the sign is preserved if a bid/ask average is selected.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | askhi      |
| Monthly ITEMID                          | maskhi     |
| Header                                  | Askhi      |
| SUBNO                                   | 0          |

## ASSOCIATED INDEX RETURNS

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Total returns of an index that a user selects to be associated with a security or group of securities.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | indtret    |
| Monthly ITEMID                          | mindtret   |
| Header                                  | Indtret    |
| SUBNO                                   | INDNO      |

## ASSOCIATED INDEX RETURNS, CUMULATIVE

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Compounded total returns of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | cumindtret  |
| Monthly ITEMID                          | mcumindtret |
| Header                                  | Cumindtret  |
| SUBNO                                   | INDNO       |

## ASSOCIATED INDEX RETURNS ON INCOME

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Returns on income only of an index that a user selects to be associated with a security or group of securities.

| DATE RANGE AVAILABILITY                 |               |
|---|---------------|
| Daily                                   | Monthly       |
| 1925                                    | 1925          |
| DATABASE AVAILABILITY AND PRODUCT TYPES |               |
| Database Formats                        | Product Types |
| CRSPAccess                              | STK           |
| TS_PRINT/TSQUERY USAGE                  |               |
| Daily ITEMID                            | indiret       |
| Monthly ITEMID                          | mindiret      |
| Header                                  | Indiret       |
| SUBNO                                   | INDNO         |



## ASSOCIATED INDEX RETURNS ON INCOME, CUMULATIVE

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Compounded return, on income only, of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | cumindiret  |
| Monthly ITEMID                          | mcumindiret |
| Header                                  | Cumindiret  |
| SUBNO                                   | INDNO       |

## ASSOCIATED INDEX RETURNS WITHOUT DIVIDENDS

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Compounded price appreciation only, of an index that a user selects to be associated with a security or group of securities.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | indaret    |
| Monthly ITEMID                          | mindaret   |
| Header                                  | Indaret    |
| SUBNO                                   | INDNO      |

## ASSOCIATED INDEX RETURNS WITHOUT DIVIDENDS, CUMULATIVE

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Compounded price appreciation only, of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | cumindaret  |
| Monthly ITEMID                          | mcumindaret |
| Header                                  | Cumindaret  |
| SUBNO                                   | INDNO       |

## ASSOCIATED PORTFOLIOS RETURNS

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Total returns of a portfolio that a user selects to be associated with a security or group of securities.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | porttret   |
| Monthly ITEMID                          | mporttret  |
| Header                                  | Porttret   |
| SUBNO                                   | PORTID     |



## ASSOCIATED PORTFOLIOS RETURNS ON INCOME

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Returns on income only of a portfolio that a user selects to be associated with a security or group of securities.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | portiret   |
| Monthly ITEMID                          | mportiret  |
| Header                                  | Portiret   |
| SUBNO                                   | PORTID     |

## ASSOCIATED PORTFOLIOS RETURNS WITHOUT DIVIDENDS

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Price appreciation only, of a portfolio a user selects to be associated with a security or group of securities.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | portaret   |
| Monthly ITEMID                          | mportaret  |
| Header                                  | Portaret   |
| SUBNO                                   | PORTID     |

**B.**

## BEGIN OF GROUP DATA

Begin of Group Data is the first date the group data is valid in YYYYMMDD format.

| GENERAL INFORMATION |            |
|---------------------|------------|
| Primary Concepts    | Group Data |

| Data Type                               | integer number                 |
|---|--------------------------------|
| Unit of Item                            | YYYYMMDD date                  |
| DATE RANGE AVAILABILITY                 |                                |
| Daily                                   | 1925                           |
| Monthly                                 | 1925                           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                |
| Database Formats                        | CRSPAccess                     |
| Product Types                           | STK                            |
| ts_print Daily Usage                    | n/a                            |
| ts_print Monthly Usage                  | n/a                            |
| stk_print Option(s)                     | /g#, # is grouptype            |
| C USAGE                                 |                                |
| Object                                  | group_arr[i], i+1 is grouptype |
| Array                                   | group[i,]                      |
| Element                                 | grpdt                          |
| FORTRAN-95 USAGE                        |                                |
| Type or Subtype                         | group_arr(i) i is grouptype    |
| Member and/or Array                     | group()                        |
| Element                                 | grpdt                          |

## BEGIN OF STOCK DATA

Begin of Stock Data is the date that data begins for the security, in YYYYMMDD format. It is the date of the first period in the time series arrays and is always greater than zero.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | integer number                         |
| Unit of Item                            | YYYYMMDD date                          |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925                                   |
| Monthly                                 | 1925                                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| stk_print Option(s)                     | /hh , /hr , /hrl , /hn                 |
| C USAGE                                 |  |
| Object                                  | header_row                             |
| Array                                   | header                                 |
| Element                                 | begdt                                  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | stkhdr                                 |
| Member and/or Array                     | n/a                                    |
| Element                                 | begdt                                  |

## BEGIN OF VALID DATA

Begin of Valid Data is the index of the first calendar period with valid data in a time series. If no data of this type are available, it is set to zero. The Calendar Trading Date at this index is the date of the first calendar period with data of this type.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Base CRSPAccess Data Structures, Time Series Objects |
| Data Type                               | integer number                                       |
| Unit of Item                            | Array index  |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925   |
| Monthly                                 | 1925   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess   |
| Product Types                           | STK, IND   |
| ts_print Daily Usage                    | n/a  |
| ts_print Monthly Usage                  | n/a  |
| stk_print or ind_print Option(s)        | n/a  |
| C USAGE                                 |  |
| Object                                  | CRSP_TIMESERIES                                      |
| Array                                   | n/a  |
| Element                                 | beg  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | crsp_ts  |
| Member and/or Array                     | n/a  |
| Element                                 | beg  |

## BID ADJUSTED, END OF PERIOD

Category: Prices

Data Type: Floating Point

Description: Daily – Closing bid on the trading date being accessed, adjusted for distributions.

Monthly – Closing bid on the last trading date of the month of the period being accessed, adjusted for distributions.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | adjbid     |

|                |        |
|----------------|--------|
| Monthly ITEMID | majbid |
| Header         | Adjbid |
| SUBNO          | 0      |

## BID ADJUSTED, LAST AVAILABLE NONMISSING

Category: Prices

Data Type: Floating Point

Description: Daily – Last available non-missing closing bid as of the trading date being accessed, adjusted for distributions.

Monthly – Last available non-missing month-end closing bid as of the trading date being accessed, adjusted for distributions.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | adjbid     |
| Monthly ITEMID                          | majbid     |
| Header                                  | Adjbidprev |
| SUBNO                                   | 1          |

## BID, END OF PERIOD

Category: Prices

Data Type: Floating Point

Summary: Daily – Closing bid on the trading date being accessed.

Monthly – Closing bid on the last trading date of the month.

Extended Information: Bid is available both daily and monthly for all securities on the NYSE, NYSE MKT, NASDAQ, and Arca exchanges. Bid prices for NASDAQ are handled a little differently than for NYSE/NYSE MKT and outlined as follows:

## NASDAQ

Bid is available for issues trading on the NASDAQ Stock Market during time periods when Bid or Low Price can contain the high price.

Since July 1980, NASDAQ has used the inside quotation as the closing bid and ask, with the close being at 4:00PM Eastern time. The inside quotation is the highest bid and lowest ask for each trade date.

Bid is reported for all NASDAQ National Market securities since November 1, 1982 and for all NASDAQ securities since June 15, 1992, with the following exceptions due to source limitations:

- Bid is missing for 15 NASDAQ National Market securities in December 1982.
- Bid is missing for all NASDAQ National Market securities in February 1986.

## NYSE / NYSE MKT

The bid for NYSE and NYSE MKT securities is not the inside quotation, but the bid price from the last representative quote before the markets close for each trading date. Due to source limitations, only an unrepresentative quote was available on many days. This unrepresentative quote showed very large spreads, frequently a bid of a penny and an ask of approximately double the price. These were usually posted by a market maker not on the primary listed exchange, who was required to post a quote but not interested in making a trade. From 1992 on, Bid and Ask are set to 0 when CRSP determined that the available quote was unrepresentative of trading activity, pending further research.

Bid data for NYSE are available from December 31, 1925 through the most currently completed month for securities when no closing price is available. Between December 31, 1925 and February 23, 1942, a continuous series of bid data are available whether or not a closing price is available. Between February 24, 1942 and December 27, 1992, bid is available only in cases when a closing price is missing. Beginning December 28, 1992, a continuous series of bid data are available.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | bid        |
| Monthly ITEMID                          | mbid       |
| Header                                  | Bid        |
| SUBNO                                   | 0          |

## BID, LAST AVAILABLE NONMISSING

**Category:** Prices

**Data Type:** Floating Point

**Description:** Daily – Last available non-missing closing bid as of the trading date being accessed.

Monthly – Last available non-missing month-end closing bid as of the trading date being accessed.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | bid        |
| Monthly ITEMID                          | mbid       |
| Header                                  | Bidprev    |
| SUBNO                                   | 1          |

## BIDLO ADJUSTED, MINIMUM IN PERIOD

**Category:** Prices

**Data Type:** Floating Point

**Description:** Daily – Lowest trading price during the day, or the closing bid if trading price not available, adjusted for distributions. Bid identified by a leading dash -.

Monthly – Lowest trading price during the month, or the lowest bid-ask spread if trading price not available, adjusted for distributions. Bid-ask spreads identified by preceding dash -.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | adjbidlo   |
| Monthly ITEMID                          | madjbidlo  |
| Header                                  | Adjbidlo   |
| SUBNO                                   | 0          |

## BIDLO, MINIMUM IN PERIOD

**Category:** Prices

**Data Type:** Floating Point

**Summary:** Daily – Lowest trading price during the day, or the closing bid if trading price not available. Bid identified by a leading dash -.

Monthly – Lowest trading price during the month, or the lowest bid-ask spread if trading price not available. Bid-ask spreads identified by preceding dash -.

**Extended Information:** Daily: Bid or Low Price is the lowest trading price during the day or the closing bid price on days when the closing price is not available. The field is set to zero if no Bid or Low Price is available.

Daily trading prices for the NASDAQ National Market securities were first reported November 1, 1982. Daily trading prices for The NASDAQ SmallCap Market were first reported June 15, 1992. Therefore, Bid or Low Price for NASDAQ securities is always a bid before these dates.

Monthly: Monthly files contain the lowest daily Price or Bid/Ask Average during the month. The field is set to zero when no Price or Bid/Ask Average was available during the month a value is found for incomplete months. If Price or Bid/Ask Average contains any bid/ask averages, these will be marked with a negative symbol. The absolute value of Price or Bid/Ask Average is used to select the lowest, but the sign is preserved if a bid/ask average is selected.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | bidlo      |
| Monthly ITEMID                          | mbidlo     |
| Header                                  | Bidlo      |
| SUBNO                                   | 0          |

## C.

### CALENDAR ASSOCIATED WITH A TIME SERIES

Calendar Associated with a Time Series is a pointer in a CRSP time series object to the associated CRSPAccess calendar structure needed to assign the time to data in a time series array.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Base CRSPAccess Data Structures, Calendar Objects, Time Series Objects |
| Data Type                               | structure  |
| Unit of Item                            | Array index  |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925   |
| Monthly                                 | 1925   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess   |
| Product Types                           | STK, IND   |
| ts_print Daily Usage                    | n/a  |
| ts_print Monthly Usage                  | n/a  |
| stk_print or ind_print Option(s)        | n/a  |
| C USAGE                                 |  |
| Object                                  | CRSP_TIMESERIES  |
| Array                                   | n/a  |
| Element                                 | cal  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | crsp_ts  |
| Member and/or Array                     | n/a  |
| Element                                 | cal  |

## CALENDAR IDENTIFICATION NUMBER

Calendar Identification Number is an integer code assigned by CRSP to trading calendars. A Calendar Name and Calendar Identification Number identify each calendar. The calendars supported in CRSPAccess databases are:

| CALENDARS | CALENDAR ID | CALENDAR NAME              | BEGINNING DATE |
|-----------|-------------|----------------------------|----------------|
| Daily     | 100         | Daily Trading Calendar     | 19251231       |
| Monthly   | 101         | Month-End Trading Calendar | 19251231       |
| Annual    | 300         | Annual Trading Calendar    | 19251231       |
| Quarterly | 310         | Quarterly Trading Calendar | 19251231       |
| Weekly    | 500         | Weekly Trading Calendar    | 19260102       |

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Base CRSPAccess Data Structures, Calendar Objects |
| Data Type                               | integer number                                    |
| Unit of Item                            | Code  |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   | 1925  |
| Monthly                                 | 1925  |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK, IND  |
| ts_print Daily Usage                    | n/a   |
| ts_print Monthly Usage                  | n/a   |
| stk_print or ind_print Option(s)        | n/a   |
| C USAGE                                 |   |
| Object                                  | CRSP_CAL  |
| Array                                   | n/a   |
| Element                                 | calid   |
| FORTRAN-95 USAGE                        |   |
| Type or Subtype                         | crsp_cal  |
| Member and/or Array                     | n/a   |
| Element                                 | calid   |

## CALENDAR IDENTIFICATION NUMBER OF ASSIGNMENT CALENDAR

Calendar Identification Number of Assignment Calendar identifies a calendar that determines the dates when index breakpoints and buy/sell rules are valid. The assignment calendar is used when using rebalancing information to assign issues to a portfolio.

The calendar periods of the Calendar Identification Number of Rebalancing Calendar, Calendar Identification Number of Assignment Calendar, and Calendar Identification Number of Calculations Calendar are synchronized, although the actual date ranges for each period may differ. The assignment calendar uses the same calendars listed in Calendar Identification Number.

| GENERAL INFORMATION                     |                         |
|---|-------------------------|
| Primary Concepts                        | Index Header, Calendars |
| Data Type                               | integer number          |
| Unit of Item                            | Code                    |
| DATE RANGE AVAILABILITY                 |                         |
| Daily                                   | 1925                    |
| Monthly                                 | 1925                    |
| DATABASE AVAILABILITY AND UTILITY USAGE |                         |
| Database Formats                        | CRSPAccess              |
| Product Types                           | IND                     |
| ts_print Daily Usage                    | n/a                     |
| ts_print Monthly Usage                  | n/a                     |
| ind_print Option(s)                     | /hr                     |
| C USAGE                                 |                         |
| Object                                  | indhdr_row              |
| Array                                   | indhdr                  |
| Element                                 | assign.assigncal        |
| FORTRAN-95 USAGE                        |                         |
| Type or Subtype                         | indhdr                  |
| Member and/or Array                     | assign                  |
| Element                                 | assigncal               |

## CALENDAR IDENTIFICATION NUMBER OF CALCULATIONS CALENDAR

Calendar Identification Number of Calculations Calendar identifies a calendar that determines the range of dates used to calculate statistics to form portfolios. The calendar periods of the Calendar Identification Number of Rebalancing Calendar, Calendar Identification Number of Assignment Calendar, and Calendar Identification Number of Calculations Calendar are synchronized, although the actual date ranges for each period number may differ. The calculations calendar uses the same calendars described in Calendar Identification Number.

| GENERAL INFORMATION |                         |
|---------------------|-------------------------|
| Primary Concepts    | Index Header, Calendars |
| Data Type           | integer number          |
| Unit of Item        | Code                    |

| DATE RANGE AVAILABILITY                 |                |
|---|----------------|
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| ind_print Option(s)                     | /hr            |
| C USAGE                                 |                |
| Object                                  | indhdr_row     |
| Array                                   | indhdr         |
| Element                                 | assign.calccal |
| FORTRAN-95 USAGE                        |                |
| Type or Subtype                         | indhdr         |
| Member and/or Array                     | assign         |
| Element                                 | calccal        |

### CALENDAR IDENTIFICATION NUMBER OF REBALANCING CALENDAR

Calendar Identification Number of Rebalancing Calendar identifies a calendar that determines the time periods when the portfolios in the index are held. The new portfolio universe is held from the end of one period in the rebalancing calendar until the end of the next period. The calendar period numbers of the Calendar Identification Number of Rebalancing Calendar, Calendar Identification Number of Assignment Calendar, and the Calendar Identification Number of Calculations Calendar are synchronized, although the actual date ranges for each period number may differ. The rebalancing calendar uses the same calendars listed in Calendar Identification Number.

| GENERAL INFORMATION                     |                         |
|---|-------------------------|
| Primary Concepts                        | Index Header, Calendars |
| Data Type                               | integer number          |
| Unit of Item                            | Code                    |
| DATE RANGE AVAILABILITY                 |                         |
| Daily                                   | 1925                    |
| Monthly                                 | 1925                    |
| DATABASE AVAILABILITY AND UTILITY USAGE |                         |
| Database Formats                        | CRSPAccess              |
| Product Types                           | IND                     |
| ts_print Daily Usage                    | n/a                     |
| ts_print Monthly Usage                  | n/a                     |
| ind_print Option(s)                     | /hr                     |

| C USAGE             |                 |
|---------------------|-----------------|
| Object              | indhdr_row      |
| Array               | indhdr          |
| Element             | assign.rebalcal |
| FORTRAN-95 USAGE    |                 |
| Type or Subtype     | indhdr          |
| Member and/or Array | assign          |
| Element             | rebalcal        |

### CALENDAR NAME

Calendar Name is a text **Description:** of a calendar. These include: Daily Trading Calendar, Month-End Trading Calendar, Annual Trading Calendar, Quarterly Trading Calendar, Weekly Trading Calendar.

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Base CRSPAccess Data Structures, Calendar Objects |
| Data Type                               | character   |
| Unit of Item                            | Description                                       |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   | 1926  |
| Monthly                                 | 1925  |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK, IND  |
| ts_print Daily Usage                    | n/a   |
| ts_print Monthly Usage                  | n/a   |
| stk_print or ind_print Option(s)        | n/a   |
| C USAGE                                 |   |
| Object                                  | CRSP_CAL  |
| Array                                   | n/a   |
| Element                                 | name  |
| FORTRAN-95 USAGE                        |   |
| Type or Subtype                         | crsp_cal  |
| Member and/or Array                     | n/a   |
| Element                                 | name  |

## CALENDAR PERIOD GROUPING IDENTIFIER

Calendar Period Grouping Identifiers are integers assigned for each trading period in a calendar. These identifiers can be used as alternate names to Calendar Trading Date for the calendar periods. The values stored for each period in Calendar Period Grouping Identifier for the current calendars are:

| CALENDAR NAME              | DATE FORMAT |
|----------------------------|-------------|
| Daily Trading Calendar     | YYYYWW      |
| Month-End Trading Calendar | YYYYMM      |
| Annual Trading Calendar    | YYYY        |
| Quarterly Trading Calendar | YYYYMM      |
| Weekly Trading Calendar    | YYYYWW      |

where YYYY is the 4-digit year, MM the month, and WW the week within the current year. The last week of the previous year is continued for the entire week when the year changes.

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Base CRSPAccess Data Structures, Calendar Objects |
| Data Type                               | integer number                                    |
| Unit of Item                            | Description                                       |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   | 1925  |
| Monthly                                 | 1925  |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK, IND  |
| ts_print Daily Usage                    | n/a   |
| ts_print Monthly Usage                  | n/a   |
| stk_print or ind_print Option(s)        | n/a   |
| C USAGE                                 |   |
| Object                                  | CRSP_CAL  |
| Array                                   | callist[ ]  |
| Element                                 | n/a   |
| FORTRAN-95 USAGE                        |   |
| Type or Subtype                         | crsp_cal  |
| Member and/or Array                     | callist()   |
| Element                                 | n/a   |

## CALENDAR TIME PERIOD DESCRIPTION CODE

Calendar Time Period

**Description:** Code is a code that indicates the type of calendar array best used to read a CRSP Stock or

Index time series. This code equals 2, indicating that calendar time periods are identified by the last trading date in the period using Calendar Trading Date.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Base CRSPAccess Data Structures, Time Series Objects |
| Data Type                               | Integer Number                                       |
| Unit of Item                            | Code   |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925   |
| Monthly                                 | 1925   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess   |
| Product Types                           | STK, IND   |
| ts_print Daily Usage                    | n/a  |
| ts_print Monthly Usage                  | n/a  |
| stk_print or ind_print Option(s)        | n/a  |
| C USAGE                                 |  |
| Object                                  | CRSP_TIMESERIES                                      |
| Array                                   | n/a  |
| Element                                 | caltype  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | crsp_ts  |
| Member and/or Array                     | n/a  |
| Element                                 | caltype  |

## CALENDAR TYPE AVAILABILITY FLAG

Calendar Type Availability Flag identifies the calendar available for use with the data. It is set to 1 if Calendar Period Grouping Identifier is available, 2 if Calendar Trading Date is available, and 3 if both are available.

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Base CRSPAccess Data Structures, Calendar Objects |
| Data Type                               | integer number                                    |
| Unit of Item                            | Code  |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   | 1925  |
| Monthly                                 | 1925  |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK, IND  |
| ts_print Daily Usage                    | n/a   |
| ts_print Monthly Usage                  | n/a   |
| stk_print or ind_print Option(s)        | n/a   |
| C USAGE                                 |   |
| Object                                  | CRSP_CAL  |
| Array                                   | n/a   |



|                          |          |
|--------------------------|----------|
| Element                  | loadflag |
| <b>FORTTRAN-95 USAGE</b> |          |
| Type or Subtype          | crsp_cal |
| Member and/or Array      | n/a      |
| Element                  | loadflag |

### CAPITALIZATION, END OF PERIOD

**Category:** Capitalization

**Data Type:** Floating Point

**Description:** Closing price \* shares outstanding (in 1000s), as of end of the period. If an index, capitalization is the total market value of the issues used in the index at the beginning of the period.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | tcap       |
| Monthly ITEMID                                 | mtcap      |
| Header   | TCap       |
| SUBNO  | 0          |

### CAPITALIZATION, END OF PREVIOUS PERIOD

**Category:** Capitalization

**Data Type:** Floating Point

**Description:** Closing price \* shares outstanding (in 1000s) at the end of the previous period. If an index, capitalization is the total market value of the issues used in the index at the beginning of the previous period.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | cap        |
| Monthly ITEMID                                 | mcap       |
| Header   | Cap        |
| SUBNO  | 0          |

### COMPANY NAME, END OF PERIOD

**Category:** Name History

**Data Type:** String

**Summary:** Company name effective at the end of the period reported.

**Extended Information:** Company Name is the name of the company at the time of its name history record. CRSP allocates a 35 character name **Description:** field for all securities. Preference is given to the spellings and abbreviations provided in Standard & Poor's CUSIP Directory. In cases where name sources provide descriptions in excess of 35 characters, CRSP furnishes its own abbreviations. **Daily:** The daily file includes all historical names included in the file beginning in 1925.

|  |              |
|--|--------------|
| <b>DATE RANGE AVAILABILITY</b>                 |              |
| Daily  | 1925         |
| Monthly  | 1925         |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |              |
| Database Formats                               | CRSPAccess   |
| Product Types                                  | STK          |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |              |
| Daily ITEMID                                   | comnam       |
| Monthly ITEMID                                 | mcomnam      |
| Header   | Company Name |
| SUBNO  | 0            |

### COMPANY NAME, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** String

**Description:** Company name effective at the end of the period preceding the period reported.

|  |                |
|--|----------------|
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | STK            |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |                |
| Daily ITEMID                                   | comnam         |
| Monthly ITEMID                                 | mcomnam        |
| Header   | Effective Name |
| SUBNO  | 1              |



## COMPANY NAME, MOST RECENT

**Category:** Name History

**Data Type:** String

**Description:** The most recent company name known to CRSP.

| DATE RANGE AVAILABILITY                 |                   |
|---|-------------------|
| Daily                                   | 1925              |
| Monthly                                 | 1925              |
| DATABASE AVAILABILITY AND PRODUCT TYPES |                   |
| Database Formats                        | CRSPAccess        |
| Product Types                           | STK               |
| TS_PRINT/TSQUERY USAGE                  |                   |
| Daily ITEMID                            | comnam            |
| Monthly ITEMID                          | mcomnam           |
| Header                                  | Last Company Name |
| SUBNO                                   | 2                 |

## COUNT AT END OF REBALANCING PERIOD

Count at End of Rebalancing Period is the count of entities belonging to a portfolio at the end of a rebalancing period. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | integer number                   |
| Unit of Item                            | Count                            |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | -                                |
| Monthly                                 | -                                |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |
| Database Formats                        | CRSPAccess                       |
| Product Types                           | IND                              |
| ts_print Daily Usage                    | n/a                              |
| ts_print Monthly Usage                  | n/a                              |
| ind_print Option(s)                     | /rs#                             |
| C USAGE                                 |                                  |
| Object                                  | rebal_arr[ ]                     |
| Array                                   | rebal[ ][ ]                      |
| Element                                 | endcnt                           |
| FORTRAN-95 USAGE                        |                                  |
| Type or Subtype                         | rebal_arr()                      |
| Member and/or Array                     | rebal(,)                         |
| Element                                 | endcnt                           |

## COUNT AVAILABLE AS OF REBALANCING

Count Available as of Rebalancing is the total count of entities available in the universe eligible for a portfolio at the beginning of a rebalancing period. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | integer number                   |
| Unit of Item                            | Count                            |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | 1925                             |
| Monthly                                 | 1925                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |
| Database Formats                        | CRSPAccess                       |
| Product Types                           | IND                              |
| ts_print Daily Usage                    | n/a                              |
| ts_print Monthly Usage                  | n/a                              |
| ind_print Option(s)                     | /rs#                             |
| C USAGE                                 |                                  |
| Object                                  | rebal_arr[ ]                     |
| Array                                   | rebal[ ][ ]                      |
| Element                                 | totcnt                           |
| FORTRAN-95 USAGE                        |                                  |
| Type or Subtype                         | rebal_arr()                      |
| Member and/or Array                     | rebal(,)                         |
| Element                                 | totcnt                           |

## COUNT USED AS OF REBALANCING

Count Used as of Rebalancing is the count of entities in a portfolio as of the beginning of a rebalancing period. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | integer number                   |
| Unit of Item                            | Count                            |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | 1925                             |
| Monthly                                 | 1925                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |
| Database Formats                        | CRSPAccess                       |
| Product Types                           | IND                              |
| ts_print Daily Usage                    | n/a                              |
| ts_print Monthly Usage                  | n/a                              |
| ind_print Option(s)                     | /rb#                             |
| C USAGE                                 |                                  |
| Object                                  | rebal_arr                        |

|                         |             |
|-------------------------|-------------|
| Array                   | rebal       |
| Element                 | usdcnt      |
| <b>FORTRAN-95 USAGE</b> |             |
| Type or Subtype         | rebal_arr() |
| Member and/or Array     | rebal(,)    |
| Element                 | usdcnt      |

### CUMULATIVE FACTOR TO ADJUST PRICES OVER A DATE RANGE

**Category:** Dividends

**Data Type:** Floating Point

**Description:** Cumulative factor from a base date used to adjust prices after distributions so that equivalent comparisons can be made between prices before and after the distribution.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | cumfacpr   |
| Monthly ITEMID                                 | mcumfacpr  |
| Header   | Cumfacpr   |
| SUBNO  | 0          |

### CUMULATIVE FACTOR TO ADJUST SHARES/ VOLUME OVER A DATE RANGE

**Category:** Dividends

**Data Type:** Floating Point

**Description:** Cumulative factor from a base date used to adjust shares and volume after distributions so that equivalent comparisons can be made between values before and after the distribution. Represented as a ratio of the additional shares out expected after the distribution to the last known observation.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |

|                               |            |
|-------------------------------|------------|
| <b>TS_PRINT/TSQUERY USAGE</b> |            |
| Daily ITEMID                  | cumfacshr  |
| Monthly ITEMID                | mcumfacshr |
| Header                        | Cumfacshr  |
| SUBNO                         | 0          |

### CUSIP, END OF PERIOD

**Category:** Name History

**Data Type:** String

**Summary:** The 8 character CUSIP identifier for a security at the end of the period reported.

**Extended Information:** CUSIP refers to the CUSIP identifier valid during the date range of a name structure. All non-blank CUSIPs are 8 characters long.

The CUSIP Agency will often change an issue's CUSIP identifier to reflect name or capital structure changes. CRSP has preserved all CUSIPs assigned to a given issue over time. CUSIP identifiers were first assigned in 1968. All CUSIPs in a name history before that date are unavailable. Dummy CUSIP identifiers are not included in the name history.

For more details of the CUSIP identifier; See CUSIP - Header.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 19680102   |
| Monthly  | 19680102   |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | ncusip     |
| Monthly ITEMID                                 | mncusip    |
| Header   | NCUSIP     |
| SUBNO  | 0          |

## CUSIP, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** String

**Description:** The 8 character CUSIP identifier for a security at the end of period preceding the period reported.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19680102   |
| Monthly                                 | 19680102   |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ncusip     |
| Monthly ITEMID                          | mncusip    |
| Header                                  | NCUSIPE    |
| SUBNO                                   | 1          |

## CUSIP, HEADER

**Category:** Identification

**Data Type:** String

**Summary:** The latest 8 character CUSIP identifier for a security.

**Extended Information:** CUSIP - Header is the latest 8 character CUSIP identifier for the security through the end of the file. CUSIP identifiers are supplied to CRSP by the CUSIP Service Bureau, Standard & Poor's, a division of McGraw-Hill, Inc., American Bankers Association database, Copyright 1987.

CUSIP identifiers were first assigned in 1968 as integers and expanded in 1984 to include alphabetic characters. The first six characters (including leading zeroes) identify the issuer, while the last two characters identify the issue. CUSIP issuer identifiers are assigned to maintain an approximately alphabetical sequence. The CUSIP identifier may change for a security if its name or capital structure changes.

No header or historical CUSIP is reused on our files. For securities no longer in existence or that were never assigned an official CUSIP identifier, CRSP has assigned a dummy CUSIP identifier for use in this field in accordance with the rules published in the

CUSIP Directory. There are two potential types of dummy CUSIP - Headers which are assigned by CRSP. One, \*\*\*99\*9\*, (containing a 9 in the fourth, fifth, and seventh character positions) represents a CRSP-assigned CUSIP with a dummy issuer number (the first 6 character positions) and a dummy issue number (the last 2 character positions). The other, \*\*\*\*\*9\*, (containing a 9 in the seventh character position) represents a CRSP-assigned CUSIP with a real issuer number but a dummy issue number. For example:

A CUSIP - Header such as 12399099 or 12345699 is assigned by CRSP, and an identifier such as 12345610 is assigned by the CUSIP Agency.

Securities actively traded on an international basis, domiciled outside the United States and Canada, will be identified by a CINS (CUSIP International Numbering System) number. CINS numbers employ the same identifier system set by the CUSIP Numbering System: Issuer (6 characters) plus Issue (2 characters) per 8 characters. It is important to note that the first portion of a CINS code is always represented by an alphabetic character, signifying the issuer's country code (domicile) or geographic region. For more information, see the current CUSIP Directory and see Share Types.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19680102   |
| Monthly                                 | 19680102   |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cusip      |
| Monthly ITEMID                          | mncusip    |
| Header                                  | CUSIP      |
| SUBNO                                   | 0          |

## CUSIP, MOST RECENT

**Category:** Name History

**Data Type:** String

**Description:** The most recently used 8 character CUSIP identifier for a security through the end of the file.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19680102   |
| Monthly                                 | 19680102   |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ncusip     |
| Monthly ITEMID                          | mncusip    |
| Header                                  | NCUSIPL    |
| SUBNO                                   | 2          |

#### D.

### DATA SECONDARY SUBTYPE CODE

Data Secondary Subtype Code is an integer code further defining the Data Subtype Code of a CRSP array object. It is set to zero if unused.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Base CRSPAccess Data Structures, Event Array Objects |
| Data Type                               | integer number                                       |
| Unit of Item                            | Code   |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   |  |
| Monthly                                 |  |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess   |
| Product Types                           | STK, IND   |
| ts_print Daily Usage                    | n/a  |
| ts_print Monthly Usage                  | n/a  |
| stk_print or ind_print Option(s)        | n/a  |
| C USAGE                                 |  |
| Object                                  | CRSP_ARRAY   |
| Array                                   | n/a  |
| Element                                 | dummy  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | crsp_array   |
| Member and/or Array                     | n/a  |
| Element                                 | dummy  |

### DATA SUBTYPE CODE

Data Subtype Code is an integer code further defining categories of data in a CRSP object that otherwise have the same structure, such as the difference between a return and price data item. It is set to zero if unused. The Data Subtype Code for portfolio assignments and

statistics time series is set to the INDNO of the index group with portfolio results for the market segment portfolio type.

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Base CRSPAccess Data Structures, Time Series Objects, Event Array Objects, Header Objects |
| Data Type                               | integer number  |
| Unit of Item                            | Code  |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   |   |
| Monthly                                 |   |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK, IND  |
| ts_print Daily Usage                    | n/a   |
| ts_print Monthly Usage                  | n/a   |
| stk_print or ind_print Option(s)        | n/a   |
| C USAGE                                 |   |
| Object                                  | CRSP_*  |
| Array                                   | n/a   |
| Element                                 | subtype   |
| FORTRAN-95 USAGE                        |   |
| Type or Subtype                         | crsp_array or crsp_ts   |
| Member and/or Array                     | n/a   |
| Element                                 | subtype   |

### DATE

**Category:** Other

**Data Type:** Double Precision Floating Point

**Summary:** Trading date in the CRSP output calendar for the period. (Last trading day in week for weekly, month for monthly, and so on.)

**Extended Information:** Calendar Trading Date contains the list of trading dates for a CRSP calendar. Each date represents the last date in a calendar period, in YYYYMMDD (year, month, day) format. These dates begin in the first element of the array and continue to the Number of Periods in Calendar. Calendar dates for weekends and trading holidays are not included.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |

| TS_PRINT/TSQUERY USAGE |        |
|------------------------|--------|
| Daily ITEMID           | caldt  |
| Monthly ITEMID         | mcaldt |
| Header                 | Caldt  |
| SUBNO                  | 0      |

## DATE - YYYYMMDD TRADING DATE (PARTIAL PERIOD DATA)

**Category:** Other

**Data Type:** Double Precision Floating Point

**Description:** Trading dates used with partial period data.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | altdt      |
| Monthly ITEMID                          | maltdt     |
| Header                                  | Altdt      |
| SUBNO                                   | 0          |

## DELISTING CODE

Delisting Code is a 3-digit integer code. It either (1) indicates that a security is still trading or (2) provides a specific reason for delisting. All coded delistings are categorized by the first digit of the delisting code.

| PRIMARY FIRST DIGIT OF CODE | CATEGORY   |
|-----------------------------|--|
| 1                           | still trading or halted but not yet delisted       |
| 2                           | merger   |
| 3                           | exchange   |
| 4                           | liquidation  |
| 5                           | delisted by NYSE, NYSE MKT, NASDAQ or Arca         |
| 7                           | delisted by the Securities and Exchange Commission |
| 8                           | trading simultaneously on more than one exchange   |

The second and third digits of the delisting codes provide further detail of delisting events. Additional delisting codes, specific to various delisting categories, have been created to indicate when an issue is closed to further research, or if the issue is pending further research.

| GENERAL INFORMATION                     |                         |
|---|-------------------------|
| Primary Concepts                        | Delisting History Array |
| Data Type                               | integer number          |
| Unit of Item                            | Code                    |
| DATE RANGE AVAILABILITY                 |                         |
| Daily                                   | 1925                    |
| Monthly                                 | 1925                    |
| DATABASE AVAILABILITY AND UTILITY USAGE |                         |
| Database Formats                        | CRSPAccess              |
| Product Types                           | STK                     |
| ts_print Daily Usage                    | n/a                     |
| ts_print Monthly Usage                  | n/a                     |
| stk_print Option(s)                     | /de                     |
| C USAGE                                 |                         |
| Object                                  | delist_arr              |
| Array                                   | delist[ ]               |
| Element                                 | dlstcd                  |
| FORTRAN-95 USAGE                        |                         |
| Type or Subtype                         | delist_arr              |
| Member and/or Array                     | delist()                |
| Element                                 | dlstcd                  |

## DELISTING CODE - HEADER

Delisting Code - Header is the issue's delisting status at the end of the file. See Delisting Code for additional information.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | integer number                         |
| Unit of Item                            | Code                                   |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925                                   |
| Monthly                                 | 1925                                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| stk_print Option(s)                     | /hh, /hn                               |
| C USAGE                                 |  |
| Object                                  | header_row                             |
| Array                                   | header                                 |
| Element                                 | dlstcd                                 |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | stkhdr                                 |
| Member and/or Array                     | n/a                                    |
| Element                                 | dlstcd                                 |

## DELISTING DATE

Delisting Date is an integer containing the date in YYYYMMDD format of a security's last price on the current exchange. If the security is still active, Delisting Date is set to the last date of available price data.

Delisting date is never missing.

Monthly: Delisting Date is not necessarily a month-end trading date and might not be included in the Calendar Trading Date array of monthly time series.

| GENERAL INFORMATION                     |                         |
|---|-------------------------|
| Primary Concepts                        | Delisting History Array |
| Data Type                               | integer number          |
| Unit of Item                            | YYYYMMDD date           |
| DATE RANGE AVAILABILITY                 |                         |
| Daily                                   | 1925                    |
| Monthly                                 | 1925                    |
| DATABASE AVAILABILITY AND UTILITY USAGE |                         |
| Database Formats                        | CRSPAccess              |
| Product Types                           | STK                     |
| ts_print Daily Usage                    | n/a                     |
| ts_print Monthly Usage                  | n/a                     |
| stk_print Option(s)                     | /de                     |
| C USAGE                                 |                         |
| Object                                  | delist_arr              |
| Array                                   | delist[ ]               |
| Element                                 | dlstdt                  |
| FORTRAN-95 USAGE                        |                         |
| Type or Subtype                         | delist_arr              |
| Member and/or Array                     | delist()                |
| Element                                 | dlstdt                  |

## DELISTING DATE OF NEXT AVAILABLE INFORMATION

Delisting Date of Next Available Information is the integer date (in YYYYMMDD format) of a security's Delisting Price - the price or quote found after delisting. This date is set to zero if the security is still active. It is also set to zero if the final value of the security is determined by one or more distributions or if the value of the security is unknown after suspension of trading or after delisting.

If a liquidation or merger was announced in advance, and trading continued on the exchange, then this date is set to the date of the announcement. If the

security became worthless after delisting and there is no evidence of any trading after delisting, then the Delisting Date of Next Available Information is set to one trading day after the Delist Date, and the Delisting Price is set to zero.

| GENERAL INFORMATION                     |                         |
|---|-------------------------|
| Primary Concepts                        | Delisting History Array |
| Data Type                               | integer number          |
| Unit of Item                            | YYYYMMDD date           |
| DATE RANGE AVAILABILITY                 |                         |
| Daily                                   | 1925                    |
| Monthly                                 | 1925                    |
| DATABASE AVAILABILITY AND UTILITY USAGE |                         |
| Database Formats                        | CRSPAccess              |
| Product Types                           | STK                     |
| ts_print Daily Usage                    | n/a                     |
| ts_print Monthly Usage                  | n/a                     |
| stk_print Option(s)                     | /de                     |
| C USAGE                                 |                         |
| Object                                  | delist_arr              |
| Array                                   | delist[ ]               |
| Element                                 | nextdt                  |
| FORTRAN-95 USAGE                        |                         |
| Type or Subtype                         | delist_arr              |
| Member and/or Array                     | delist()                |
| Element                                 | nextdt                  |

## DELISTING PAYMENT DATE

Delisting Payment Date is the effective date (in YYYYMMDD format) of the Amount After Delisting value used in the Delisting Return calculations. If a price is used for the Amount After Delisting, then the Delisting Payment Date is set to the Delisting Date of Next Available Information. If distribution payments are used for the Amount After Delisting, then the Delisting Payment Date is set to the Ex-Distribution Date of the last known distribution payment. This date is set to zero if the security is still active or if no price or payment information is available.

Monthly: If no delisting information is found, and the security did not delist on the last trading day of the month, then the Delisting Payment Date is set to the Delisting Date and the Amount After Delisting is set to the last daily trading value found in the Price or Bid/Ask Average.

| GENERAL INFORMATION                     |                         |
|---|-------------------------|
| Primary Concepts                        | Delisting History Array |
| Data Type                               | integer number          |
| Unit of Item                            | YYYYMMDD date           |
| DATE RANGE AVAILABILITY                 |                         |
| Daily                                   | 1925                    |
| Monthly                                 | 1925                    |
| DATABASE AVAILABILITY AND UTILITY USAGE |                         |
| Database Formats                        | CRSPAccess              |
| Product Types                           | STK                     |
| ts_print Daily Usage                    | n/a                     |
| ts_print Monthly Usage                  | n/a                     |
| stk_print Option(s)                     | /de                     |
| C USAGE                                 |                         |
| Object                                  | delist_arr              |
| Array                                   | delist[ ]               |
| Element                                 | dlpdt                   |
| FORTRAN-95 USAGE                        |                         |
| Type or Subtype                         | delist_arr              |
| Member and/or Array                     | delist()                |
| Element                                 | dlpdt                   |

## DELISTING PRICE

Delisting Price refers to a trade price or a price quote (given as the average of bid and ask quotes) on another exchange or over-the-counter. The date of this price or quote is specified in the Delisting Date of Next Available Information.

If the Delisting Price is positive, then it is a trade price. If the Delisting Price is negative, then it is the average of bid and ask quotes. A Delisting Price is set to zero if the security is still active, if there was no further trading for the security after the delist date, or if prices or price quotes are not available after the delist date. If delisting payments were made using distributions, the Delisting Price is also set to zero, and the sum of the distribution payments is specified in the Amount After Delisting.

| GENERAL INFORMATION     |                         |
|-------------------------|-------------------------|
| Primary Concepts        | Delisting History Array |
| Data Type               | real number             |
| Unit of Item            | USD                     |
| DATE RANGE AVAILABILITY |                         |
| Daily                   | 1925                    |
| Monthly                 | 1925                    |

| DATABASE AVAILABILITY AND UTILITY USAGE |            |
|---|------------|
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| ts_print Daily Usage                    | n/a        |
| ts_print Monthly Usage                  | n/a        |
| stk_print Option(s)                     | /de        |
| C USAGE                                 |            |
| Object                                  | delist_arr |
| Array                                   | delist[ ]  |
| Element                                 | dlprc      |
| FORTRAN-95 USAGE                        |            |
| Type or Subtype                         | delist_arr |
| Member and/or Array                     | delist()   |
| Element                                 | dlprc      |

## DELISTING RETURN

Delisting Return is the return of a security after it has delisted from NYSE, NYSE MKT, NASDAQ, or Arca. The Delisting Return is calculated by comparing the security's Amount After Delisting with its price on the last day of trading. The Amount After Delisting can be either an off-exchange price, an off-exchange price quote, or the sum of a series of distribution payments. The effective date of the delisting return is specified in the Delisting Payment Date.

The return for any issue that has been closed to further research is calculated as follows:

- If a price within 10 periods of the delist date is available, then the delisting return is calculated using that price.
- If a final distribution is available, then the delisting return is calculated using all known distribution information occurring after the date of last price.
- If distributions occurring after the date of last price are available, but no final distribution has been found, then the delisting return is calculated as if a final distribution were found. (This applies only to issues closed to further research.)
- If there is evidence that no distributions will ever be paid to shareholders, then the stock is considered worthless. The delisting return is set to -1 (i.e. a 100% loss).



- If there is evidence that the stock has been declared worthless, then the delisting return is set to -1 (i.e. a 100% loss).

For any issue that is closed to further research and none of the above criteria are met, the delisting return is given a missing return code. For any issue that is pending further research, the delisting return is given a missing return code of -55.0.

#### MISSING DELISTING RETURN CODES

| CODE  | REASON FOR MISSING RETURN  |
|-------|--|
| -55.0 | CRSP has no sources to establish a value after delisting or is unable to assign a value to one or more known distributions after delisting |
| -66.0 | more than 10 trading periods between a security's last price and its first available price on a new exchange                               |
| -88.0 | security is still active   |
| -99.0 | security trades on a new exchange after delisting, but CRSP currently has no sources to gather price information                           |

Monthly: If Amount After Delisting is non-zero and Delisting Payment Date is less than or equal to the Delisting Date, the Delisting Return represents a partial-month return, not a Delisting Return. The partial-month returns compare the value on the last day of trading with the value on the last month-end date and do not factor in additional after-delisting information.

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Delisting History Array                                       |
| Data Type                               | real number   |
| Unit of Item                            | Ratio   |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   | 1925  |
| Monthly                                 | 1925  |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK   |
| ts_print Daily Usage                    | ret/0 when the DLRET option is included in the FORMAT option  |
| ts_print Monthly Usage                  | mret/0 when the DLRET option is included in the FORMAT option |
| stk_print Option(s)                     | /de   |
| C USAGE                                 |   |
| Object                                  | delist_arr  |
| Array                                   | delist[ ]   |
| Element                                 | dlret   |
| FORTRAN-95 USAGE                        |   |
| Type or Subtype                         | delist_arr  |

|                     |          |
|---------------------|----------|
| Member and/or Array | delist() |
| Element             | dlret    |

#### DELISTING RETURN WITHOUT DIVIDENDS

Delisting Return Without Dividends is the return of a security after it has delisted from NYSE, NYSE MKT, NASDAQ, or Arca. Ordinary dividends that were paid between the last trading date and the Date of Delisting Payment are not included in these return calculations. However, the ordinary dividends are included in the Delisting Return calculations. See Delisting Return in the Calculations Section for calculation and missing values.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Delisting History Array  |
| Data Type                               | real number  |
| Unit of Item                            | Ratio  |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925   |
| Monthly                                 | 1925   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess   |
| Product Types                           | STK  |
| ts_print Daily Usage                    | retx/0 when the DLRET option is included in the FORMAT option  |
| ts_print Monthly Usage                  | mretx/0 when the DLRET option is included in the FORMAT option |
| stk_print Option(s)                     | /de  |
| C USAGE                                 |  |
| Object                                  | delist_arr   |
| Array                                   | delist[ ]  |
| Element                                 | dlretx   |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | delist_arr   |
| Member and/or Array                     | delist()   |
| Element                                 | dlretx   |

#### DISTRIBUTION CODE

CRSP describes company distributions and corporate actions in the distribution history with a 4-digit code. The first digit describes the type of distribution. The second digit describes the payment method. The third digit augments the type denoted by the first digit. The fourth digit provides information regarding the tax status of the distribution for details.



CRSP has not verified the tax status of ordinary cash dividends since 1987. CRSP assigns the most common tax code, taxable as dividend, to ordinary dividends to these issues. CRSP does verify the tax status of stock distributions and distributions associated with rights offerings, spin-offs, liquidations, mergers, reorganizations, and exchanges.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Distribution Event Array |
| Data Type                               | integer number           |
| Unit of Item                            | Code                     |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | STK                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| stk_print Option(s)                     | /di                      |
| C USAGE                                 |                          |
| Object                                  | dists_arr                |
| Array                                   | dists[ ]                 |
| Element                                 | dclrdt                   |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | dists_arr                |
| Member and/or Array                     | dists()                  |
| Element                                 | dclrdt                   |

### DISTRIBUTION DECLARATION DATE

Distribution Declaration Date is the date (in YYYYMMDD format) on which the board of directors declared a distribution. If a declaration cannot be found, then this date is set to zero.

If the distribution is associated with a merger tender offer, then the Distribution Declaration Date is set to the announcement date of the tender offer. If the distribution represents merger payments or merger terms, then this date is set to the announcement date of the payments or terms.

| GENERAL INFORMATION     |                          |
|-------------------------|--------------------------|
| Primary Concepts        | Distribution Event Array |
| Data Type               | integer number           |
| Unit of Item            | YYYYMMDD date            |
| DATE RANGE AVAILABILITY |                          |

| Daily                                   | 1925       |
|---|------------|
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND UTILITY USAGE |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| ts_print Daily Usage                    | n/a        |
| ts_print Monthly Usage                  | n/a        |
| stk_print Option(s)                     | /di        |
| C USAGE                                 |            |
| Object                                  | dists_arr  |
| Array                                   | dists[ ]   |
| Element                                 | dclrdt     |
| FORTRAN-95 USAGE                        |            |
| Type or Subtype                         | dists_arr  |
| Member and/or Array                     | dists()    |
| Element                                 | dclrdt     |

### DIVIDEND AMOUNT IN PERIOD, ADJUSTED

Category: Dividends

Data Type: Floating Point

Description: Ordinary and return-of-capital dividends, adjusted using the Price adjustment factor.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | adjdiv     |
| Monthly ITEMID                          | madjdiv    |
| Header                                  | Adjdiv     |
| SUBNO                                   | 0          |

### DIVIDEND AMOUNT IN PERIOD, BEGINNING BASIS

Category: Dividends

Data Type: Floating Point

Description: Ordinary and return-of-capital dividends during the period, adjusted to beginning of period basis.

| DATE RANGE AVAILABILITY |      |
|-------------------------|------|
| Daily                   | 1925 |

|  |            |
|--|------------|
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| ts_print/TsQuery Usage                         |            |
| Daily ITEMID                                   | tdivamt    |
| Monthly ITEMID                                 | mtdivamt   |
| Header   | Tdivamt    |
| SUBNO  | 0          |

### DIVIDEND AMOUNT IN PERIOD, ORDINARY, ADJUSTED

Category: Dividends

Data Type: Floating Point

Description: Ordinary cash dividends paid, adjusted using the price adjustment factor.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | adjodiv    |
| Monthly ITEMID                                 | madjodiv   |
| Header   | Adjodiv    |
| SUBNO  | 0          |

### DIVIDEND AMOUNT IN PERIOD, ORDINARY, BEGINNING BASIS

Category: Dividends

Data Type: Floating Point

Description: Ordinary cash dividends paid during the period, adjusted to beginning of period basis.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | odivamt    |
| Monthly ITEMID                                 | modivamt   |

|        |         |
|--------|---------|
| Header | Odivamt |
| SUBNO  | 0       |

### DIVIDEND CASH AMOUNT

Dividend Cash Amount is the US dollar value per share of distributions resulting from cash dividends, spin-offs, mergers, exchanges, reorganizations, liquidations, and rights issues. Dividend Cash Amount includes the cash value of ordinary and non-ordinary (return of capital) dividends. When the distribution is paid in shares of a trading security, the Dividend Cash Amount is set to the exchange ratio times the price of the security at the close of the Ex-Distribution Date.

In a distribution where a limited percentage of shares are accepted in exchange for cash, the Dividend Cash Amount is set to the offer price, and the value must be adjusted using the Factor to Adjust Price. These are identified by a Distribution Code with the first digit 6 and a Factor to Adjust Price between -1 and 0. Note: regular income dividends for ADRs use the gross.

|  |                          |
|--|--------------------------|
| <b>GENERAL INFORMATION</b>                     |                          |
| Primary Concepts                               | Distribution Event Array |
| Data Type                                      | real number              |
| Unit of Item                                   | USD                      |
| <b>DATE RANGE AVAILABILITY</b>                 |                          |
| Daily  | 1925                     |
| Monthly  | 1925                     |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                          |
| Database Formats                               | CRSPAccess               |
| Product Types                                  | STK                      |
| ts_print Daily Usage                           | n/a                      |
| ts_print Monthly Usage                         | n/a                      |
| stk_print Option(s)                            | /di                      |
| <b>C USAGE</b>                                 |                          |
| Object   | dists_arr                |
| Array  | dists[ ]                 |
| Element  | divamt                   |
| <b>FORTRAN-95 USAGE</b>                        |                          |
| Type or Subtype                                | dists_arr                |
| Member and/or Array                            | dists()                  |
| Element  | divamt                   |

**E.****END OF GROUP DATA**

End of Group Data is the last date group data is valid in YYYYMMDD format.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data, Group Data |
| Data Type                               | integer number                                     |
| Unit of Item                            | YYYYMMDD date                                      |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925   |
| Monthly                                 | 1925   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess   |
| Product Types                           | STK  |
| ts_print Daily Usage                    | n/a  |
| ts_print Monthly Usage                  | n/a  |
| stk_print Option(s)                     | /gp  |
| C USAGE                                 |  |
| Object                                  | group_arr  |
| Array                                   | group  |
| Element                                 | grpenddt   |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | group_arr()  |
| Member and/or Array                     | group(.)   |
| Element                                 | grpenddt   |

**END OF STOCK DATA**

End of Stock Data is the date that data ends for the security, in YYYYMMDD format. It is the date of the last period in the time series arrays and is always greater than zero.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | integer number                         |
| Unit of Item                            | YYYYMMDD date                          |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925                                   |
| Monthly                                 | 1925                                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| stk_print or ind_print Option(s)        | /hh , /hr , /hrl , /hn                 |

| C USAGE             |            |
|---------------------|------------|
| Object              | header_row |
| Array               | header     |
| Element             | enddt      |
| FORTRAN-95 USAGE    |            |
| Type or Subtype     | stkhdr     |
| Member and/or Array | n/a        |
| Element             | enddt      |

**END OF VALID DATA**

End of Valid Data is the index of the last calendar period with valid data for a security. If no data of this type are available, it is set to zero. The Calendar Trading Date at this index is the date of the last calendar period with data of this type for this security.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Base CRSPAccess Data Structures, Time Series Objects |
| Data Type                               | integer number                                       |
| Unit of Item                            | Array index  |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925   |
| Monthly                                 | 1925   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess   |
| Product Types                           | STK, IND   |
| ts_print Daily Usage                    | n/a  |
| ts_print Monthly Usage                  | n/a  |
| stk_print or ind_print Option(s)        | /hr  |
| C USAGE                                 |  |
| Object                                  | CRSP_TIMESERIES                                      |
| Array                                   | n/a  |
| Element                                 | end  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | crsp_ts  |
| Member and/or Array                     | n/a  |
| Element                                 |  |

**ENTITY BEGIN DATE RANGE OR EVENT DATE**

**Category:** Other

**Data Type:** Double Precision Floating Point

**Description:** First period in a selected date range, or event date for an entity.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | date1      |
| Monthly ITEMID                          | mdate1     |
| Header                                  | Date1      |
| SUBNO                                   | 0          |

**ENTITY END DATE RANGE**

**Category:** Other

**Data Type:** Double Precision Floating Point

**Description:** Last date in a selected date range for an entity.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | date2      |
| Monthly ITEMID                          | mdate2     |
| Header                                  | Date2      |
| SUBNO                                   | 0          |

**EX-DISTRIBUTION DATE**

Ex-Distribution Date is the ex-dividend or ex-distribution date. It is the date on which the security is first traded without the right to receive the distribution. This date is coded as an integer in YYYYMMDD format and is always a daily trading date.

For distributions in a merger or exchange where the company disappeared, the Ex-Distribution Date is, by

convention, set equal to the trading day immediately after the date of the last price.

Ex-Distribution Dates of liquidating payments after delistings are reported when available, and set to Record Date or Delisting Payment Date if unavailable.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Distribution Event Array |
| Data Type                               | integer number           |
| Unit of Item                            | YYYYMMDD date            |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | STK                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| stk_print Option(s)                     | /di                      |
| C USAGE                                 |                          |
| Object                                  | dists_arr                |
| Array                                   | dists[ ]                 |
| Element                                 | exdt                     |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | dists_arr                |
| Member and/or Array                     | dists()                  |
| Element                                 | exdt                     |

**EXCESS RETURNS ON INCOME VS. ASSOCIATED PORTFOLIOS**

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Difference between a security's return on income and the return on income of a portfolio that a user selects to be associated with the security.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | portxsiret  |
| Monthly ITEMID                          | mportxsiret |
| Header                                  | Portxsiret  |
| SUBNO                                   | PORTID      |

## EXCESS RETURNS ON INCOME VS. ASSOCIATED PORTFOLIOS, CUMULATIVE

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Compounded difference between a security's return on income and the return on income of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | cumxspiret  |
| Monthly ITEMID                          | mcumxspiret |
| Header                                  | Cumxspiret  |
| SUBNO                                   | PORTID      |

## EXCESS RETURNS ON INCOME VS. INDEX SERIES

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Difference between a security's return on income and the return on income of an index that a user selects to be associated with the security.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | xsiret     |
| Monthly ITEMID                          | mxsiret    |
| Header                                  | Xsiret     |
| SUBNO                                   | INDNO      |

## EXCESS RETURNS ON INCOME VS. INDEX SERIES, CUMULATIVE

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Compounded difference between a security's return on income and the return on income of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumxsiret  |
| Monthly ITEMID                          | mcumxsiret |
| Header                                  | Cumxsiret  |
| SUBNO                                   | INDNO      |

## EXCESS RETURNS VS. ASSOCIATED PORTFOLIOS

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Difference between a security's total return and the total return of a portfolio that a user selects to be associated with the security.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | portxstret  |
| Monthly ITEMID                          | mportxstret |
| Header                                  | Portxstret  |
| SUBNO                                   | PORTID      |

## EXCESS RETURNS VS. ASSOCIATED PORTFOLIOS, CUMULATIVE

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Compounded difference between a security's total return and the total return of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | cumxsptret  |
| Monthly ITEMID                          | mcumxsptret |
| Header                                  | Cumxsptret  |
| SUBNO                                   | PORTID      |

## EXCESS RETURNS VS. INDEX SERIES

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Difference between a security's total return and the total return of an index that a user selects to be associated with the security.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | xstret     |
| Monthly ITEMID                          | mxstret    |
| Header                                  | Xstret     |
| SUBNO                                   | INDNO      |

## EXCESS RETURNS VS. INDEX SERIES, CUMULATIVE

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Compounded difference between a security's total return and the total return of an index

that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumxstret  |
| Monthly ITEMID                          | mcumxstret |
| Header                                  | Cumxstret  |
| SUBNO                                   | INDNO      |

## EXCESS RETURNS WITHOUT DIVIDENDS VS. ASSOCIATED PORTFOLIOS

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Difference between a security's capital appreciation and the capital appreciation of a portfolio a user selects to be associated with the security.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | portxsaret  |
| Monthly ITEMID                          | mportxsaret |
| Header                                  | Portxsaret  |
| SUBNO                                   | PORTID      |

## EXCESS RETURNS WITHOUT DIVIDENDS VS. ASSOCIATED PORTFOLIOS, CUMULATIVE

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Compounded difference between a security's capital appreciation and the capital appreciation of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |             |
|---|-------------|
| Daily                                   | 1925        |
| Monthly                                 | 1925        |
| DATABASE AVAILABILITY AND PRODUCT TYPES |             |
| Database Formats                        | CRSPAccess  |
| Product Types                           | STK         |
| TS_PRINT/TSQUERY USAGE                  |             |
| Daily ITEMID                            | cumxsparet  |
| Monthly ITEMID                          | mcumxsparet |
| Header                                  | Cumxsparet  |
| SUBNO                                   | PORTID      |

### EXCESS RETURNS WITHOUT DIVIDENDS VS. INDEX SERIES

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Difference between a security's capital appreciation and the capital appreciation of an index a user selects to be associated with the security.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | xsaret     |
| Monthly ITEMID                          | mxsaret    |
| Header                                  | Xsaret     |
| SUBNO                                   | INDNO      |

### EXCESS RETURNS WITHOUT DIVIDENDS VS. INDEX SERIES, CUMULATIVE

**Category:** Returns Related to an Index

**Data Type:** Floating Point

**Description:** Compounded difference between a security's capital appreciation and the capital appreciation of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumxsaret  |
| Monthly ITEMID                          | mcumxsaret |
| Header                                  | Cumxsaret  |
| SUBNO                                   | INDNO      |

### EXCHANGE CODE, END OF PERIOD

**Category:** Name History

**Data Type:** Double Precision Floating Point

**Description:** Integer code(s) indicating the exchange(s) on which the security is listed at the end of the period reported.

#### Extended Information

Exchange Codes are respectively 1, 2, 3 and 4 for NYSE, NYSE MKT, NASDAQ, and Arca. An Exchange Code of zero indicates that a security is either trading on an unknown exchange, or is temporarily not trading at all. Adding 30 to the normal Exchange Codes (31, 32, 33 and 34) identifies when-issued trading, such as during a reorganization. The following table contains a list of most of the Exchange Codes in the name history array.

| CODE | EXCHANGE NAME                                   |
|------|---|
| -2   | Halted by Primary Listing Exchange              |
| -1   | Suspended by Primary Listing Exchange           |
| 0    | Not Trading on Primary Listing Exchange         |
| 1    | NYSE  |
| 2    | NYSE MKT  |
| 3    | NASDAQ  |
| 4    | Arca  |
| 5    | Bats (As Quoted By NASDAQ)                      |
| 10   | Boston Stock Exchange                           |
| 13   | Chicago Stock Exchange                          |
| 16   | Pacific Stock Exchange                          |
| 17   | Philadelphia Stock Exchange                     |
| 19   | Toronto Stock Exchange                          |
| 20   | Over-The-Counter (Non-NASDAQ Dealer Quotations) |

| CODE | EXCHANGE NAME                   |
|------|---------------------------------|
| 31   | When-Issued Trading on NYSE     |
| 32   | When-Issued Trading on NYSE MKT |
| 33   | When-Issued Trading on NASDAQ   |
| 34   | When-Issued Trading on Arca     |

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | exchcd     |
| Monthly ITEMID                          | mexchcd    |
| Header                                  | EX         |
| SUBNO                                   | 0          |

### EXCHANGE CODE, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** Double Precision Floating Point

**Description:** Integer code(s) indicating the exchange(s) on which the security is listed at the end of the period preceding the period reported.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | exchcd     |
| Monthly ITEMID                          | mexchcd    |
| Header                                  | EXE        |
| SUBNO                                   | 1          |

### EXCHANGE CODE, MOST RECENT

**Category:** Name History

**Data Type:** Double Precision Floating Point

**Description:** The most recently known integer code(s) indicating the exchange(s) on which the security is listed.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | exchcd     |
| Monthly ITEMID                          | mexchcd    |
| Header                                  | EXL        |
| SUBNO                                   | 2          |

### EXCHANGE CODE - HEADER

Exchange Code - Header displays the Exchange Code on which a security was last listed. Valid Exchange Code - Header values are 1, 2, 3, 4 or 5, which correspond to the NYSE, NYSE MKT, NASDAQ, Arca and Bats respectively. Other Exchange Codes are not included in the Exchange Code - Header field.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | integer number                         |
| Unit of Item                            | Code                                   |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925                                   |
| Monthly                                 | 1925                                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    |  |
| ts_print Monthly Usage                  | n/a                                    |
| stk_print or ind_print Option(s)        | n/a                                    |
| C USAGE                                 |  |
| Object                                  | header_row                             |
| Array                                   | header                                 |
| Element                                 | hexcd                                  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | stkhdr                                 |
| Member and/or Array                     | n/a                                    |
| Element                                 | hexcd                                  |



**E.****FACTOR TO ADJUST PRICE IN PERIOD****Category:** Dividends**Data Type:** Floating Point

**Description:** Factor from a base date used to adjust prices after distributions so that equivalent comparisons can be made between prices before and after the distribution.

**Extended Information**

Factor to Adjust Price equals Factor to Adjust Shares Outstanding for most distribution events. There are three types of distributions where this is the case:

1. For ordinary cash dividends or partial liquidating payments, Factor to Adjust Price is set to zero.
2. For cases of mergers, total liquidations, or exchanges where all shares were exchanged, a final liquidation payment was announced, or the security disappeared, Factor to Adjust Price is set to negative one by convention.
3. For stock dividends and splits, Factor to Adjust Price is the number of additional shares per old share issued:

$$\text{facpr} = (s(t) - s(t'))/s(t') = (s(t)/s(t')) - 1$$

where  $s(t)$  is the number of shares outstanding,  $t$  is a date after or on the Ex-Distribution Date for the split, and  $t'$  is a date before the split. In a reverse split, Factor To Adjust Price will be between -1 and 0.

In other less common distribution events, spin-offs, non-total or non-final liquidating distributions, and rights, Factor to Adjust Price is not equal to Factor to Adjust Shares Outstanding. Factor to Adjust Price is defined as the Dividend Cash Amount divided by the stock price on the Ex-Distribution Date,  $P(t)$ :

$$\text{facpr} = \text{DIVAMT}/P(t)$$

If there is no available price on the Ex-Distribution Date, and there is a price within ten periods after  $P(t)$ , CRSP substitutes that price for  $P(t)$ .

Note that  $P(t)$  is the price on the Ex-Distribution Date.

Therefore, unless it happens to be a month-end, the price is not available in our monthly file.

Other cases where Factor to Adjust Price may not be equal to factor to adjust shares are issuances and limited tender offers. For issuances, Factor to Adjust Price is set to zero. For limited tender offers where a limited set percentage of shares are accepted in exchange for cash, Factor to Adjust Price is set to the ratio of shares accepted multiplied by -1.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | facprc     |
| Monthly ITEMID                          | mfacprc    |
| Header                                  | Facprc     |
| SUBNO                                   | 0          |

**FACTOR TO ADJUST SHARES OUTSTANDING**

Factor to Adjust Shares Outstanding is an adjustment to Shares Outstanding observations due to a distribution event. It is the number of additional shares outstanding expected after the Ex-Distribution Date of the distribution event relative to the last known observation. Factor to Adjust Shares Outstanding equals Factor to Adjust Price for most distribution events. There are five types of distributions where this is the case. See Factor to Adjust Price in Period above for these cases and how they are handled.

For spin-offs, Factor to Adjust Shares Outstanding is set to zero. For rights issues, Factor to Adjust Shares Outstanding is calculated based on all shareholders exercising the rights on the Ex-Distribution Date. If it is set to 0, this distribution leaves the actual shares outstanding adjustment to this right to shares observations in the quarterly reports. For issuances and offers, if it is nonzero, then it is calculated in the same manner as for stock splits.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Distribution Event Array, Calculations |
| Data Type                               | real number                            |
| Unit of Item                            | Conversion Factor                      |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925                                   |
| Monthly                                 | 1925                                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| stk_print or ind_print Option(s)        | /di                                    |
| C USAGE                                 |  |
| Object                                  | dists_arr                              |
| Array                                   | dists[ ]                               |
| Element                                 | facshr                                 |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | dists_arr                              |
| Member and/or Array                     | dists( )                               |
| Element                                 | facshr                                 |

### FIRST DATE INCLUDED IN LIST

First Date Included in List is the date, in YYYYMMDD format, of the first date an issue is included in a portfolio defined as a selected list of securities.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Index List History Array |
| Data Type                               | integer number           |
| Unit of Item                            | YYYYMMDD date            |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | IND                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| ind_print Option(s)                     | n/a                      |
| C USAGE                                 |                          |
| Object                                  | list_arr[ ]              |
| Array                                   | list[ ][ ]               |
| Element                                 | begdt                    |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | list_arr                 |
| Member and/or Array                     | list(,)                  |
| Element                                 | begdt                    |

### G.

### GROUP FLAG OF ASSOCIATED INDEX, END OF PERIOD

Category: Other

Data Type: Double Precision Floating Point

Description: Code identifying a group to which a security belongs. Currently, S&P 500 group flag 16 is the only active group. If the security belongs to the selected group type, the Group Flag of Associated Index will contain a one (1). If it does not belong to the group, or is not valid according to the group rules, the field contains a zero (0).

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | grpflg     |
| Monthly ITEMID                          | mgrpflg    |
| Header                                  | SPInd      |
| SUBNO                                   | 16         |

### GROUP FLAG OF ASSOCIATED INDEX, END OF PREVIOUS PERIOD

Category: Other

Data Type: Double Precision Floating Point

Description: Code identifying a group to which a security belongs, in the period preceding the period reported. Currently, S&P 500 group flag 16 is the only active group.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | egrpflg    |
| Monthly ITEMID                          | megrpflg   |
| Header                                  | ESPInd     |
| SUBNO                                   | 16         |

## GROUP FLAG OF ASSOCIATED INDEX, LAST FLAG, ALL PERIODS

Category: Other

Data Type: Double Precision Floating Point

Description: Last known code identifying a group to which a security belongs. Currently, S&P 500 group flag 16 is the only active group.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | lgrpflg    |
| Monthly ITEMID                          | migrpflg   |
| Header                                  | LSPInd     |
| SUBNO                                   | 16         |

H.

## HIGHEST CLOSE

Category: Prices

Data Type: Floating Point

Description: Daily – Highest daily closing price within the selected output calendar.

Monthly – Highest month end closing price within the selected calendar. Appropriate to use with quarterly and annual output calendars.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | high       |
| Monthly ITEMID                          | mhigh      |
| Header                                  | High       |
| SUBNO                                   | 0          |

## HOLDING PERIOD TOTAL RETURN

A return is the change in the total value of an investment in the security over some period of time per dollar of initial investment. Holding Period Total Return is the return for a sale on the given day. It is based on a purchase on the most recent time previous to this day when the security had a valid price. Usually, this time is the previous calendar period. See “Returns” in the Calculations section.

Daily: In daily databases, dividends are reinvested on the Ex-Distribution Date.

Monthly: In monthly databases, returns are holding period returns from month-end to month-end, not compounded from daily returns, and ordinary dividends are reinvested at month-end.

A series of special missing return codes specify the reason a return is missing.

| CODE  | REASON FOR MISSING RETURN  |
|-------|--|
| -66.0 | Valid current price but no valid previous price. Either first price, unknown exchange between current and previous price, or more than 10 periods between time t and the time of the preceding price t'. |
| -77.0 | Not trading on the current exchange at time t.   |
| -88.0 | No data available to calculate returns.  |
| -99.0 | Missing return due to missing price at time t; usually due to suspension in trading or trading on unknown exchange.  |

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Price, Volume, and Return Time Series Arrays |
| Data Type                               | real number                                  |
| Unit of Item                            | Ratio  |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925   |
| Monthly                                 | 1925   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                                   |
| Product Types                           | STK  |
| ts_print Daily Usage                    | ret/0  |
| ts_print Monthly Usage                  | mret/0                                       |
| ind_print Option(s)                     | /pr, /dd, /dr, /dx                           |
| C USAGE                                 |  |
| Object                                  | ret_ts                                       |
| Array                                   | ret[ ]                                       |
| Element                                 |  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | ret_ts                                       |
| Member and/or Array                     | ret( )                                       |
| Element                                 |  |

## L

**INDEX BASIC ASSIGNMENT TYPES CODE**

Index Basic Assignment Types Code is an integer code of basic assignment types for fractile or rule-based indexes. The following codes are currently used.

| CODE | DESCRIPTION               |
|------|---------------------------|
| 0    | Unknown or not applicable |
| 1    | Annual rebalancing        |
| 2    | Quarterly rebalancing     |
| 3    | Monthly rebalancing       |

| GENERAL INFORMATION                     |                   |
|---|-------------------|
| Primary Concepts                        | Index Header      |
| Data Type                               | integer number    |
| Unit of Item                            | Code              |
| DATE RANGE AVAILABILITY                 |                   |
| Daily                                   | 1925              |
| Monthly                                 | 1925              |
| DATABASE AVAILABILITY AND UTILITY USAGE |                   |
| Database Formats                        | CRSPAccess        |
| Product Types                           | IND               |
| ts_print Daily Usage                    | n/a               |
| ts_print Monthly Usage                  | n/a               |
| ind_print Option(s)                     | /hr               |
| C USAGE                                 |                   |
| Object                                  | indhdr_row        |
| Array                                   | indhdr            |
| Element                                 | assign.assigncode |
| FORTRAN-95 USAGE                        |                   |
| Type or Subtype                         | indhdr            |
| Member and/or Array                     | assign            |
| Element                                 | assigncode        |

**INDEX BASIC EXCEPTION TYPES CODE**

Index Basic Exception Types Code is an integer code of the basic exception characteristics used in building an index. The following codes are currently used:

| CODE | DESCRIPTION                               |
|------|---|
| 0    | Unknown or not available                  |
| 1    | CRSP market index flags                   |
| 2    | Cap-Based index flags                     |
| 3    | CRSP market index trade-only prices flags |

| GENERAL INFORMATION     |                |
|-------------------------|----------------|
| Primary Concepts        | Index Header   |
| Data Type               | integer number |
| Unit of Item            | Code           |
| DATE RANGE AVAILABILITY |                |
| Daily                   | 1925           |

| Monthly                                 | 1925           |
|---|----------------|
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| ind_print Option(s)                     | /hr            |
| C USAGE                                 |                |
| Object                                  | indhdr_row     |
| Array                                   | indhdr         |
| Element                                 | flags.flagcode |
| FORTRAN-95 USAGE                        |                |
| Type or Subtype                         | indhdr         |
| Member and/or Array                     | flags          |
| Element                                 | flagcode       |

**INDEX BASIC RULE TYPES CODE**

Index Basic Rule Types Code is an integer code of basic portfolio methodology rule types used in building indexes. The following codes are currently used:

| CODE | DESCRIPTION   |
|------|---|
| 0    | Unknown or not applicable                           |
| 1    | Group by previous period end issue capitalization   |
| 2    | Group by previous period end company capitalization |
| 3    | Group by Scholes-Williams beta over previous year   |
| 4    | Group by standard deviation over previous year      |

| GENERAL INFORMATION                     |                |
|---|----------------|
| Primary Concepts                        | Index Header   |
| Data Type                               | integer number |
| Unit of Item                            | Code           |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| ind_print Option(s)                     | /hr            |
| C USAGE                                 |                |
| Object                                  | indhdr_row     |
| Array                                   | indhdr         |
| Element                                 | rules.rulecode |
| FORTRAN-95 USAGE                        |                |
| Type or Subtype                         | indhdr         |
| Member and/or Array                     | rules          |
| Element                                 | rulecode       |

## INDEX CAPITAL APPRECIATION RETURN

Index Capital Appreciation Return is the return, excluding ordinary dividends, of an index. See “Index Returns” in the Calculations Section for details on how CRSP index returns are calculated. If CRSP includes a public index such as the S&P 500 Composite or the NASDAQ Composite, Index Capital Appreciation Return is derived from data provided by the creator of the index.

| GENERAL INFORMATION                     |                   |
|---|-------------------|
| Primary Concepts                        | Index Time Series |
| Data Type                               | real number       |
| Unit of Item                            | Ratio             |
| DATE RANGE AVAILABILITY                 |                   |
| Daily                                   | 1925              |
| Monthly                                 | 1925              |
| DATABASE AVAILABILITY AND UTILITY USAGE |                   |
| Database Formats                        | CRSPAccess        |
| Product Types                           | IND               |
| ts_print Daily Usage                    | retx/0            |
| ts_print Monthly Usage                  | mretx/0           |
| ind_print Option(s)                     | /ar               |
| C Usage Object                          | aret_ts[ ]        |
| Array                                   | aret[ ][ ]        |
| Element                                 | n/a               |
| FORTRAN-95 USAGE                        |                   |
| Type or Subtype                         | aret_ts           |
| Member and/or Array                     | aret(, )          |
| Element                                 | n/a               |

## INDEX COUNT TOTAL

**Category:** Other

**Data Type:** Double Precision Floating Point

**Description:** Total number of securities in an index universe with a valid price on the selected trading date.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | tcnt       |
| Monthly ITEMID                          | mtcnt      |

|        |      |
|--------|------|
| Header | TCnt |
| SUBNO  | 0    |

## INDEX COUNT USED

**Category:** Other

**Data Type:** Double Precision Floating Point

**Description:** Number of issues used to create a specific index or portfolio during one calendar period. A security must be a member of the index or portfolio with valid prices for both the current and the previous trading periods to be included in the count. See the Index Methodologies section for information including rebalancing frequency and universe inclusion for specific indexes.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cnt        |
| Monthly ITEMID                          | mcnt       |
| Header                                  | Cnt        |
| SUBNO                                   | 0          |

## INDEX EXCEPTION HANDLING FLAGS

Index Exception Handling Flags is a group of fields describing how an index supports exceptions in the data, such as new and delisted issues and missing data. The flags contain the following fields: Index Basic Exception Type Code, Index New Issues Flag, Index Ineligible Issues Flag, Return of Delisted Issues Flag, and Index Missing Data Flag.

| GENERAL INFORMATION                     |                             |
|---|-----------------------------|
| Primary Concepts                        | Index Header                |
| Data Type                               | structure                   |
| Unit of Item                            | Set (exception codes/flags) |
| DATE RANGE AVAILABILITY                 |                             |
| Daily                                   | 1925                        |
| Monthly                                 | 1925                        |
| DATABASE AVAILABILITY AND UTILITY USAGE |                             |
| Database Formats                        | CRSPAccess                  |

|                         |            |
|-------------------------|------------|
| Product Types           | IND        |
| ts_print Daily Usage    | n/a        |
| ts_print Monthly Usage  | n/a        |
| ind_print Option(s)     | /hr        |
| <b>C USAGE</b>          |            |
| Object                  | indhdr_row |
| Array                   | indhdr     |
| Element                 | flags      |
| <b>FORTRAN-95 USAGE</b> |            |
| Type or Subtype         | indhdr     |
| Member and/or Array     | flags      |
| Element                 | n/a        |

### INDEX FUNCTION CODE FOR BUY RULES

Index Function Code for Buy Rules is a code defining a function used to determine whether an issue is added to a portfolio during rebalancing. This variable is not yet available, and is always set to 0.

|  |   |
|--|---|
| <b>GENERAL INFORMATION</b>                     |   |
| Primary Concepts                               | Index Header, Index Rebalancing History<br>Arrays |
| Data Type                                      | integer number                                    |
| Unit of Item                                   | Code  |
| <b>DATE RANGE AVAILABILITY</b>                 |   |
| Daily  | 1925  |
| Monthly  | 1925  |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |   |
| Database Formats                               | CRSPAccess  |
| Product Types                                  | IND   |
| ts_print Daily Usage                           | n/a   |
| ts_print Monthly Usage                         | n/a   |
| ind_print Option(s)                            | /hr   |
| <b>C USAGE</b>                                 |   |
| Object   | indhdr_row  |
| Array  | indhdr  |
| Element  | rules.buyfnct                                     |
| <b>FORTRAN-95 USAGE</b>                        |   |
| Type or Subtype                                | indhdr  |
| Member and/or Array                            | rules   |
| Element  | buyfnct   |

### INDEX FUNCTION CODE FOR GENERATING STATISTICS

Index Function Code for Generating Statistics is a code defining a function used to generate a statistic to be used in determining inclusion in a portfolio. The

following codes are currently used.

| CODE | DESCRIPTION                              |
|------|--|
| 0    | Unknown or not applicable                |
| 1    | Capitalization at end of previous period |
| 2    | Scholes-Williams beta over previous year |
| 3    | Standard deviation over previous year    |

|  |                |
|--|----------------|
| <b>GENERAL INFORMATION</b>                     |                |
| Primary Concepts                               | Index Header   |
| Data Type                                      | integer number |
| Unit of Item                                   | Code           |
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | IND            |
| ts_print Daily Usage                           | n/a            |
| ts_print Monthly Usage                         | n/a            |
| ind_print Option(s)                            | /hr            |
| <b>C USAGE</b>                                 |                |
| Object   | indhdr_row     |
| Array  | indhdr         |
| Element  | rules.statfnct |
| <b>FORTRAN-95 USAGE</b>                        |                |
| Type or Subtype                                | indhdr         |
| Member and/or Array                            | rules          |
| Element  | statfnct       |

### INDEX FUNCTION CODE FOR SELL RULES

Index Function Code for Sell Rules is a code defining a function used to determine whether to sell current issues in a portfolio at a rebalancing period. This is not yet available, and is always set to 0.

|  |                |
|--|----------------|
| <b>GENERAL INFORMATION</b>                     |                |
| Primary Concepts                               | Index Header   |
| Data Type                                      | integer number |
| Unit of Item                                   | Code           |
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | IND            |
| ts_print Daily Usage                           | n/a            |
| ts_print Monthly Usage                         | n/a            |

|                         |                |
|-------------------------|----------------|
| ind_print Option(s)     | /hr            |
| <b>C USAGE</b>          |                |
| Object                  | indhdr_row     |
| Array                   | indhdr         |
| Element                 | rules.sellfnct |
| <b>FORTRAN-95 USAGE</b> |                |
| Type or Subtype         | indhdr         |
| Member and/or Array     | rules          |
| Element                 | sellfnct       |

## INDEX GROUP NAME

Index Group Name is the name of the index group to which an index belongs. All indexes with the same Permanent Index Group Identification Number have the same Index Group Name.

|  |              |
|--|--------------|
| <b>GENERAL INFORMATION</b>                     |              |
| Primary Concepts                               | Index Header |
| Data Type                                      | character    |
| Unit of Item                                   | Id           |
| <b>DATE RANGE AVAILABILITY</b>                 |              |
| Daily  | 1925         |
| Monthly  | 1925         |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |              |
| Database Formats                               | CRSPAccess   |
| Product Types                                  | IND          |
| ts_print Daily Usage                           | n/a          |
| ts_print Monthly Usage                         | n/a          |
| ind_print Option(s)                            | /hh , /hr    |
| <b>C USAGE</b>                                 |              |
| Object   | indhdr_row   |
| Array  | indhdr       |
| Element  | groupname    |
| <b>FORTRAN-95 USAGE</b>                        |              |
| Type or Subtype                                | indhdr       |
| Member and/or Array                            | n/a          |
| Element  | groupname    |

## INDEX INCOME RETURN

Index Income Return is the ordinary dividend return of an index. See “Index Returns” in the Calculations section for details on how CRSP index returns are calculated. Index Capital Appreciation Return is available for CRSP-generated indexes.

|                            |                   |
|----------------------------|-------------------|
| <b>GENERAL INFORMATION</b> |                   |
| Primary Concepts           | Index Time Series |
| Data Type                  | real number       |

|  |            |
|--|------------|
| Unit of Item                                   | Ratio      |
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | IND        |
| ts_print Daily Usage                           | reti       |
| ts_print Monthly Usage                         | mreti      |
| ind_print Option(s)                            | /ir        |
| <b>C USAGE</b>                                 |            |
| Object   | iret_ts[ ] |
| Array  | iret[ ][ ] |
| Element  | n/a        |
| <b>FORTRAN-95 USAGE</b>                        |            |
| Type or Subtype                                | iret_ts    |
| Member and/or Array                            | iret(,)    |
| Element  | n/a        |

## INDEX INELIGIBLE ISSUES FLAG

Index Ineligible Issues Flag is a code describing how issues that become ineligible for an index are handled in the index. The following codes are used:

| CODE | DESCRIPTION   |
|------|---|
| 0    | Unknown or not available  |
| 1    | Issues becoming ineligible are held until the next time period. |

|  |                |
|--|----------------|
| <b>GENERAL INFORMATION</b>                     |                |
| Primary Concepts                               | Index Header   |
| Data Type                                      | integer number |
| Unit of Item                                   | Code           |
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | IND            |
| ts_print Daily Usage                           | n/a            |
| ts_print Monthly Usage                         | n/a            |
| ind_print Option(s)                            | /hr            |
| <b>C USAGE</b>                                 |                |
| Object   | indhdr_row     |
| Array  | indhdr         |
| Element  | flags.delflag  |
| <b>FORTRAN-95 USAGE</b>                        |                |
| Type or Subtype                                | indhdr         |
| Member and/or Array                            | flags          |
| Element  | delflag        |



## INDEX LEVEL OF RETURNS

**Category:** Index Levels

**Data Type:** Floating Point

**Description:** Value of an index, including all distributions, relative to its value at one fixed point in time.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | tlvl       |
| Monthly ITEMID                          | mtlvl      |
| Header                                  | TLvl       |
| SUBNO                                   | 0          |

## INDEX LEVEL OF RETURNS ON INCOME

**Category:** Index Levels

**Data Type:** Floating Point

**Description:** Ordinary dividend value of an index, relative to its value at one fixed point in time.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ilvl       |
| Monthly ITEMID                          | milvl      |
| Header                                  | ILvl       |
| SUBNO                                   | 0          |

## INDEX LEVEL OF RETURNS WITHOUT DIVIDENDS

**Category:** Index Levels

**Data Type:** Floating Point

**Description:** Value of an index, excluding ordinary dividends, relative to its value at one fixed point in time.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | alvl       |
| Monthly ITEMID                          | malvl      |
| Header                                  | ALvl       |
| SUBNO                                   | 0          |

## INDEX LEVEL OF TOTAL RETURNS

Index Total Return Index Level is the value of an index, including all distributions, relative to its value at one fixed point in time. See “Index Levels” in the Calculations section for details on how CRSP index levels are calculated. Index Total Return Index Level is only available for CRSP-generated indexes. Index levels for the CRSP Stock File Indexes and the CRSP CTI Indexes are set to an initial value of 100.00 on 19721229. Index levels for the Cap-Based Portfolios are set to 1.00 on 19251231.

| GENERAL INFORMATION                     |                   |
|---|-------------------|
| Primary Concepts                        | Index Time Series |
| Data Type                               | real number       |
| Unit of Item                            | Ratio             |
| DATE RANGE AVAILABILITY                 |                   |
| Daily                                   | 1925              |
| Monthly                                 | 1925              |
| DATABASE AVAILABILITY AND UTILITY USAGE |                   |
| Database Formats                        | CRSPAccess        |
| Product Types                           | IND               |
| ts_print Daily Usage                    | tind              |
| ts_print Monthly Usage                  | mtind             |
| ind_print Option(s)                     | /ti               |
| C USAGE                                 |                   |
| Object                                  | tind_ts[ ]        |

|                          |            |
|--------------------------|------------|
| Array                    | tind[ ][ ] |
| Element                  | n/a        |
| <b>FORTTRAN-95 USAGE</b> |            |
| Type or Subtype          | tind_ts    |
| Member and/or Array      | tind(,)    |
| Element                  | n/a        |

## INDEX METHOD TYPE CODE

Index Method Type Code is an integer code indicating the basic methodology for an index. It represents the combination of Index Primary Methodology Type, Index Secondary Methodology Group, Index Reweighting Type Flag, and Index Reweighting Timing Flag characteristics. Current codes are:

| CODE | DESCRIPTION                                       |
|------|---|
| 1    | CRSP Cap-Based Portfolios                         |
| 3    | CRSP Risk-Based Decile Indexes                    |
| 4    | CRSP Value-Weighted Market Indexes                |
| 5    | CRSP Equal-Weighted Market Indexes                |
| 6    | CRSP Capitalization Decile Market Indexes         |
| 7    | S&P 500 Composite                                 |
| 8    | CRSP Value-Weighted Index on the S&P 500 Universe |
| 9    | CRSP Equal-Weighted Index on the S&P 500 Universe |
| 10   | NASDAQ Composite                                  |
| 12   | CRSP Fixed Term Bond Returns                      |
| 13   | CRSP Fixed Term Bill Returns                      |
| 14   | Provided by External Source                       |

| GENERAL INFORMATION                     |                 |
|---|-----------------|
| Primary Concepts                        | Index Header    |
| Data Type                               | integer number  |
| Unit of Item                            | Code            |
| DATE RANGE AVAILABILITY                 |                 |
| Daily                                   | 1925            |
| Monthly                                 | 1925            |
| DATABASE AVAILABILITY AND UTILITY USAGE |                 |
| Database Formats                        | CRSPAccess      |
| Product Types                           | IND             |
| ts_print Daily Usage                    | n/a             |
| ts_print Monthly Usage                  | n/a             |
| ind_print Option(s)                     | /hr             |
| C USAGE                                 |                 |
| Object                                  | indhdr_row      |
| Array                                   | indhdr          |
| Element                                 | method.methcode |
| FORTTRAN-95 USAGE                       |                 |
| Type or Subtype                         | indhdr          |
| Member and/or Array                     | method          |
| Element                                 | methcode        |

## INDEX METHODOLOGY DESCRIPTION STRUCTURE

Index Methodology Description Structure contains fields describing the rules used to build the index. These fields contain information on primary and secondary methodologies and rules for weighting securities within the index. The fields are Index Method Type Code, Index Primary Methodology Type, Index Secondary Methodology Group, Index Reweighting Type Flag, and Index Reweighting Timing Flag.

| GENERAL INFORMATION                     |                   |
|---|-------------------|
| Primary Concepts                        | Index Header      |
| Data Type                               | structure         |
| Unit of Item                            | Set (methodology) |
| DATE RANGE AVAILABILITY                 |                   |
| Daily                                   | 1925              |
| Monthly                                 | 1925              |
| DATABASE AVAILABILITY AND UTILITY USAGE |                   |
| Database Formats                        | CRSPAccess        |
| Product Types                           | IND               |
| ts_print Daily Usage                    | n/a               |
| ts_print Monthly Usage                  | n/a               |
| ind_print Option(s)                     | /hr               |
| C USAGE                                 |                   |
| Object                                  | indhdr_row        |
| Array                                   | indhdr            |
| Element                                 | method            |
| FORTTRAN-95 USAGE                       |                   |
| Type or Subtype                         | indhdr            |
| Member and/or Array                     | method            |
| Element                                 | n/a               |

## INDEX MISSING DATA FLAG

Index Missing Data Flag describes the possible actions taken for securities with missing data during the range in an index portfolio. The following codes are currently used:

| CODE | DESCRIPTION   |
|------|---|
| 0    | Unknown or not applicable   |
| 3    | Issues without single period returns are excluded                       |
| 5    | Alternate prices are used if possible to generate single period returns |
| 13   | Quotes without trades are treated as missing prices                     |

| GENERAL INFORMATION |              |
|---------------------|--------------|
| Primary Concepts    | Index Header |

|  |                |
|--|----------------|
| Data Type                                      | integer number |
| Unit of Item                                   | Code           |
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | IND            |
| ts_print Daily Usage                           | n/a            |
| ts_print Monthly Usage                         | n/a            |
| stk_print or ind_print Option(s)               | /hr            |
| <b>C USAGE</b>                                 |                |
| Object   | indhdr_row     |
| Array  | indhdr         |
| Element  | flags.missflag |
| <b>FORTRAN-95 USAGE</b>                        |                |
| Type or Subtype                                | indhdr         |
| Member and/or Array                            | flags          |
| Element  | missflag       |

## INDEX NAME

Index Name is the name of the index or portfolio.

|  |              |
|--|--------------|
| <b>GENERAL INFORMATION</b>                     |              |
| Primary Concepts                               | Index Header |
| Data Type                                      | character    |
| Unit of Item                                   | Id           |
| <b>DATE RANGE AVAILABILITY</b>                 |              |
| Daily  | 1925         |
| Monthly  | 1925         |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |              |
| Database Formats                               | CRSPAccess   |
| Product Types                                  | IND          |
| ts_print Daily Usage                           | n/a          |
| ts_print Monthly Usage                         | n/a          |
| ind_print Option(s)                            | /hh , /hr    |
| <b>C USAGE</b>                                 |              |
| Object   | indhdr_row   |
| Array  | indhdr       |
| Element  | indname      |
| <b>FORTRAN-95 USAGE</b>                        |              |
| Type or Subtype                                | indhdr       |
| Member and/or Array                            | n/a          |
| Element  | indname      |

## INDEX NEW ISSUES FLAG

Index New Issues Flag is an integer code describing how new issues are used in an index. The following codes are used:

| CODE | DESCRIPTION  |
|------|--|
| 0    | Unknown or not available   |
| 1    | New securities are included the first period they meet existing portfolio restrictions |
| 2    | Securities are never added until next rebalancing period                               |

|  |                |
|--|----------------|
| <b>GENERAL INFORMATION</b>                     |                |
| Primary Concepts                               | Index Header   |
| Data Type                                      | integer number |
| Unit of Item                                   | Code           |
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | IND            |
| ts_print Daily Usage                           | n/a            |
| ts_print Monthly Usage                         | n/a            |
| ind_print Option(s)                            | /hr            |
| <b>C USAGE</b>                                 |                |
| Object   | indhdr_row     |
| Array  | indhdr         |
| Element  | flags.addflag  |
| <b>FORTRAN-95 USAGE</b>                        |                |
| Type or Subtype                                | indhdr         |
| Member and/or Array                            | flags          |
| Element  | addflag        |

## INDEX PRIMARY LINK

Index Primary Link is the INDNO of an index group containing this index portfolio series. It is set to zero if this index is a group or if there is no primary group index associated with this index series. A series index representing one portfolio of a group can use Index Primary Link to refer back to the primary index. The primary index contains rebalancing information and data for all portfolios in that group.

|                                |                |
|--------------------------------|----------------|
| <b>GENERAL INFORMATION</b>     |                |
| Primary Concepts               | Index Header   |
| Data Type                      | integer number |
| Unit of Item                   | Id             |
| <b>DATE RANGE AVAILABILITY</b> |                |
| Daily                          | 1925           |

|  |            |
|--|------------|
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | IND        |
| ts_print Daily Usage                           | n/a        |
| ts_print Monthly Usage                         | n/a        |
| ind_print Option(s)                            | /hh , /hr  |
| <b>C USAGE</b>                                 |            |
| Object   | indhdr_row |
| Array  | indhdr     |
| Element  | primflag   |
| <b>FORTRAN-95 USAGE</b>                        |            |
| Type or Subtype                                | indhdr     |
| Member and/or Array                            | n/a        |
| Element  | primflag   |

### INDEX PRIMARY METHODOLOGY TYPE

Index Primary Methodology Type is an integer code describing the index type. The following types are currently used:

| CODE | NAME           | DESCRIPTION  |
|------|----------------|--|
| 0    | Fractile Index | A market segment index where breakpoints based on some rule and/or statistic are used to divide eligible issues into portfolios at different intervals. The breakpoint function is continuous so that all eligible issues are in exactly one portfolio during each period. |
| 1    | Selected Index | Universe is supplied from an outside source, with given issues or companies and the data ranges for each.  |
| 3    | Market Index   | Portfolio of all eligible issues is reevaluated each period based on constant universe restrictions.   |
| 4    | Other          | Not Applicable.  |

|  |                 |
|--|-----------------|
| <b>GENERAL INFORMATION</b>                     |                 |
| Primary Concepts                               | Index Header    |
| Data Type                                      | integer number  |
| Unit of Item                                   | Code            |
| <b>DATE RANGE AVAILABILITY</b>                 |                 |
| Daily  | 1925            |
| Monthly  | 1925            |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                 |
| Database Formats                               | CRSPAccess      |
| Product Types                                  | IND             |
| ts_print Daily Usage                           | n/a             |
| ts_print Monthly Usage                         | n/a             |
| ind_print Option(s)                            | /hr             |
| <b>C USAGE</b>                                 |                 |
| Object   | indhdr_row      |
| Array  | indhdr          |
| Element  | method.primtype |

|                         |          |
|-------------------------|----------|
| <b>FORTRAN-95 USAGE</b> |          |
| Type or Subtype         | indhdr   |
| Member and/or Array     | method   |
| Element                 | primtype |

### INDEX REBALANCING BEGIN DATE

Index Rebalancing Begin Date is the integer date, in YYYYMMDD format, of the first date in the rebalancing period of an index.

|  |                                  |
|--|----------------------------------|
| <b>GENERAL INFORMATION</b>                     |                                  |
| Primary Concepts                               | Index Rebalancing History Arrays |
| Data Type                                      | integer number                   |
| Unit of Item                                   | YYYYMMDD date                    |
| <b>DATE RANGE AVAILABILITY</b>                 |                                  |
| Daily  | 1925                             |
| Monthly  | 1925                             |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                                  |
| Database Formats                               | CRSPAccess                       |
| Product Types                                  | IND                              |
| ts_print Daily Usage                           | n/a                              |
| ts_print Monthly Usage                         | n/a                              |
| ind_print Option(s)                            | /rb#                             |
| <b>C USAGE</b>                                 |                                  |
| Object   | rebal_arr[ ]                     |
| Array  | rebal[ ][ ]                      |
| Element  | rbbegdt                          |
| <b>FORTRAN-95 USAGE</b>                        |                                  |
| Type or Subtype                                | rebal_arr()                      |
| Member and/or Array                            | rebal(,)                         |
| Element  | rbbegdt                          |

### INDEX REBALANCING END DATE

Index Rebalancing End Date is the integer date, in YYYYMMDD format, of the last date in the rebalancing period of an index.

|  |                                  |
|--|----------------------------------|
| <b>GENERAL INFORMATION</b>                     |                                  |
| Primary Concepts                               | Index Rebalancing History Arrays |
| Data Type                                      | integer number                   |
| Unit of Item                                   | YYYYMMDD date                    |
| <b>DATE RANGE AVAILABILITY</b>                 |                                  |
| Daily  | 1925                             |
| Monthly  | 1925                             |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                                  |
| Database Formats                               | CRSPAccess                       |
| Product Types                                  | IND                              |
| ts_print Daily Usage                           | n/a                              |

|                         |              |
|-------------------------|--------------|
| ts_print Monthly Usage  | n/a          |
| ind_print Option(s)     | /rb#         |
| <b>C USAGE</b>          |              |
| Object                  | rebal_arr[ ] |
| Array                   | rebal[ ][ ]  |
| Element                 | rbenddt      |
| <b>FORTRAN-95 USAGE</b> |              |
| Type or Subtype         | rebal_arr()  |
| Member and/or Array     | rebal(,)     |
| Element                 | rbenddt      |

## INDEX RETURNS WITHOUT DIVIDENDS

Index Capital Appreciation Return is the return, excluding ordinary dividends, of an index. See “Index Returns” in the Calculations section for details on how CRSP index returns are calculated. If CRSP includes a public index such as the S&P 500 Composite or the NASDAQ Composite, Index Capital Appreciation Return is derived from data provided by the creator of the index.

|  |                   |
|--|-------------------|
| <b>GENERAL INFORMATION</b>                     |                   |
| Primary Concepts                               | Index Time Series |
| Data Type                                      | real number       |
| Unit of Item                                   | Ratio             |
| <b>DATE RANGE AVAILABILITY</b>                 |                   |
| Daily  | 1925              |
| Monthly  | 1925              |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                   |
| Database Formats                               | CRSPAccess        |
| Product Types                                  | STK*, IND         |
| ts_print Daily Usage                           | retx/0            |
| ts_print Monthly Usage                         | mretx/0           |
| ind_print Option(s)                            | /ar               |
| <b>C USAGE</b>                                 |                   |
| Object   | aret_ts[ ]        |
| Array  | aret[ ][ ]        |
| Element  | n/a               |
| <b>FORTRAN-95 USAGE</b>                        |                   |
| Type or Subtype                                | aret_ts           |
| Member and/or Array                            | aret(,)           |
| Element  | n/a               |

## INDEX REWEIGHTING TIMING FLAG

Index Reweighting Timing Flag is an integer code indicating how frequently weights are recalculated in the existing portfolio. The following codes are currently used:

| CODE | DESCRIPTION                          |
|------|--------------------------------------|
| 0    | Not available                        |
| 11   | Weights are applied each time period |

|  |                |
|--|----------------|
| <b>GENERAL INFORMATION</b>                     |                |
| Primary Concepts                               | Index Header   |
| Data Type                                      | integer number |
| Unit of Item                                   | Code           |
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | IND            |
| ts_print Daily Usage                           | n/a            |
| ts_print Monthly Usage                         | n/a            |
| ind_print Option(s)                            | /hr            |
| <b>C USAGE</b>                                 |                |
| Object   | indhdr_row     |
| Array  | indhdr         |
| Element  | method.wgtflag |
| <b>FORTRAN-95 USAGE</b>                        |                |
| Type or Subtype                                | indhdr         |
| Member and/or Array                            | method         |
| Element  | wgtflag        |

## INDEX REWEIGHTING TYPE FLAG

Index Reweighting Type Flag is an integer code indicating the method of weighting the issues in the portfolio index. The following codes are currently used:

| CODE | DESCRIPTION                                  |
|------|--|
| 0    | Not available                                |
| 1    | Value-weighted, weights not supplied by CRSP |
| 2    | Value-weighted                               |
| 3    | Equal-weighted                               |

|  |  |
|--|--|
| <b>GENERAL INFORMATION</b>                     |  |
| Primary Concepts                               | Index Header, Portfolio Statistics and Assignment Arrays |
| Data Type                                      | integer number   |
| Unit of Item                                   | Code   |
| <b>DATE RANGE AVAILABILITY</b>                 |  |
| Daily  | 1925   |
| Monthly  | 1925   |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |  |
| Database Formats                               | CRSPAccess   |
| Product Types                                  | IND  |
| ts_print Daily Usage                           | n/a  |

|                         |               |
|-------------------------|---------------|
| ts_print Monthly Usage  | n/a           |
| ind_print Option(s)     | /hr           |
| <b>C USAGE</b>          |               |
| Object                  | indhdr_row    |
| Array                   | indhdr        |
| Element                 | method.wgtype |
| <b>FORTRAN-95 USAGE</b> |               |
| Type or Subtype         | indhdr        |
| Member and/or Array     | method        |
| Element                 | wgtype        |

## INDEX SECONDARY METHODOLOGY GROUP

Index Secondary Methodology Group is an integer code with further detail for the Index Primary Methodology Type. The following codes are currently used:

| CODE | DESCRIPTION  |
|------|--|
| 0    | No further description   |
| 10   | Portfolios based on market capitalization                        |
| 12   | Portfolios based on result statistic: beta or standard deviation |
| 13   | Issues in S&P 500 Index  |
| 14   | Issues in the NASDAQ Composite Index                             |
| 15   | Treasury Issues of Selected Maturity Ranges                      |

| GENERAL INFORMATION                     |                |
|---|----------------|
| Primary Concepts                        | Index Header   |
| Data Type                               | integer number |
| Unit of Item                            | Code           |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| ind_print Option(s)                     | /hr            |
| C USAGE                                 |                |
| Object                                  | indhdr_row     |
| Array                                   | indhdr         |
| Element                                 | method.subtype |
| FORTRAN-95 USAGE                        |                |
| Type or Subtype                         | indhdr         |
| Member and/or Array                     | method         |
| Element                                 | subtype        |

## INDEX STATISTIC GROUPING CODE

Index Statistic Grouping Code is an integer code describing the type of grouping done on issues before any statistics are applied. The following codes are currently used:

| CODE | DESCRIPTION                               |
|------|---|
| 0    | Unknown or not applicable                 |
| 1    | Each issue is grouped independently       |
| 2    | Multiple issues of a company are combined |

| GENERAL INFORMATION                     |                 |
|---|-----------------|
| Primary Concepts                        | Index Header    |
| Data Type                               | integer number  |
| Unit of Item                            | Code            |
| DATE RANGE AVAILABILITY                 |                 |
| Daily                                   | 1925            |
| Monthly                                 | 1925            |
| DATABASE AVAILABILITY AND UTILITY USAGE |                 |
| Database Formats                        | CRSPAccess      |
| Product Types                           | IND             |
| ts_print Daily Usage                    | n/a             |
| ts_print Monthly Usage                  | n/a             |
| stk_print or ind_print Option(s)        | /hr             |
| C USAGE                                 |                 |
| Object                                  | indhdr_row      |
| Array                                   | indhdr          |
| Element                                 | rules.groupflag |
| FORTRAN-95 USAGE                        |                 |
| Type or Subtype                         | indhdr          |
| Member and/or Array                     | rules           |
| Element                                 | groupflag       |

## INDEX SUBCATEGORY CODE

Index Subcategory Code is an integer flag indicating a subcategory of the primary index in an index list history to which the security belongs. It is set to zero if no subcategory is applicable.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Index List History Array |
| Data Type                               | integer number           |
| Unit of Item                            | Code                     |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | IND                      |

|                         |             |
|-------------------------|-------------|
| ts_print Daily Usage    | n/a         |
| ts_print Monthly Usage  | n/a         |
| ind_print Option(s)     | n/a         |
| <b>C USAGE</b>          |             |
| Object                  | list_arr[ ] |
| Array                   | list[ ][ ]  |
| Element                 | subind      |
| <b>FORTRAN-95 USAGE</b> |             |
| Type or Subtype         | list_arr()  |
| Member and/or Array     | list(,)     |
| Element                 | subind      |

## INDEX SUBSET SCREENING STRUCTURE

Index Subset Screening Structure, like the Partition Subset Screening Structure, is a structure of fields used to restrict a database using various screening variables. The screen fields are: Universal Subset Type Code, First Trading Date Allowed in Restriction, Index Restriction End Date, Valid Exchange Codes in Universe, Valid NASDAQ Market Groups in Universe, Valid When-Issued Securities in Universe, Valid Incorporation of Securities in Universe, and Share Code Screen Structure. Index Subset Screening Structure screens are used to restrict the securities used in the actual index.

|  |                      |
|--|----------------------|
| <b>GENERAL INFORMATION</b>                     |                      |
| Primary Concepts                               | Index Header         |
| Data Type                                      | structure            |
| Unit of Item                                   | Set (screen markets) |
| <b>DATE RANGE AVAILABILITY</b>                 |                      |
| Daily  | 1925                 |
| Monthly  | 1925                 |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                      |
| Database Formats                               | CRSPAccess           |
| Product Types                                  | IND                  |
| ts_print Daily Usage                           | n/a                  |
| ts_print Monthly Usage                         | n/a                  |
| ind_print Option(s)                            | /hr                  |
| <b>C USAGE</b>                                 |                      |
| Object   | indhdr_row           |
| Array  | indhdr               |
| Element  | induniv              |
| <b>FORTRAN-95 USAGE</b>                        |                      |
| Type or Subtype                                | indhdr               |
| Member and/or Array                            | induniv              |
| Element  | n/a                  |

## INDEX TOTAL RETURN

Index Total Return is the return, including all distributions, of an index. See “Index Returns” in the Calculations section for details on how CRSP index returns are calculated. Index Total Return is only available for CRSP-generated indexes.

|  |                   |
|--|-------------------|
| <b>GENERAL INFORMATION</b>                     |                   |
| Primary Concepts                               | Index Time Series |
| Data Type                                      | real number       |
| Unit of Item                                   | Ratio             |
| <b>DATE RANGE AVAILABILITY</b>                 |                   |
| Daily  | 1925              |
| Monthly  | 1925              |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                   |
| Database Formats                               | CRSPAccess        |
| Product Types                                  | STK*, IND         |
| ts_print Daily Usage                           | n/a               |
| ts_print Monthly Usage                         | n/a               |
| ind_print Option(s)                            | /tr               |
| <b>C USAGE</b>                                 |                   |
| Object   | tret_ts[ ]        |
| Array  | tret[ ][ ]        |
| Element  | n/a               |
| <b>FORTRAN-95 USAGE</b>                        |                   |
| Type or Subtype                                | tret_ts           |
| Member and/or Array                            | tret(,)           |
| Element  | n/a               |

## INDEX TOTAL VALUE

Index Total Value is the total market value of the non-ADR securities in the index universe, in \$1000s, with valid prices and shares outstanding amounts on the selected Calendar Trading Date. See the Index Methodologies section for information including rebalancing frequency and universe inclusion for specific indexes.

|  |                   |
|--|-------------------|
| <b>GENERAL INFORMATION</b>                     |                   |
| Primary Concepts                               | Index Time Series |
| Data Type                                      | real number       |
| Unit of Item                                   | USD               |
| Date Range Availability Daily                  | 1925              |
| Monthly  | 1925              |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                   |
| Database Formats                               | CRSPAccess        |
| Product Types                                  | STK, IND          |
| ts_print Daily Usage                           | cap/0             |



|                         |              |
|-------------------------|--------------|
| ts_print Monthly Usage  | mcap/0       |
| ind_print Option(s)     | /tv          |
| <b>C USAGE</b>          |              |
| Object                  | totval_ts[ ] |
| Array                   | totval[ ][ ] |
| Element                 | n/a          |
| <b>FORTRAN-95 USAGE</b> |              |
| Type or Subtype         | totval_ts    |
| Member and/or Array     | totval(, )   |
| Element                 | n/a          |

## INDEX USED VALUE

Index Used Value is the beginning total market value, in \$1000s, of all securities that are used in an index on the selected Calendar Trading Date. In a CRSP value-weighted index the Index Used Value is the weight of the index.

For standard CRSP market indexes the beginning total market value is calculated using prices and shares from the previous trading day. In these indexes a security cannot be an ADR and must have prices and shares on the current and previous trading dates. See “Index Returns” in the Calculations Section, and see the Index Methodologies Section.

|  |                   |
|--|-------------------|
| <b>GENERAL INFORMATION</b>                     |                   |
| Primary Concepts                               | Index Time Series |
| Data Type                                      | real number       |
| Unit of Item                                   | Ratio             |
| <b>DATE RANGE AVAILABILITY</b>                 |                   |
| Daily  | 1925              |
| Monthly  | 1925              |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                   |
| Database Formats                               | CRSPAccess        |
| Product Types                                  | STK, IND          |
| ts_print Daily Usage                           | cap/1             |
| ts_print Monthly Usage                         | mcap/1            |
| ind_print Option(s)                            | /ur               |
| <b>C USAGE</b>                                 |                   |
| Object   | usdval_ts[ ]      |
| Array  | usdval[ ][ ]      |
| Element  | n/a               |
| <b>FORTRAN-95 USAGE</b>                        |                   |
| Type or Subtype                                | usdval_ts         |
| Member and/or Array                            | usdval(, )        |
| Element  | n/a               |

## INDNO

INDNO indicates the unique permanent identifier assigned by CRSP to every supported index. All INDNO identifiers are 7-digit integers. There is no inherent meaning in the numbers. The indexes sets in a CRSPAccess database are sorted by this field. See page 109 for a full list of CRSP Indexes.

|  |                |
|--|----------------|
| <b>GENERAL INFORMATION</b>                     |                |
| Primary Concepts                               | Index Header   |
| Data Type                                      | integer number |
| Unit of Item                                   | Id             |
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | IND            |
| ts_print Daily Usage                           | permno         |
| ts_print Monthly Usage                         | mpermno        |
| ind_print Option(s)                            | /hh, /hr       |
| <b>C USAGE</b>                                 |                |
| Object   | indhdr_row     |
| Array  | indhdr         |
| Element  | indno          |
| <b>FORTRAN-95 USAGE</b>                        |                |
| Type or Subtype                                | indhdr         |
| Member and/or Array                            | n/a            |
| Element  | indno          |

## INDNO OF ASSOCIATED INDEX

INDNO of Associated Index is the identifier of an associated index used to supply rebalancing breakpoint information used for assignments or buy/sell rules to this index. It is set to zero if external portfolio data are used.

|  |                |
|--|----------------|
| <b>GENERAL INFORMATION</b>                     |                |
| Primary Concepts                               | Index Header   |
| Data Type                                      | integer number |
| Unit of Item                                   | Id             |
| <b>DATE RANGE AVAILABILITY</b>                 |                |
| Daily  | 1925           |
| Monthly  | 1925           |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                |
| Database Formats                               | CRSPAccess     |
| Product Types                                  | IND            |

|                         |               |
|-------------------------|---------------|
| ts_print Daily Usage    | n/a           |
| ts_print Monthly Usage  | n/a           |
| ind_print Option(s)     | /hr           |
| <b>C USAGE</b>          |               |
| Object                  | indhdr_row    |
| Array                   | indhdr        |
| Element                 | assign.asperm |
| <b>FORTRAN-95 USAGE</b> |               |
| Type or Subtype         | indhdr        |
| Member and/or Array     | assign        |
| Element                 | asperm        |

### INTEREST RATE OR STRIKE PRICE - HEADER

Interest Rate of Strike Price - Header is the guaranteed annualized interest rate, in percentages, for preferred stock or effective rate of a right, warrant or debt hybrid. It is set to 0 if not applicable or not known.

|  |  |
|--|--|
| <b>GENERAL INFORMATION</b>                     |  |
| Primary Concepts                               | Header Identification and Summary Data |
| Data Type                                      | real number                            |
| Unit of Item                                   | % rate                                 |
| <b>DATE RANGE AVAILABILITY</b>                 |  |
| Daily  |  |
| Monthly  |  |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |  |
| Database Formats                               | CRSPAccess                             |
| Product Types                                  | STK                                    |
| ts_print Daily Usage                           | n/a                                    |
| ts_print Monthly Usage                         | n/a                                    |
| stk_print Option(s)                            | /hn                                    |
| <b>C USAGE</b>                                 |  |
| Object   | header_row                             |
| Array  | header                                 |
| Element  | hrating                                |
| <b>FORTRAN-95 USAGE</b>                        |  |
| Type or Subtype                                | stkhdr                                 |
| Member and/or Array                            | n/a                                    |
| Element  | hrating                                |

### L.

#### LAST DATE INCLUDED IN LIST

Last Date Included in a List is the integer date, in YYYYMMDD format, of the last date an issue is included in a portfolio, defined as a time-dependent list of members.

|  |                          |
|--|--------------------------|
| <b>GENERAL INFORMATION</b>                     |                          |
| Primary Concepts                               | Index List History Array |
| Data Type                                      | integer number           |
| Unit of Item                                   | YYYYMMDD date            |
| <b>DATE RANGE AVAILABILITY</b>                 |                          |
| Daily  | 1925                     |
| Monthly  | 1925                     |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                          |
| Database Formats                               | CRSPAccess               |
| Product Types                                  | IND                      |
| ts_print Daily Usage                           | n/a                      |
| ts_print Monthly Usage                         | n/a                      |
| ind_print Option(s)                            | /li                      |
| <b>C USAGE</b>                                 |                          |
| Object   | list_arr[ ]              |
| Array  | list[ ][ ]               |
| Element  | enddt                    |
| <b>FORTRAN-95 USAGE</b>                        |                          |
| Type or Subtype                                | list_arr()               |
| Member and/or Array                            | list_arr(,)              |
| Element  | enddt                    |

### LAST DATE OF NAME

Last Date of Name is the last effective date of a security's name history structure. It is set to the date preceding the Name Effective Date of the next name structure, the maximum of End of Stock Data, or the Delisting Date of the last name structure.

The name information on any given date can be found by finding the name structure where the target date is between Name Effective Date and Last Date of Name. There is always only one name structure for any select date between the first Name Effective Date and the Delisting Date.

|  |                    |
|--|--------------------|
| <b>GENERAL INFORMATION</b>                     |                    |
| Primary Concepts                               | Name History Array |
| Data Type                                      | integer number     |
| Unit of Item                                   | YYYYMMDD date      |
| <b>DATE RANGE AVAILABILITY</b>                 |                    |
| Daily  | 1925               |
| Monthly  | 1925               |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                    |
| Database Formats                               | CRSPAccess         |
| Product Types                                  | STK                |
| ts_print Daily Usage                           | n/a                |

|                         |                  |
|-------------------------|------------------|
| ts_print Monthly Usage  | n/a              |
| stk_print Option(s)     | /n , /xn4 , /an1 |
| <b>C USAGE</b>          |                  |
| Object                  | names_arr        |
| Array                   | names[ ]         |
| Element                 | nameenddt        |
| <b>FORTRAN-95 USAGE</b> |                  |
| Type or Subtype         | names_arr        |
| Member and/or Array     | names()          |
| Element                 | nameenddt        |

## LOWEST CLOSE

Category: Prices

Data Type: Floating Point

**Description:** Daily – Lowest daily closing price within the selected output calendar.

Monthly – Lowest month end closing price within the selected calendar. Appropriate to use with quarterly and annual output calendars.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQLY USAGE</b>                    |            |
| Daily ITEMID                                   | low        |
| Monthly ITEMID                                 | m1ow       |
| Header   | Low        |
| SUBNO  | 0          |

M.

## MAXIMUM COUNT DURING PERIOD

Maximum Count During Period is the largest count of issues in a portfolio at any point within an index rebalancing period.

|  |                                  |
|--|----------------------------------|
| <b>GENERAL INFORMATION</b>                     |                                  |
| Primary Concepts                               | Index Rebalancing History Arrays |
| Data Type                                      | integer number                   |
| Unit of Item                                   | Count                            |
| <b>DATE RANGE AVAILABILITY</b>                 |                                  |
| Daily  | 1925                             |
| Monthly  | 1925                             |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                                  |
| Database Formats                               | CRSPAccess                       |

|                         |              |
|-------------------------|--------------|
| Product Types           | IND          |
| ts_print Daily Usage    | n/a          |
| ts_print Monthly Usage  | n/a          |
| ind_print Option(s)     | /rs#         |
| <b>C USAGE</b>          |              |
| Object                  | rebal_arr[ ] |
| Array                   | rebal[ ][ ]  |
| Element                 | maxcnt       |
| <b>FORTRAN-95 USAGE</b> |              |
| Type or Subtype         | rebal_arr()  |
| Member and/or Array     | rebal(,)     |
| Element                 | maxcnt       |

## MAXIMUM NUMBER OF ARRAY ELEMENTS

Maximum Number of Array Elements is the maximum number of time periods available in a time series or calendar, or the maximum number of observations in an event array.

|  |   |
|--|---|
| <b>GENERAL INFORMATION</b>                     |   |
| Primary Concepts                               | Base CRSPAccess Data Structures, Time Series Objects, Event Array Objects, Calendar Objects |
| Data Type                                      | integer number  |
| Unit of Item                                   | Metadata  |
| <b>DATE RANGE AVAILABILITY</b>                 |   |
| Daily  | 1925  |
| Monthly  | 1925  |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |   |
| Database Formats                               | CRSPAccess  |
| Product Types                                  | STK, IND  |
| ts_print Daily Usage                           | n/a   |
| ts_print Monthly Usage                         | n/a   |
| stk_print or ind_print Option(s)               | n/a   |
| <b>C USAGE</b>                                 |   |
| Object   | CRSP_TIMESERIES, CRSP_CAL , CRSP_ARRAY  |
| Array  | n/a   |
| Element  | maxarr  |
| <b>FORTRAN-95 USAGE</b>                        |   |
| Type or Subtype                                |   |
| Member and/or Array                            |   |
| Element  |   |

## MEMBER PORTFOLIO RETURNS, CUMULATIVE

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Compounded total returns of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumptret   |
| Monthly ITEMID                          | mcumptret  |
| Header                                  | Cumptret   |
| SUBNO                                   | PORTID     |

## MEMBER PORTFOLIO RETURNS ON INCOME, CUMULATIVE

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Compounded return, on income only, of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumpiret   |
| Monthly ITEMID                          | mcumpiret  |
| Header                                  | Cumpiret   |
| SUBNO                                   | PORTID     |

## MEMBER PORTFOLIO RETURNS WITHOUT DIVIDENDS, CUMULATIVE

**Category:** Returns Related to a Portfolio Type

**Data Type:** Floating Point

**Description:** Compounded price appreciation only, of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumparet   |
| Monthly ITEMID                          | mcumparet  |
| Header                                  | Cumparet   |
| SUBNO                                   | PORTID     |

**N.**

## NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE, END OF PERIOD

**Category:** Name History

**Data Type:** String

**Description:** North American Industry Classification System, 6-character industry code, at the end of period reported.

**Extended Information:** NAICS codes were adopted in 1997 and implemented in 1999, by the Office of Management and Budget (OMB), to replace the U.S. Standard Industrial Classification (SIC) system. The 6-character code is used to group establishments with similar products or services. While there are exceptions to the definition, an establishment “is generally a single, physical location at which economic activity occurs (e.g., store, factory, farm, etc.)<sup>1</sup>”. NAICS was designed to encompass all fields of economic activities, producing and non-producing. Each establishment is assigned to one industry that matches its primary activity. The codes were developed by the US, Canada, and Mexico to provide a business activity standard throughout North America, to facilitate economic analyses of North America’s economies.

NAICS is a hierarchical code, containing up to six digits: The first two fields, NAICS sectors, designate general categories of economic activity, the third field, sub-sector, further defines the sector, the fourth field is the industry group, the fifth field is the NAICS industry, and the sixth field represents the national industry (a zero in the 6th digit generally indicates that the NAICS industry and the country industry are the same). For example, 1123 represents Poultry and Egg Production, 11231 represents Chick Egg Production, and 112310 represents Chicken Egg Production.

NAICS codes are available for securities in the CRSP database from August 24, 2001 onwards. Unknown NAICS codes are blank. For additional information on NAICS codes, please refer to the Executive Office of the President Office of Management and Budget's most current North American Industry Classification System manual, or visit the US Census Bureau's website at <http://www.census.gov/epcd/www/naics.html>.

In the December 2009 stock database, CRSP removed NAICS Codes provided by our source, Mergent, from our Stock Databases and replaced them with NAICS Codes from Interactive Data Corporation. Mergent was CRSP's only source for NAICS beginning 20010824. The IDCI NAICS Codes begin 20040610.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 20010824   |
| Monthly                                 | 20010824   |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | snaics     |
| Monthly ITEMID                          | msnaics    |
| Header                                  | Naics      |
| SUBNO                                   | 0          |

## NAICS, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** String

**Description:** North American Industry Classification System, 6-character industry code, at the end of period preceding the period reported.

| DATE RANGE AVAILABILITY |          |
|-------------------------|----------|
| Daily                   | 20010824 |

| Monthly                                 | 20010824   |
|---|------------|
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | snaics     |
| Monthly ITEMID                          | msnaics    |
| Header                                  | Naicse     |
| SUBNO                                   | 1          |

## NAICS, MOST RECENT

**Category:** Name History

**Data Type:** String

**Description:** The most recently known North American Industry Classification System, 6-character industry code.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 20010824   |
| Monthly                                 | 20010824   |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | snaics     |
| Monthly ITEMID                          | msnaics    |
| Header                                  | Naicsl     |
| SUBNO                                   | 2          |

## NAICS - HEADER

North American Industry Classification System - Header is an 6-character code used to group companies with similar products or services. It contains the most current NAICS code in the database. See North American Industry Classification System (NAICS) for additional detail on NAICS codes. N.B. this field includes data starting on 20040610.

| GENERAL INFORMATION     |  |
|-------------------------|--|
| Primary Concepts        | Header Identification and Summary Data |
| Data Type               | character                              |
| Unit of Item            | Code                                   |
| DATE RANGE AVAILABILITY |  |
| Daily                   | 20040610                               |
| Monthly                 | 20040610                               |

| DATABASE AVAILABILITY AND UTILITY USAGE |            |
|---|------------|
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| ts_print Daily Usage                    |            |
| ts_print Monthly Usage                  | n/a        |
| stk_print Option(s)                     | /hn        |
| C USAGE                                 |            |
| Object                                  | header_row |
| Array                                   | header     |
| Element                                 | hnaics     |
| FORTRAN-95 USAGE                        |            |
| Type or Subtype                         | stkhdr     |
| Member and/or Array                     | n/a        |
| Element                                 | hnaics     |

### NAME EFFECTIVE DATE

Name Effective Date is the starting date of a set of security name information, stored in YYYYMMDD format. If the CUSIP, Company Name, Ticker Symbol, Exchange Code, or s changes, CRSP adds a new name structure that records the change and the date the change became effective. Name Effective Date is the date associated with a specific name structure.

| GENERAL INFORMATION                     |                    |
|---|--------------------|
| Primary Concepts                        | Name History Array |
| Data Type                               | integer number     |
| Unit of Item                            | YYYYMMDD date      |
| DATE RANGE AVAILABILITY                 |                    |
| Daily                                   | 1925               |
| Monthly                                 | 1925               |
| DATABASE AVAILABILITY AND UTILITY USAGE |                    |
| Database Formats                        | CRSPAccess         |
| Product Types                           | STK                |
| ts_print Daily Usage                    | n/a                |
| ts_print Monthly Usage                  | n/a                |
| stk_print Option(s)                     | /n , /xn           |
| C USAGE                                 |                    |
| Object                                  | names_arr          |
| Array                                   | names[ ]           |
| Element                                 | namedt             |
| FORTRAN-95 USAGE                        |                    |
| Type or Subtype                         | names_arr          |
| Member and/or Array                     | names()            |
| Element                                 | namedt             |

### NASDAQ COMPANY NUMBER

Category: Identification

Data Type: Double Precision Floating Point

Description: Unique integer assigned by NASDAQ to each company with a listed security on the NASDAQ exchange.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | compno     |
| Monthly ITEMID                          | mcompno    |
| Daily Header                            | Compno     |
| Monthly Header                          | COMPNO     |
| SUBNO                                   | 0          |

### NASDAQ INDEX CODE, END OF PERIOD

Category: Nasdaq

Data Type: Double Precision Floating Point

Description: Integer code indicating the issue's classification within NASD's internal business description categories, at the end of each period reported. This field is not available between April, 1998 and February, 2000.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 198211     |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | nsdinx     |
| Monthly ITEMID                          | mnsdinx    |
| Header                                  | Nsdinx     |
| SUBNO                                   | 0          |

## NASDAQ INDEX CODE, END OF PREVIOUS PERIOD

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** Integer code indicating the issue's classification within NASD's internal business

**Description:** categories, at the end of the period preceding the period reported.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 198211     |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | nsdinx     |
| Monthly ITEMID                          | mnsdinx    |
| Header                                  | Nsdinx     |
| SUBNO                                   | 1          |

## NASDAQ INDEX CODE, MOST RECENT

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** Integer code indicating the issue's most recent classification within NASD's internal business

**Description:** categories.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 198211     |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | nsdinx     |
| Monthly ITEMID                          | mnsdinx    |
| Header                                  | Nsdinxl    |
| SUBNO                                   | 2          |

## NASDAQ ISSUE NUMBER

NASDAQ Issue Number is a unique integer assigned by the National Association of Securities Dealers (NASD) to each listed security on The NASDAQ Stock Market<sup>SM</sup>. It is this issue-specific identifier which

differentiates securities issued by the same company. If the issue number is unknown, the NASDAQ Issue Number is set to zero. If an NYSE/NYSE MKT security was ever traded on NASDAQ, this number is set to the last issue number assigned when it was trading on NASDAQ. The NASDAQ Issue Number in the CRSP Data File may change if NASDAQ assigns a new number to an issue CRSP considers to be a continuation of an existing issue.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | integer number                         |
| Unit of Item                            | Id                                     |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 198211                                 |
| Monthly                                 | 198211                                 |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| stk_print Option(s)                     | /hh, /hr, /hrl, /hn                    |
| C USAGE                                 |  |
| Object                                  | header_row                             |
| Array                                   | header                                 |
| Element                                 | issuno                                 |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | stkhdr                                 |
| Member and/or Array                     | n/a                                    |
| Element                                 | issuno                                 |

## NASDAQ MARKET MAKERS, END OF PERIOD

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** Number of registered market makers for an issue trading on NASDAQ, at the end of the period reported. This contains a 0 if there are no active market makers at that time, or if the date falls in December of 1982 for a NASD Company Number less than 1025, or in February of 1986.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19821101   |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |



|                               |        |
|-------------------------------|--------|
| Product Types                 | STK    |
| <b>TS_PRINT/TSQUERY USAGE</b> |        |
| Daily ITEMID                  | mmcnt  |
| Monthly ITEMID                | mmmcnt |
| Header                        | Mmcnt  |
| SUBNO                         | 0      |

## NASDAQ MARKET MAKERS, END OF PREVIOUS PERIOD

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** Number of registered market makers for an issue trading on NASDAQ, at the end of the period preceding the period reported.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 19821101   |
| Monthly  | 198211     |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | mmcnt      |
| Monthly ITEMID                                 | mmmcnt     |
| Header   | Mmcnte     |
| SUBNO  | 1          |

## NASDAQ MARKET MAKERS, MOST RECENT

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** Number of registered market makers for an issue trading on NASDAQ, the most recently known value.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 19821101   |
| Monthly  | 198211     |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | mmcnt      |
| Monthly ITEMID                                 | mmmcnt     |
| Header   | Mmcntl     |
| SUBNO  | 2          |

## NASDAQ NATIONAL MARKET INDICATOR, END OF PERIOD

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** One-digit integer code indicating an issue's membership within the NASDAQ Market tier system.

### Extended Information

Prior to June 15, 1992, transaction data was not available for NASDAQ SmallCap Securities. As of June 15, 1992 transaction data became available.

NASDAQ introduced a 3-tier market initiative in July 2006. As a result, the CRSP NASDAQ National Market Indicator (NMSIND) coding scheme was changed. Specifically:

- Small-Cap - renamed Capital Market, CRSP code 4
- National Market - split into two:
  - ♦ Global Market, CRSP code 5
  - ♦ Global Select Market, CRSP code 6.

To achieve expected results, the subset functionality in the ts\_print interface is labeled to reflect these changes. After July 1, 2006, SmallCap is renamed to Capital Market. National Market is renamed to Global Market. In addition, a subset of Global Market is identified as the Global Select Market.

| CODE | DESCRIPTION   |
|------|---|
| 0    | Unknown or unavailable  |
| 1    | The NASDAQ SmallCap Market before June 15, 1992                       |
| 2    | The NASDAQ National Market  |
| 3    | The NASDAQ SmallCap Market after June 15, 1992                        |
| 4    | Capital Market (formerly SmallCap) after July 1, 2006                 |
| 5    | Global Market (formerly National Market) after July 1, 2006           |
| 6    | Global Select Market - new subset of Global Market after July 1, 2006 |

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 19920615   |
| Monthly  | 199206     |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | nmsind     |
| Monthly ITEMID                                 | mnmsind    |
| Header   | Nmsind     |
| SUBNO  | 0          |

## NASDAQ NATIONAL MARKET INDICATOR, END OF PREVIOUS PERIOD

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** One-digit integer code indicating an issue's membership within the NASDAQ Market tier system, at the end of the previous period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19920615   |
| Monthly                                 | 199206     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | nmsind     |
| Monthly ITEMID                          | mnmsind    |
| Header                                  | Nmsinde    |
| SUBNO                                   | 1          |

## NASDAQ NATIONAL MARKET INDICATOR, MOST RECENT

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** One-digit integer code indicating an issue's membership within the NASDAQ Market tier system, most recently known value.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19920615   |
| Monthly                                 | 199206     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | nmsind     |
| Monthly ITEMID                          | mnmsind    |
| Header                                  | Nmsindl    |
| SUBNO                                   | 2          |

## NASDAQ NUMBER OF TRADES

Daily: NASDAQ Number of Trades contains the number of trades made on the NASDAQ Stock Market each date for a security. Trades on all exchanges are connected to NASDAQ's composite pricing network

and all late trades are included in the count. If the number of trades is unavailable, the field is set to -99.

Number of trades is available only for issues trading on The NASDAQ Stock Market<sup>SM</sup>. It is reported for all securities listed on The NASDAQ National Market since November 1, 1982, and all NASDAQ securities since June 15, 1992. Due to lack of sources, NASDAQ Number of Trades data are missing for 15 NASDAQ National Market securities in December, 1982, and all The NASDAQ National Market securities in February, 1986.

Monthly: Not available.

| GENERAL INFORMATION                     |                                 |
|---|---------------------------------|
| Primary Concepts                        | Supplemental NASDAQ Time Series |
| Data Type                               | integer number                  |
| Unit of Item                            | Count                           |
| DATE RANGE AVAILABILITY                 |                                 |
| Daily                                   | 19821101                        |
| Monthly                                 | n/a                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                 |
| Database Formats                        | CRSPAccess                      |
| Product Types                           | STK                             |
| ts_print Daily Usage                    | numtrd/0                        |
| ts_print Monthly Usage                  | n/a                             |
| stk_print Option(s)                     | /pn                             |
| C USAGE                                 |                                 |
| Object                                  | numtrd_ps                       |
| Array                                   | numtrd[ ]                       |
| Element                                 | numtrd                          |
| FORTRAN-95 USAGE                        |                                 |
| Type or Subtype                         | numtrd_ts                       |
| Member and/or Array                     | numtrd( )                       |
| Element                                 | numtrd                          |

## NASDAQ STATUS CODE, END OF PERIOD

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** One-digit integer describing the trading status of an issue listed on NASDAQ, at the end of each period reported.

| CODE | DESCRIPTION               |
|------|---------------------------|
| 0    | Unknown or not applicable |
| 1    | Active                    |

| CODE | DESCRIPTION                        |
|------|------------------------------------|
| 2    | Trading with only one market maker |
| 3    | Suspended                          |
| 4    | Inactive                           |
| 5    | Delisted                           |

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19821101   |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | trtscd     |
| Monthly ITEMID                          | mtrtscd    |
| Header                                  | Trtscd     |
| SUBNO                                   | 0          |

### NASDAQ STATUS CODE, END OF PREVIOUS PERIOD

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** One-digit integer describing the trading status of an issue listed on NASDAQ, at the end of the period preceding each period reported.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19821101   |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | trtscd     |
| Monthly ITEMID                          | mtrtscd    |
| Header                                  | Trtscd     |
| SUBNO                                   | 1          |

### NASDAQ STATUS CODE, MOST RECENT

**Category:** Nasdaq

**Data Type:** Double Precision Floating Point

**Description:** One-digit integer describing the most recently known trading status of an issue listed on NASDAQ.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19821101   |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | trtscd     |
| Monthly ITEMID                          | mtrtscd    |
| Header                                  | Trtscd     |
| SUBNO                                   | 2          |

### NASDAQ STATUS DATE

NASDAQ Status Date is the effective integer begin date, in YYYYMMDD format, for a NASDAQ information structure for a security listed on the NASDAQ Stock Market.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | NASDAQ Information Array |
| Data Type                               | integer number           |
| Unit of Item                            | YYYYMMDD date            |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 19821101                 |
| Monthly                                 | 198211                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | STK                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| stk_print Option(s)                     | /q                       |
| C USAGE                                 |                          |
| Object                                  | nasdin_arr               |
| Array                                   | nasdin[ ]                |
| Element                                 | trtsdt                   |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | nasdin_arr               |
| Member and/or Array                     | nasdin()                 |
| Element                                 | trtsdt                   |

## NASDAQ TRAITS END DATE

NASDAQ Traits End Date is the last date, in YYYYMMDD format, for which information in a NASDAQ information array structure is valid for a security. It is set to the last trading date before the next NASDAQ information event, or to 99999999 in the last structure.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | NASDAQ Information Array |
| Data Type                               | integer number           |
| Unit of Item                            | YYYYMMDD date            |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 19821101                 |
| Monthly                                 | 198211                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | STK                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| stk_print Option(s)                     | /q                       |
| C USAGE                                 |                          |
| Object                                  | nasdin_arr               |
| Array                                   | nasdin[ ]                |
| Element                                 | trtsenddt                |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | nasdin_arr               |
| Member and/or Array                     | nasdin()                 |
| Element                                 | trtsenddt                |

## NEW PERMCO

New PERMCO is an integer link to a company assigned when an issue ceases trading as a result of a merger or exchange when shareholders receive some payment from the acquiring company. If New PERMNO is nonzero, New PERMCO is the PERMCO of that security. If New PERMNO is zero, New PERMCO can still be nonzero if the shareholders receive a payment from an acquiring company known to CRSP, but the payments are not primarily in the stock of the company. New PERMCO is zero if the company is unknown to CRSP or if the delisting does not represent a merger or exchange. See Acquiring PERMCO for companies associated with individual payments.

| GENERAL INFORMATION |                         |
|---------------------|-------------------------|
| Primary Concepts    | Delisting History Array |

| Data Type                               | integer number |
|---|----------------|
| Unit of Item                            | ld             |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | STK            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| stk_print Option(s)                     | /de            |
| C USAGE                                 |                |
| Object                                  | delist_arr     |
| Array                                   | delist[ ]      |
| Element                                 | nwcomp         |
| FORTRAN-95 USAGE                        |                |
| Type or Subtype                         | delist_arr     |
| Member and/or Array                     | delist()       |
| Element                                 | nwcomp         |

## NEW PERMNO

New PERMNO is an integer pointer to a new security assigned when an issue ceases trading as a result of a merger or exchange where shareholders receive stock in the acquiring company. The New PERMNO is the PERMNO of the primary security received from the acquiring company. It acts as a forward pointer, allowing the user to trace the ongoing history of surviving companies. New PERMNO may identify an issue that exists on a different CRSP Stock File. It is set to zero if there is no new primary security applicable, the issue is unknown, or the delisting does not represent a merger or exchange. The distribution history arrays contain an itemized record of all types of payments to shareholders in an exchange or merger. See Acquiring PERMNO for companies associated with individual payments.

| GENERAL INFORMATION                     |                         |
|---|-------------------------|
| Primary Concepts                        | Delisting History Array |
| Data Type                               | integer number          |
| Unit of Item                            | ld                      |
| DATE RANGE AVAILABILITY                 |                         |
| Daily                                   | 1925                    |
| Monthly                                 | 1925                    |
| DATABASE AVAILABILITY AND UTILITY USAGE |                         |
| Database Formats                        | CRSPAccess              |
| Product Types                           | STK                     |

|                         |            |
|-------------------------|------------|
| ts_print Daily Usage    | n/a        |
| ts_print Monthly Usage  | n/a        |
| stk_print Option(s)     | /de        |
| <b>C USAGE</b>          |            |
| Object                  | delist_arr |
| Array                   | delist[ ]  |
| Element                 | nwperm     |
| <b>FORTRAN-95 USAGE</b> |            |
| Type or Subtype         | delist_arr |
| Member and/or Array     | delist()   |
| Element                 | nwperm     |

## NUMBER OF ARRAY ELEMENTS

Number of Array Elements is the count of actual event structures available in a CRSP event object for the current entity.

|  |  |
|--|--|
| <b>GENERAL INFORMATION</b>                     |  |
| Primary Concepts                               | Base CRSPAccess Data Structures, Event Array Objects |
| Data Type                                      | integer number                                       |
| Unit of Item                                   | Count  |
| <b>DATE RANGE AVAILABILITY</b>                 |  |
| Daily  | 1925   |
| Monthly  | 1925   |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |  |
| Database Formats                               | CRSPAccess   |
| Product Types                                  | STK, IND   |
| ts_print Daily Usage                           | n/a  |
| ts_print Monthly Usage                         | n/a  |
| stk_print or ind_print Option(s)               | n/a  |
| <b>C USAGE</b>                                 |  |
| Object   | CRSP_ARRAY   |
| Array  | n/a  |
| Element  | num  |
| <b>FORTRAN-95 USAGE</b>                        |  |
| Type or Subtype                                | crsp_array   |
| Member and/or Array                            | n/a  |
| Element  | num  |

## NUMBER OF INDEX LIST TYPES

Number of Index List Types is the number of lists available for INDNOs in an index set. It is set to one in index group and index series sets. If there are no data for a list, Number of Available Array Elements for the list is set to zero.

|  |                          |
|--|--------------------------|
| <b>GENERAL INFORMATION</b>                     |                          |
| Primary Concepts                               | Index List History Array |
| Data Type                                      | integer number           |
| Unit of Item                                   | Count                    |
| <b>DATE RANGE AVAILABILITY</b>                 |                          |
| Daily  | 1925                     |
| Monthly  | 1925                     |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                          |
| Database Formats                               | CRSPAccess               |
| Product Types                                  | IND                      |
| ts_print Daily Usage                           | n/a                      |
| ts_print Monthly Usage                         | n/a                      |
| ind_print Option(s)                            | n/a                      |
| <b>C USAGE</b>                                 |                          |
| Object   | ind                      |
| Array  | n/a                      |
| Element  | listtypes                |
| <b>FORTRAN-95 USAGE</b>                        |                          |
| Type or Subtype                                | n/a                      |
| Member and/or Array                            | n/a                      |
| Element  | listtypes                |

## NUMBER OF INDEX TYPES

Number of Index Types is the number of indexes or portfolio time series available for INDNOs in an index set. In a series set, the Number of Index Types is always 1. In a group set, the Number of Index Types is always 17. Not all INDNOs have data for all available time series. If there are no data for one of the available time series, Begin of Valid Data and End of Valid Data of that time series are set to zero.

|  |  |
|--|--|
| <b>GENERAL INFORMATION</b>                     |  |
| Primary Concepts                               | Base CRSPAccess Data Structures, Index Time Series |
| Data Type                                      | integer number                                     |
| Unit of Item                                   | Count  |
| <b>DATE RANGE AVAILABILITY</b>                 |  |
| Daily  | 1925   |
| Monthly  | 1925   |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |  |
| Database Formats                               | CRSPAccess   |

|                         |          |
|-------------------------|----------|
| Product Types           | IND      |
| ts_print Daily Usage    | n/a      |
| ts_print Monthly Usage  | n/a      |
| ind_print Option(s)     | n/a      |
| <b>C USAGE</b>          |          |
| Object                  | n/a      |
| Array                   | n/a      |
| Element                 | indtypes |
| <b>FORTRAN-95 USAGE</b> |          |
| Type or Subtype         | n/a      |
| Member and/or Array     | n/a      |
| Element                 | indtypes |

### NUMBER OF PERIODS IN CALENDAR

Number of Periods in Calendar is the number of periods in a CRSP calendar. This is the last calendar period with valid calendar or time series data. In daily, monthly, and weekly calendars, the last calendar period represents the last trading date with available prices. Annual and quarterly calendars are extended to the end of the next calendar year after the last day of prices.

|  |   |
|--|---|
| <b>GENERAL INFORMATION</b>                     |   |
| Primary Concepts                               | Base CRSPAccess Data Structures, Calendar Objects |
| Data Type                                      | integer number                                    |
| Unit of Item                                   | Range   |
| <b>DATE RANGE AVAILABILITY</b>                 |   |
| Daily  | 1925  |
| Monthly  | 1925  |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |   |
| Database Formats                               | CRSPAccess  |
| Product Types                                  | STK, IND  |
| ts_print Daily Usage                           | n/a   |
| ts_print Monthly Usage                         | n/a   |
| stk_print or ind_print Option(s)               | n/a   |
| <b>C USAGE</b>                                 |   |
| Object   | CRSP_CAL  |
| Array  | n/a   |
| Element  | ndays   |
| <b>FORTRAN-95 USAGE</b>                        |   |
| Type or Subtype                                | crsp_cal  |
| Member and/or Array                            | n/a   |
| Element  | ndays   |

### NUMBER OF PORTFOLIO TYPES

Number of Portfolio Types is the maximum number of different portfolio methodologies available in a stock set. It is set to 9 in daily databases and 8 in monthly databases. If there are no data for a portfolio time series, Begin of Valid Data and End of Valid Data are both set to zero.

|  |   |
|--|---|
| <b>GENERAL INFORMATION</b>                     |   |
| Primary Concepts                               | Portfolio Statistics and Assignment Arrays, Shares Outstanding Observations Array |
| Data Type                                      | integer number  |
| Unit of Item                                   | Count   |
| <b>DATE RANGE AVAILABILITY</b>                 |   |
| Daily  |   |
| Monthly  |   |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |   |
| Database Formats                               | CRSPAccess  |
| Product Types                                  | STK*  |
| ts_print Daily Usage                           | n/a   |
| ts_print Monthly Usage                         | n/a   |
| ind_print Option(s)                            | n/a   |
| <b>C USAGE</b>                                 |   |
| Object   | n/a   |
| Array  | n/a   |
| Element  | porttypes   |
| <b>FORTRAN-95 USAGE</b>                        |   |
| Type or Subtype                                | n/a   |
| Member and/or Array                            | n/a   |
| Element  | porttypes   |

### NUMBER OF REBALANCING TYPES

Number of Rebalancing Types is the number of portfolio rebalancing arrays available for INDNOs in an index set. In a series set, Number of Rebalancing Types is always 1. In a group set, Number of Rebalancing Types is always 10. Not all INDNOs have rebalancing data for all available portfolios. If there are no rebalancing data for one of the available rebalancing series, Number of Array Elements Series for that array is set to zero.

|                                |                            |
|--------------------------------|----------------------------|
| <b>GENERAL INFORMATION</b>     |                            |
| Primary Concepts               | Rebalancing History Arrays |
| Data Type                      | integer number             |
| Unit of Item                   | Count                      |
| <b>DATE RANGE AVAILABILITY</b> |                            |
| Daily                          | 1925                       |

|  |            |
|--|------------|
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | IND        |
| ts_print Daily Usage                           | n/a        |
| ts_print Monthly Usage                         | n/a        |
| ind_print Option(s)                            | n/a        |
| <b>C USAGE</b>                                 |            |
| Object   | n/a        |
| Array  | n/a        |
| Element  | rebaltypes |
| <b>FORTRAN-95 USAGE</b>                        |            |
| Type or Subtype                                | n/a        |
| Member and/or Array                            | n/a        |
| Element  | rebaltypes |

Q.

## OBJECT ARRAY

Object Array identifies the generic array used to store time series, event, or header data in CRSPAccess object data structures.

|  |   |
|--|---|
| <b>GENERAL INFORMATION</b>                     |   |
| Primary Concepts                               | Base CRSPAccess Data Structures, Time Series Objects, Event Array Objects, Header Objects     |
| Data Type                                      | generic pointer   |
| Unit of Item                                   | Pointer   |
| <b>DATE RANGE AVAILABILITY</b>                 |   |
| Daily  | 1925  |
| Monthly  | 1925  |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |   |
| Database Formats                               | CRSPAccess  |
| Product Types                                  | STK, IND  |
| ts_print Daily Usage                           | n/a   |
| ts_print Monthly Usage                         | n/a   |
| stk_print or ind_print Option(s)               | n/a   |
| <b>C USAGE</b>                                 |   |
| Object   | CRSP_TIMESERIES CRSP_ARRAY<br>CRSP_ROW CRSP_CAL   |
| Array  | n/a   |
| Element  | arr   |
| <b>FORTRAN-95 USAGE</b>                        |   |
| Type or Subtype                                | Variable Specific Version of C Usage Objects. FORTRAN-95 does not have generic object arrays. |
| Member and/or Array                            | n/a   |
| Element  | Variable-specific Array   |

## OBJECT TYPE CODE

Object Type Code is an integer code defining the type of object data structure. Object Type Codes are assigned as follows:

|  |   |
|--|---|
| <b>STRUCTURE NAME</b>                          | <b>OBJECT TYPE CODE</b>   |
| CRSP_CAL                                       | 1   |
| CRSP_TIMESERIES                                | 2   |
| CRSP_ARRAY                                     | 3   |
| CRSP_ROW                                       | 5   |
| <b>GENERAL INFORMATION</b>                     |   |
| Primary Concepts                               | Base CRSPAccess Data Structures, Time Series Objects, Event Array Objects, Header Objects, Calendar Objects |
| Data Type                                      | integer number  |
| Unit of Item                                   | Code  |
| <b>DATE RANGE AVAILABILITY</b>                 |   |
| Daily  | 1925  |
| Monthly  | 1925  |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |   |
| Database Formats                               | CRSPAccess  |
| Product Types                                  | STK, IND  |
| ts_print Daily Usage                           | n/a   |
| ts_print Monthly Usage                         | n/a   |
| stk_print or ind_print Option(s)               | n/a   |
| <b>C USAGE</b>                                 |   |
| Object   | CRSP_TIMESERIES CRSP_ARRAY<br>CRSP_ROW CSRP_CAL   |
| Array  | n/a   |
| Element  | objtype   |
| <b>FORTRAN-95 USAGE</b>                        |   |
| Type or Subtype                                | crsp_ts crsp_array crsp_row   |
| Member and/or Array                            | crsp_cal  |
| Element  | objtype   |

## OPEN PRICE

Daily open prices are available for securities traded on NYSE, NYSE MKT, and NASDAQ exchanges beginning June 15, 1992. They represent the first trade after market opens. For NYSE, additional daily open prices are available between December 1925 and June 1962. Open prices are available for Arca securities beginning March 8, 2006.

|                                |                            |
|--------------------------------|----------------------------|
| <b>GENERAL INFORMATION</b>     |                            |
| Primary Concepts               | Auxiliary Time Series Data |
| Data Type                      | real number                |
| Unit of Item                   | USD                        |
| <b>DATE RANGE AVAILABILITY</b> |                            |
| Daily                          | 1925                       |



|  |            |
|--|------------|
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| ts_print Daily Usage                           | openprc/0  |
| ts_print Monthly Usage                         | n/a        |
| stk_print Option(s)                            | /po        |
| <b>C USAGE</b>                                 |            |
| Object   | openprc_ts |
| Array  | openprc[ ] |
| Element  |            |
| <b>FORTRAN-95 USAGE</b>                        |            |
| Type or Subtype                                | openprc_ts |
| Member and/or Array                            | openprc( ) |
| Element  |            |

## P.

**PARTITION SUBSET SCREENING STRUCTURE**

Partition Subset Screening Structure, like the Index Subset Screening Structure, is a set of fields used to restrict a database using various screening variables. The screen fields are Universal Subset Type Code, First Trading Date Allowed in Restriction, Index Restriction End Date, Valid Exchange Codes in Universe, Valid NASDAQ Market Groups in Universe, Valid When-Issued Securities in Universe, Valid Incorporation of Securities in Universe, and Share Code Screen Structure. Partition Subset Screening Structure screens are used to restrict the securities used in defining partition breakpoints of an index.

|  |                          |
|--|--------------------------|
| <b>GENERAL INFORMATION</b>                     |                          |
| Primary Concepts                               | Index Header             |
| Data Type                                      | structure                |
| Unit of Item                                   | Set (header information) |
| <b>DATE RANGE AVAILABILITY</b>                 |                          |
| Daily  | 1925                     |
| Monthly  | 1925                     |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                          |
| Database Formats                               | CRSPAccess               |
| Product Types                                  | IND                      |
| ts_print Daily Usage                           | n/a                      |
| ts_print Monthly Usage                         | n/a                      |
| ind_print Option(s)                            | /hr                      |
| <b>C USAGE</b>                                 |                          |
| Object   | indhdr_row               |
| Array  | indhdr                   |
| Element  | partuniv                 |
| <b>FORTRAN-95 USAGE</b>                        |                          |

|                     |          |
|---------------------|----------|
| Type or Subtype     | indhdr   |
| Member and/or Array | partuniv |
| Element             | n/a      |

**PAYMENT DATE**

Payment Date is the integer date in YYYYMMDD format upon which dividend checks are mailed or other distributions are made. It is set to zero if unavailable. For a merger, exchange or total liquidation where the company disappeared Payment Date is, by convention, set equal to the date of the last price or Delisting Date.

For rights offerings the Payment Date is set equal to the record date, found in “Moody’s Dividend Record” by convention.

Payment Dates of liquidating payments after delisting are reported when available and are set to 0 when unavailable.

|  |                          |
|--|--------------------------|
| <b>GENERAL INFORMATION</b>                     |                          |
| Primary Concepts                               | Distribution Event Array |
| Data Type                                      | integer number           |
| Unit of Item                                   | YYYYMMDD date            |
| <b>DATE RANGE AVAILABILITY</b>                 |                          |
| Daily  | 1925                     |
| Monthly  | 1925                     |
| <b>DATABASE AVAILABILITY AND UTILITY USAGE</b> |                          |
| Database Formats                               | CRSPAccess               |
| Product Types                                  | STK                      |
| ts_print Daily Usage                           | n/a                      |
| ts_print Monthly Usage                         | n/a                      |
| ind_print Option(s)                            | /di                      |
| <b>C USAGE</b>                                 |                          |
| Object   | dists_arr                |
| Array  | dists[ ]                 |
| Element  | paydt                    |
| <b>FORTRAN-95 USAGE</b>                        |                          |
| Type or Subtype                                | dists_arr                |
| Member and/or Array                            | dists( )                 |
| Element  | paydt                    |

## PERMANENT NUMBER OF SECURITIES IN INDEX LIST

Permanent Number of Securities in Index List is the CRSP PERMNO of a security that is assigned to an index specified with an Index List Array.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Index List History Array |
| Data Type                               | integer number           |
| Unit of Item                            | ld                       |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | IND                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| ind_print Option(s)                     | n/a                      |
| C USAGE                                 |                          |
| Object                                  | list_arr[ ]              |
| Array                                   | list[ ][ ]               |
| Element                                 | permno                   |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | ind_list_arr( )          |
| Member and/or Array                     | list(,)                  |
| Element                                 | permno                   |

## PERMCO/INDCO

**Category:** Identification

**Data Type:** Double Precision Floating Point

**Description:** A unique permanent company identification number assigned by CRSP to all companies with issues on a CRSP File. This number is permanent for all securities issued by a company regardless of name changes.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | permco     |
| Monthly ITEMID                          | mpermco    |
| Header                                  | PERMCO     |
| SUBNO                                   | 0          |

## PERMNO/INDNO

**Category:** Identification

**Data Type:** Double Precision Floating Point

**Description:** A unique permanent identification number assigned by CRSP to each security.

### Extended Information

Unlike the CUSIP, Ticker Symbol, and Company Name, the PERMNO neither changes during an issue's trading history, nor is it reassigned after an issue ceases trading. The user may track a security through its entire trading history in CRSP's files with one PERMNO, regardless of name or capital structure changes. The Stock Data are sorted and indexed by this field. PERMNO is currently a 5-digit integer for all common securities in the CRSP files. The range -999989 to -100 and 100 to 999989 is reserved for CRSP PERMNO assignments.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | permno     |
| Monthly ITEMID                          | mpermno    |
| Header                                  | PERMNO     |
| SUBNO                                   | 0          |

## PORTFOLIO ASSIGNMENT

**Category:** Other

**Data Type:** Double Precision Floating Point

**Description:** Integer portfolio assignment of a security for the portfolio type.

### Extended Information

If no assignment is made for the security during the period, Portfolio Assignment Number is set to zero.

Portfolio assignment rules are based on the index methodology of a portfolio type. See "CRSP Index Methodologies" for details. The time period of Portfolio Assignment Number is the time the security is held in the portfolio, but is usually based on the statistic in a previous period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | port       |
| Monthly ITEMID                          | mport      |
| Header                                  | Port       |
| SUBNO                                   | PORTID     |

## PORTFOLIO BUILDING RULES STRUCTURE

Portfolio Building Rules Structure is a group of fields describing rules used to build index portfolios. Portfolio Building Rules Structure contains fields Index Basic Rule Type Code, Index Function Code for Buy Rules, Index Function Code for Sell Rules, Index Function Code for Generating Statistics, and Index Statistic Grouping Code.

| GENERAL INFORMATION                     |                                |
|---|--------------------------------|
| Primary Concepts                        | Index Header                   |
| Data Type                               | structure                      |
| Unit of Item                            | Set (portfolio building rules) |
| DATE RANGE AVAILABILITY                 |                                |
| Daily                                   | 1925                           |
| Monthly                                 | 1925                           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                |
| Database Formats                        | CRSPAccess                     |
| Product Types                           | IND                            |
| ts_print Daily Usage                    | n/a                            |
| ts_print Monthly Usage                  | n/a                            |
| ind_print Option(s)                     | /hr                            |
| C USAGE                                 |                                |
| Object                                  | indhdr_row                     |
| Array                                   | indhdr                         |
| Element                                 | rules                          |
| FORTRAN-95 USAGE                        |                                |
| Type or Subtype                         | indhdr                         |
| Member and/or Array                     | rules                          |
| Element                                 | n/a                            |

## PORTFOLIO NUMBER IF SUBSET SERIES

Portfolio Number if Subset Series is the portfolio number within an index group to which this index series belongs. The Index Primary Link variable contains the Permanent Index Group Identification

Number. This index is the nth series within the group index, or zero if it is a stand-alone series.

| GENERAL INFORMATION                     |                |
|---|----------------|
| Primary Concepts                        | Index Header   |
| Data Type                               | integer number |
| Unit of Item                            | Id             |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| ind_print Option(s)                     | /hh , /hr      |
| C USAGE                                 |                |
| Object                                  | indhdr_row     |
| Array                                   | indhdr         |
| Element                                 | portnum        |
| FORTRAN-95 USAGE                        |                |
| Type or Subtype                         | indhdr         |
| Member and/or Array                     | n/a            |
| Element                                 | portnum        |

## PORTFOLIO NUMBER IN ASSOCIATED INDEX

Portfolio Number in Associated Index is the portfolio number within an associated index group defined in INDNO of Associated Index. The associated index breakpoint information for that portfolio is used for this index. It is set to zero if no outside rebalancing information is used to build this index.

| GENERAL INFORMATION                     |                |
|---|----------------|
| Primary Concepts                        | Index Header   |
| Data Type                               | integer number |
| Unit of Item                            | Id             |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| ind_print Option(s)                     | /hr            |
| C USAGE                                 |                |
| Object                                  | indhdr_row     |
| Array                                   | indhdr         |

|                         |               |
|-------------------------|---------------|
| Element                 | assign.asport |
| <b>FORTRAN-95 USAGE</b> |               |
| Type or Subtype         | indhdr        |
| Member and/or Array     | assign        |
| Element                 | asport        |

## PORTFOLIO STATISTIC

**Category:** Other

**Data Type:** Floating Point

**Description:** Statistic calculated for the security based on the rules for the selected portfolio type.

### Extended Information

If no statistic is calculated, a missing value dependent on the portfolio statistic is set. Missing market capitalizations are set to zero, and missing beta or standard deviations are set to -99.0.

Statistic calculations are based on the methodology of the portfolio type. The statistic is for the current period, and usually determines the portfolio assignment of the next period.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | stat       |
| Monthly ITEMID                                 | mstat      |
| Header   | Stat       |
| SUBNO  | PORTID     |

## PRICE ADJUSTED, END OF PERIOD

**Category:** Prices

**Data Type:** Floating Point

### Description:

Daily – Daily close, adjusted for distributions. Replaced with bid/ask average if price not available. Bid/ask average identified by a leading dash -.

Monthly – The closing price of a security for the last trading day of the month, adjusted for distributions. If

unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | adjprc     |
| Monthly ITEMID                                 | madjprc    |
| Header   | Adjprc     |
| SUBNO  | 0          |

## PRICE ADJUSTED, LAST AVAILABLE NONMISSING

**Category:** Prices

**Data Type:** Floating Point

### Description:

Daily – Last available non-missing daily close or bid/ask average, adjusted for distributions. Bid/ask average is used if price is not available. Bid/ask average identified by a leading dash -.

Monthly – The last non-missing closing price of a security for the last trading day of the month, adjusted for distributions. If unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | adjprc     |
| Monthly ITEMID                                 | madjprc    |
| Header   | Adjprcprev |
| SUBNO  | 1          |

## PRICE ALTERNATE

Monthly: Price Alternate is an alternate monthly price derived from daily prices. Price Alternate contains the last non-missing price in the month. The date of this price is stored in the Price Alternate Date field. Price Alternate is set to zero if no prices are available in the month. New issues that do not begin on the last trading date of a month have the first price and date of the first price at the beginning of the Price Alternate and Price Alternate Date time series arrays.

Price Alternate is available only on monthly databases during time periods when daily data are available.

| GENERAL INFORMATION                     |                            |
|---|----------------------------|
| Primary Concepts                        | Auxiliary Time Series Data |
| Data Type                               | real number                |
| Unit of Item                            | USD                        |
| DATE RANGE AVAILABILITY                 |                            |
| Daily                                   | n/a                        |
| Monthly                                 | 196207                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                            |
| Database Formats                        | CRSPAccess                 |
| Product Types                           | STK                        |
| ts_print Daily Usage                    | n/a                        |
| ts_print Monthly Usage                  | n/a                        |
| stk_print Option(s)                     | /po                        |
| C USAGE                                 |                            |
| Object                                  | altprc_ts                  |
| Array                                   | altprc[ ]                  |
| Element                                 | n/a                        |
| FORTRAN-95 USAGE                        |                            |
| Type or Subtype                         | altprc_ts                  |
| Member and/or Array                     | altprc_ts()                |
| Element                                 | n/a                        |

## PRICE ALTERNATE DATE

Monthly: Price Alternate Date contains the date of the monthly Price Alternate (derived from daily data) in YYYYMMDD format. If this price is nonzero, then Price Alternate Date contains the date of that price. If there are no non-missing prices in the month, then Price Alternate Date and Price or Bid/Ask Average are set to zero. New issues that do not begin on the last trading date of a month are set to the first price and date available in the month.

| GENERAL INFORMATION |                            |
|---------------------|----------------------------|
| Primary Concepts    | Auxiliary Time Series Data |

| Data Type                               | integer number |
|---|----------------|
| Unit of Item                            | YYYYMMDD date  |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | n/a            |
| Monthly                                 | 196207         |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | STK            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| stk_print Option(s)                     | /pn            |
| C USAGE                                 |                |
| Object                                  | numtrd_ts      |
| Array                                   | numtrd[ ]      |
| Element                                 | n/a            |
| FORTRAN-95 USAGE                        |                |
| Type or Subtype                         | altprcdt_ts    |
| Member and/or Array                     | altprcdt_ts()  |
| Element                                 | n/a            |

## PRICE, END OF PERIOD

Category: Prices

Data Type: Floating Point

**Description:** If the closing price is not available for any given period, the number in the price field is replaced with a bid/ask average. Bid/ask averages have dashes placed in front of them. These do not wrongly reflect negative prices, but serve simply to distinguish bid/ask averages from actual closing prices. If neither price nor bid/ask average is available, Price or Bid/Ask Average is set to zero.

If the security of a company is included in the composite pricing network, then the closing price while listed on the exchange on a trading date is the last trading price for that day on the exchange on which the security last traded. Similarly, highs, lows, and volumes include trades on all U.S. exchanges on which that security traded. For example, if a stock trades on both the NYSE and the PACX (Pacific Stock Exchange), and the last trade occurs on the PACX, the closing price on that day represents the closing price on the PACX, not the NYSE.

Price data for NASDAQ securities come directly from the NASD with the close of the day. Automated trades and after hour trading are not reflected in the close, high, low, bid, or ask, but are included in the number

of trades and volumes. There is no price data from one trading day applied to the next trading day.

All prices are raw prices as they were reported at the time of trading.

**Daily:** Price or Bid/Ask Average is the closing price or the bid/ask average for a trading day. If the closing price is not available on any given trading day, the number in the price field is a bid/ask average, not an actual closing price.

Daily trading prices for The NASDAQ National Market securities were first reported November 1, 1982. Daily trading prices for The NASDAQ SmallCap Market were first reported June 15, 1992. Price or Bid/Ask Average for NASDAQ securities is always a negative bid/ask average before this time.

**Monthly:** In a monthly database, Price or Bid/Ask Average is the price on the last trading date of the month. The price series begins the first month-end after the security begins trading and ends the last complete month of trading. If the closing price is not available on any given end of month trading day, the number in the price field is a bid/ask average, not an actual closing price. Trading prices for The NASDAQ National Market securities were first reported November 1, 1982. Trading prices for The NASDAQ SmallCap Market were first reported June 15, 1992. Price or Bid/Ask Average for NASDAQ securities is always a bid/ask average, (identified with “-“ before the value) before these dates.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | prc        |
| Monthly ITEMID                          | mprc       |
| Header                                  | Prc        |
| SUBNO                                   | 0          |

## PRICE, LAST AVAILABLE NONMISSING

**Category:** Prices

**Data Type:** Floating Point

**Description:** Daily – The last non-missing daily closing price or bid/ask average of a security. If price is unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).

Monthly – The last non-missing closing price of a security for the last trading day of the month. If unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | prc        |
| Monthly ITEMID                          | mprc       |
| Header                                  | Prcprev    |
| SUBNO                                   | 1          |

## PRIMARY EXCHANGE, END OF PERIOD

**Category:** Name History

**Data Type:** Character

**Description:** Character code indicating the exchange on which the security has its primary listing at the end of the period reported. (N = NYSE, A = NYSE MKT, Q = NASDAQ, R = Arca, B = Bats, X = Other)

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| ts_print/TsQuery Usage                  |            |
| Daily ITEMID                            | primexch   |
| Monthly ITEMID                          | mprimexch  |
| Header                                  | Primexch   |
| SUBNO                                   | 0          |

## PRIMARY EXCHANGE, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** Character

**Description:** Character code indicating the exchange on which the security has its primary listing at the end of the period preceding the period reported. (N = NYSE, A = NYSE MKT, Q = NASDAQ, R = Arca, B = Bats, X = Other)

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | primexch   |
| Monthly ITEMID                          | mprimexch  |
| Header                                  | Primexche  |
| SUBNO                                   | 1          |

## PRIMARY EXCHANGE, MOST RECENT

**Category:** Name History

**Data Type:** Character

**Description:** As of the period being accessed, the character code indicating the exchange on which the security has its most recently known primary listing. (N = NYSE, A = NYSE MKT, Q = NASDAQ, R = Arca, B = Bats, X = Other)

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | primexch   |
| Monthly ITEMID                          | mprimexch  |
| Header                                  | Primexchl  |
| SUBNO                                   | 2          |

## R.

### RECORD DATE

Record Date is the record date on which the stockholder must be registered as holder of record on the stock transfer records of the company in order to receive a particular distribution directly from the company. This integer date is coded as YYYYMMDD, and set to 0 if unavailable.

For a merger, exchange, or total liquidation in which the company disappeared, Record Date is, by convention, set equal to the date of the last price or Delisting Date.

Record dates of liquidating payments after delisting are reported when available, and set to 0 when unavailable.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Distribution Event Array |
| Data Type                               | integer number           |
| Unit of Item                            | YYYYMMDD date            |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | STK                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| ind_print Option(s)                     | /di                      |
| C USAGE                                 |                          |
| Object                                  | dists_arr                |
| Array                                   | dists[ ]                 |
| Element                                 | rcrddt                   |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | dists_arr                |
| Member and/or Array                     | dists( )                 |
| Element                                 | rcrddt                   |

### RELATED ASSIGNMENT INFORMATION

Related Assignment Information is a group of fields defining the time periods and associated indexes used to form portfolios. It primarily defines the rebalancing periods when the portfolio is reformed based on new information. Related Assignment Information contains the fields Basic Assignment Type Code, INDNO of Associated Index, Portfolio Number in Associated Index, Calendar Identification Number of Rebalancing



Calendar, Calendar Identification Number of Assignment Calendar, and Calendar Identification Number of Calculations Calendar.

| GENERAL INFORMATION                     |                            |
|---|----------------------------|
| Primary Concepts                        | Index Header               |
| Data Type                               | structure                  |
| Unit of Item                            | Set (partition assignment) |
| DATE RANGE AVAILABILITY                 |                            |
| Daily                                   | 1925                       |
| Monthly                                 | 1925                       |
| DATABASE AVAILABILITY AND UTILITY USAGE |                            |
| Database Formats                        | CRSPAccess                 |
| Product Types                           | IND                        |
| ts_print Daily Usage                    | n/a                        |
| ts_print Monthly Usage                  | n/a                        |
| ind_print Option(s)                     | /hr                        |
| C USAGE                                 |                            |
| Object                                  | indhdr_row                 |
| Array                                   | indhdr                     |
| Element                                 | assign                     |
| FORTRAN-95 USAGE                        |                            |
| Type or Subtype                         | indhdr                     |
| Member and/or Array                     | assign                     |
| Element                                 | n/a                        |

### RESTRICTION BEGIN DATE (PARTITION OR INDEX)

Restriction Begin Date is the first date, in YYYYMMDD format, of data included in a partition universe restriction or an index universe restriction. Restriction Begin Date is set to 0 if there is no date restriction.

| GENERAL INFORMATION                     |                |
|---|----------------|
| Primary Concepts                        | Index Header   |
| Data Type                               | integer number |
| Unit of Item                            | YYYYMMDD date  |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| ind_print Option(s)                     | /hr            |
| C USAGE                                 |                |
| Object                                  | indhdr_row     |

| Array               | indhdr                          |
|---------------------|---------------------------------|
| Element             | induniv.begdt or partuniv.begdt |
| FORTRAN-95 USAGE    |                                 |
| Type or Subtype     | indhdr                          |
| Member and/or Array | induniv or partuniv             |
| Element             | begdt                           |

### RESTRICTION END DATE (PARTITION OR INDEX)

Restriction End Date is the last date, in YYYYMMDD format, of data included in a partition universe restriction or an index universe restriction. Restriction End Date is set to 0 if there is no date restriction.

| GENERAL INFORMATION                     |                                 |
|---|---------------------------------|
| Primary Concepts                        | Index Header                    |
| Data Type                               | integer number                  |
| Unit of Item                            | YYYYMMDD date                   |
| DATE RANGE AVAILABILITY                 |                                 |
| Daily                                   | 1925                            |
| Monthly                                 | 1925                            |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                 |
| Database Formats                        | CRSPAccess                      |
| Product Types                           | IND                             |
| ts_print Daily Usage                    | n/a                             |
| ts_print Monthly Usage                  | n/a                             |
| ind_print Option(s)                     | /hr                             |
| C USAGE                                 |                                 |
| Object                                  | indhdr_row                      |
| Array                                   | indhdr                          |
| Element                                 | induniv.enddt or partuniv.enddt |
| FORTRAN-95 USAGE                        |                                 |
| Type or Subtype                         | indhdr                          |
| Member and/or Array                     | induniv or partuniv             |
| Element                                 | enddt                           |

### RETURN OF DELISTED ISSUES FLAG

Return of Delisted Issues Flag is a code describing whether delisting returns are applied to securities delisting from the exchange during a rebalancing period of an index. The following codes are used:

| CODE | DESCRIPTION   |
|------|---|
| 0    | Unknown or not applicable   |
| 1    | Delisting return is applied to issues that delist during the period             |
| 2    | Issues must have price during period on target exchange to be included in index |

| GENERAL INFORMATION                     |                  |
|---|------------------|
| Primary Concepts                        | Index Header     |
| Data Type                               | integer number   |
| Unit of Item                            | Code             |
| DATE RANGE AVAILABILITY                 |                  |
| Daily                                   | 1925             |
| Monthly                                 | 1925             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                  |
| Database Formats                        | CRSPAccess       |
| Product Types                           | IND              |
| ts_print Daily Usage                    | n/a              |
| ts_print Monthly Usage                  | n/a              |
| ind_print Option(s)                     | /hr              |
| C USAGE                                 |                  |
| Object                                  | indhdr_row       |
| Array                                   | indhdr           |
| Element                                 | flags.delretflag |
| FORTRAN-95 USAGE                        |                  |
| Type or Subtype                         | indhdr           |
| Member and/or Array                     | flags            |
| Element                                 | delretflag       |

## RETURNS

**Category:** Returns

**Data Type:** Floating Point

**Summary:** Daily – Daily change in the total value of an investment, using prices or bid/ask averages if prices not available. Dividends are reinvested on the Ex-date.

Monthly – Month-end to month-end change in total investment of a security, with ordinary dividends reinvested at the month-end.

**Extended Information:** Delisting Return is the return of a security after it has delisted from NYSE, NYSE MKT, or NASDAQ. The Delisting Return is calculated by comparing the security's Amount After Delisting with its price on the last day of trading. The Amount After Delisting can be either an off-exchange price, an off-exchange price quote, or the sum of a series of distribution payments. The effective date of the delisting return is specified in the Delisting Payment Date.

The return for any issue that has been closed to further research is calculated as follows:

- If a price within 10 periods of the delist date is

available, then the delisting return is calculated using that price.

- If a final distribution is available, then the delisting return is calculated using all known distribution information occurring after the date of last price.
- If distributions occurring after the date of last price are available, but no final distribution has been found, then the delisting return is calculated as if a final distribution were found. (This applies only to issues closed to further research.)
- If there is evidence that no distributions will ever be paid to shareholders, then the stock is considered worthless. The delisting return is set to -1 (i.e. a 100% loss).
- If there is evidence that the stock has been declared worthless, then the delisting return is set to -1 (i.e. a 100% loss).

For any issue that is closed to further research and none of the above criteria are met, the delisting return is given a missing return code. For any issue that is pending further research, the delisting return is given a missing return code of -55.0.

## MISSING DELISTING RETURN CODES

| CODE  | REASON FOR MISSING RETURN  |
|-------|--|
| -55.0 | CRSP has no sources to establish a value after delisting or is unable to assign a value to one or more known distributions after delisting |
| -66.0 | more than 10 trading periods between a security's last price and its first available price on a new exchange                               |
| -88.0 | security is still active   |
| -99.0 | security trades on a new exchange after delisting, but CRSP currently has no sources to gather price information                           |

Monthly: If Amount After Delisting is non-zero and Delisting Payment Date is less than or equal to the Delisting Date, the Delisting Return represents a partial-month return, not a Delisting Return. The partial-month returns compare the value on the last day of trading with the value on the last month-end date and do not factor in additional after-delisting information.

| DATE RANGE AVAILABILITY |      |
|-------------------------|------|
| Daily                   | 1925 |
| Monthly                 | 1925 |

| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
|---|------------|
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ret        |
| Monthly ITEMID                          | mret       |
| Header                                  | Ret        |
| SUBNO                                   | 0          |

## RETURNS, CUMULATIVE

**Category:** Returns

**Data Type:** Floating Point

**Description:** Daily – Daily total returns compounded from the beginning day in the range. Each trading day in the time series contains a cumulative return since the beginning period.

Monthly – Monthly total returns compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumtret    |
| Monthly ITEMID                          | mcumtret   |
| Header                                  | Cumtret    |
| SUBNO                                   | 0          |

## RETURNS ON INCOME

**Category:** Returns

**Data Type:** Floating Point

**Description:** Return on dividends, the difference between total return and return without dividends.

Compounding income returns over a longer time series interval using CRSP software does not produce the difference between the associated compounded total return and compounded return without dividends. Compounding income return produces results irrespective of capital appreciation on the reinvested dividend amount over the time period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | reti       |
| Monthly ITEMID                          | mreti      |
| Header                                  | Reti       |
| SUBNO                                   | 0          |

## RETURNS ON INCOME, CUMULATIVE

**Category:** Returns

**Data Type:** Floating Point

**Description:** Daily – Daily returns on income compounded from the beginning day in the range. Each period in the time series contains a cumulative return since the beginning period.

Monthly – Monthly returns on income compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumiret    |
| Monthly ITEMID                          | mcumiret   |
| Header                                  | Cumiret    |
| SUBNO                                   | 0          |

## RETURNS WITHOUT DIVIDENDS

**Category:** Returns

**Data Type:** Floating Point

**Description:** Daily – Day-to-day capital appreciation of a security, calculated as a change in price, or bid/ask average if prices not available.

Monthly – Month-end to month-end capital appreciation of a security, calculate as a change in price

only.

### Extended Information

Ordinary dividends and certain other regularly taxable dividends are excluded from the returns calculation. See “Holding Period Total Return” for missing values. The formula is the same as for Holding Period Total Returns except that ordinary dividends are not included in  $d(t)$ .

### Missing Value Codes

A series of special return codes specify the reason a return is missing:

| CODE  | REASON FOR MISSING RETURN   |
|-------|---|
| -66.0 | Valid current price but no valid previous price. Either first price, unknown exchange between current and previous price, or more than 10 periods between time $t$ and the time of the preceding price $t'$ . |
| -77.0 | Not trading on the current exchange at time $t$ .   |
| -88.0 | Outside the security's price range.   |
| -99.0 | Missing return due to missing price at time $t$ ; usually due to suspension in trading or trading on unknown exchange.  |

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | retx       |
| Monthly ITEMID                          | mretx      |
| Header                                  | Retx       |
| SUBNO                                   | 0          |

### RETURNS WITHOUT DIVIDENDS, CUMULATIVE

**Category:** Returns

**Data Type:** Floating Point

**Description:** Daily – Daily returns without dividends compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.

Monthly – Monthly returns without dividends compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | cumaret    |
| Monthly ITEMID                          | mcumaret   |
| Header                                  | Cumaret    |
| SUBNO                                   | 0          |

**S.**

### SECURITY STATUS, END OF PERIOD

**Category:** Name History

**Data Type:** Character

**Description:** One-character code describing the status of a security at the end of the period reported. (W = when issued, R = regular way, E = ex-distributed, Q = non-leading when issued, X = untracked exchange or unknown)

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | secstat    |
| Monthly ITEMID                          | msecstat   |
| Header                                  | Secstat    |
| SUBNO                                   | 0          |

### SECURITY STATUS, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** Character

**Description:** One-character code describing the status of a security at the end of the period preceding the period reported. (W = when issued, R = regular way, E = ex-distributed, Q = non-leading when issued, X = untracked exchange or unknown)

| DATE RANGE AVAILABILITY |      |
|-------------------------|------|
| Daily                   | 1925 |

|  |            |
|--|------------|
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | secstat    |
| Monthly ITEMID                                 | msecstat   |
| Header   | Secstate   |
| SUBNO  | 1          |

### SECURITY STATUS, MOST RECENT

**Category:** Name History

**Data Type:** Character

**Description:** One-character code describing the most recently known status of a security at the end of the period reported. (W = when issued, R = regular way, E = ex-distributed, Q = non-leading when issued, X = untracked exchange or unknown)

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | secstat    |
| Monthly ITEMID                                 | msecstat   |
| Header   | Secstat1   |
| SUBNO  | 2          |

### SHARE CLASS, END OF PERIOD

**Category:** Name History

**Data Type:** String

**Description:** Character identifying the class of stock as of the end of period, generally left blank. Assigned by the exchange in cooperation with the company. Any letter that identifies the class of stock (e.g., "A" for class A common) is contained in the first position of this field.

|  |      |
|--|------|
| <b>DATE RANGE AVAILABILITY</b>                 |      |
| Daily  | 1925 |
| Monthly  | 1925 |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |      |

|                               |            |
|-------------------------------|------------|
| Database Formats              | CRSPAccess |
| Product Types                 | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b> |            |
| Daily ITEMID                  | shrcls     |
| Monthly ITEMID                | mshrcls    |
| Header                        | CL         |
| SUBNO                         | 0          |

### SHARE CLASS, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** String

**Description:** Character identifying the class of stock as of the period preceding the period being accessed, generally left blank. Assigned by the exchange in cooperation with the company.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | shrcls     |
| Monthly ITEMID                                 | mshrcls    |
| Header   | CLE        |
| SUBNO  | 1          |

### SHARE CLASS, MOST RECENT

**Category:** Name History

**Data Type:** String

**Description:** Character identifying the most recently known class of stock as of the end of period, generally left blank. Assigned by the exchange in cooperation with the company.

|  |            |
|--|------------|
| <b>DATE RANGE AVAILABILITY</b>                 |            |
| Daily  | 1925       |
| Monthly  | 1925       |
| <b>DATABASE AVAILABILITY AND PRODUCT TYPES</b> |            |
| Database Formats                               | CRSPAccess |
| Product Types                                  | STK        |
| <b>TS_PRINT/TSQUERY USAGE</b>                  |            |
| Daily ITEMID                                   | shrcls     |
| Monthly ITEMID                                 | mshrcls    |

|        |     |
|--------|-----|
| Header | CLL |
| SUBNO  | 2   |

### SHARE CODE GROUPINGS FOR SUBSETS (PARTITION OR INDEX RESTRICTION)

Share Code Groupings for Subsets is an integer code describing the generic share code groupings used in universe subsets describing the valid issues used when partitioning the market or in the actual index. The following codes are used:

| CODE | DESCRIPTION  |
|------|--|
| 0    | No share code restriction or not applicable  |
| 1    | Common stocks excluding ADRs   |
| 2    | Common stocks excluding ADRs and foreign incorporated companies                            |
| 3    | Common stocks excluding ADR's, foreign incorporated companies, REITS, and closed end funds |
| 4    | Common stocks  |

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Index Header                                  |
| Data Type                               | integer number                                |
| Unit of Item                            | Code  |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   | 1925  |
| Monthly                                 | 1925  |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess                                    |
| Product Types                           | IND   |
| ts_print Daily Usage                    | n/a   |
| ts_print Monthly Usage                  | n/a   |
| ind_print Option(s)                     | /hr   |
| C USAGE                                 |   |
| Object                                  | indhdr_row                                    |
| Array                                   | indhdr  |
| Element                                 | induniv.shrcd.sccode or partuniv.shrcd.sccode |
| FORTRAN-95 USAGE                        |   |
| Type or Subtype                         | indhdr  |
| Member and/or Array                     | induniv or partuniv                           |
| Element                                 | sccode  |

### SHARE CODE SCREEN STRUCTURE (PARTITION OR INDEX RESTRICTION)

Share Code Screen Structure contains fields defining groups of CRSP security share codes included in the subset describing the valid issues used when partitioning the market or in the actual index. See "Share Type Code" for details of the 2-digit share codes

used by CRSP in the Share Code variable. The fields in the structure are Share Code Groupings for Subsets, Valid First Digit of Share Code, and Valid Second Digit of Share Code.

| GENERAL INFORMATION                     |                                 |
|---|---------------------------------|
| Primary Concepts                        | Index Header                    |
| Data Type                               | structure                       |
| Unit of Item                            | Set (Id codes)                  |
| DATE RANGE AVAILABILITY                 |                                 |
| Daily                                   | 1925                            |
| Monthly                                 | 1925                            |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                 |
| Database Formats                        | CRSPAccess                      |
| Product Types                           | IND                             |
| ts_print Daily Usage                    | n/a                             |
| ts_print Monthly Usage                  | n/a                             |
| ind_print Option(s)                     | n/a                             |
| C USAGE                                 |                                 |
| Object                                  | indhdr_row                      |
| Array                                   | indhdr                          |
| Element                                 | induniv.shrcd or partuniv.shrcd |
| FORTRAN-95 USAGE                        |                                 |
| Type or Subtype                         | indhdr                          |
| Member and/or Array                     | induniv or partuniv             |
| Element                                 | shrcd                           |

### SHARE TYPE CODE, END OF PERIOD

Category: Name History

Data Type: Double Precision Floating Point

Description: 2-digit code as of end of period. First digit describes the type of security, second digit provides further security or company detail.

First Digit:

| CODE | DESCRIPTION  |
|------|--|
| 1    | Ordinary Common Shares   |
| 2    | Certificates, Americus Trust Components (Prime, Score, & Units)  |
| 3    | ADRs (American Depositary Receipts)  |
| 4    | SBI's (Shares of Beneficial Interest)  |
| 7    | Units (Depositary Units, Units of Beneficial Interest, Units of Limited Partnership Interest, Depositary Receipts, etc), Exchange Traded Funds |

Second Digit:

| CODE | DESCRIPTION                                    |
|------|--|
| 0    | Securities which have not been further defined |
| 1    | Securities which need not be further defined   |
| 2    | Companies incorporated outside the US          |

|   |  |
|---|--|
| 3 | Americus Trust Components (Prime, Score, & Units), Exchange Traded Funds |
| 4 | Closed-end funds   |
| 5 | Closed-end fund companies incorporated outside the US                    |
| 8 | REIT's (Real Estate Investment Trusts)                                   |

For example, a Share Type Code of 14 represents ordinary common shares of a closed-end fund.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | shrcd      |
| Monthly ITEMID                          | mshrcd     |
| Header                                  | SC         |
| SUBNO                                   | 0          |

### SHARE TYPE CODE, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** Double Precision Floating Point

**Description:** 2-digit code as of the period preceding the period reported. First digit describes the type of security, second digit provides further security or company detail.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | shrcd      |
| Monthly ITEMID                          | mshrcd     |
| Header                                  | SCE        |
| SUBNO                                   | 1          |

### SHARE TYPE CODE, MOST RECENT

**Category:** Name History

**Data Type:** Double Precision Floating Point

**Description:** 2-digit code, most recently known as of end of period. First digit describes the type of security,

second digit provides further security or company detail.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | shrcd      |
| Monthly ITEMID                          | mshrcd     |
| Header                                  | SCL        |
| SUBNO                                   | 2          |

### SHARES OUTSTANDING

**Category:** Shares

**Data Type:** Double Precision Floating Point

**Description:** The unadjusted number of publicly held shares on NYSE, NYSE MKT, NASDAQ, Arca and Bats exchanges, recorded in 1000s.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | shr        |
| Monthly ITEMID                          | mshr       |
| Header                                  | Shr        |
| SUBNO                                   | 0          |

### SHARES OUTSTANDING, ADJUSTED

**Category:** Shares

**Data Type:** Double Precision Floating Point

**Description:** Shares Outstanding is the number of publicly held shares of securities listed on NYSE, NYSE MKT, NASDAQ, Arca and Bats stock exchanges, recorded in 1000s. This figure represents the actual, undiluted value.

The Shares Outstanding Observations Array contains observation events and cannot be used to directly find the shares outstanding each calendar period.



Utility functions and programs are available to map observations to time series to calculate market capitalization. If there is no time series data over a time period, but the security has a Shares Outstanding value, the last valid Shares Outstanding value has been carried over.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | adjshr     |
| Monthly ITEMID                          | madjshr    |
| Header                                  | Adjshr     |
| SUBNO                                   | 0          |

## SHARES OUTSTANDING, ADJUSTED FOR RIGHTS

Category: Shares

Data Type: Double Precision Floating Point

Description: The number of publicly held shares on NYSE, NYSE MKT, NASDAQ, Arca and Bats exchanges, recorded in 1000s and adjusted for rights only.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | adjshr     |
| Monthly ITEMID                          | madjshr    |
| Header                                  | Adjshr     |
| SUBNO                                   | 1          |

## SHARES OUTSTANDING OBSERVATION DATE

Shares Observation Date is a specific date corresponding to a Shares Outstanding value. The shares date is either the statement date from a firm's annual or quarterly report, the Ex-Distribution Date of a distribution affecting the shares outstanding, or the date of a shares observation taken from another source.

| GENERAL INFORMATION                     |                                       |
|---|---------------------------------------|
| Primary Concepts                        | Shares Outstanding Observations Array |
| Data Type                               | integer number                        |
| Unit of Item                            | YYYYMMDD date                         |
| DATE RANGE AVAILABILITY                 |                                       |
| Daily                                   | 1925                                  |
| Monthly                                 | 1925                                  |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                       |
| Database Formats                        | CRSPAccess                            |
| Product Types                           | STK                                   |
| ts_print Daily Usage                    | n/a                                   |
| ts_print Monthly Usage                  | n/a                                   |
| stk_print Option(s)                     | /sh, /sa                              |
| C USAGE                                 |                                       |
| Object                                  | shares_arr                            |
| Array                                   | shares[ ]                             |
| Element                                 | shrsdt                                |
| FORTRAN-95 USAGE                        |                                       |
| Type or Subtype                         | shares_arr                            |
| Member and/or Array                     | shares()                              |
| Element                                 | shrsdt                                |

## SHARES OUTSTANDING OBSERVATION END DATE

Shares Observation End Date is the last effective date of a shares outstanding observation. It is set to the latest date prior to the Shares Observation Date of the next observation. The Shares Observation End Date of the last observation is set to the Delisting Date. If the Shares Observation Date is after the Delisting Date, then the Shares Observation End Date is set to 99999999.

| GENERAL INFORMATION                     |                                       |
|---|---------------------------------------|
| Primary Concepts                        | Shares Outstanding Observations Array |
| Data Type                               | integer number                        |
| Unit of Item                            | YYYYMMDD date                         |
| DATE RANGE AVAILABILITY                 |                                       |
| Daily                                   | 1925                                  |
| Monthly                                 | 1925                                  |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                       |
| Database Formats                        | CRSPAccess                            |
| Product Types                           | STK                                   |
| ts_print Daily Usage                    | n/a                                   |
| ts_print Monthly Usage                  | n/a                                   |
| stk_print Option(s)                     | /sh, /sa                              |
| C USAGE                                 |                                       |
| Object                                  | shares_arr                            |

|                          |            |
|--------------------------|------------|
| Array                    | shares[ ]  |
| Element                  | shrsenddt  |
| <b>FORTTRAN-95 USAGE</b> |            |
| Type or Subtype          | shares_arr |
| Member and/or Array      | shares()   |
| Element                  | shrsenddt  |

## SHARES OUTSTANDING OBSERVATION FLAG

Shares Outstanding Observation Flag is an integer value indicating the source of the shares outstanding observation:

| INTEGER VALUE | DESCRIPTION  |
|---------------|--|
| 0             | Share structure extracted from CRSP data sources   |
| 1             | Share structure imputed from a split or other distribution   |
| 2             | Shares observation added on the date of a change in the name history, using the effective shares outstanding on that date implied by another |

| GENERAL INFORMATION                     |                                       |
|---|---------------------------------------|
| Primary Concepts                        | Shares Outstanding Observations Array |
| Data Type                               | integer number                        |
| Unit of Item                            | Code                                  |
| DATE RANGE AVAILABILITY                 |                                       |
| Daily                                   | 1925                                  |
| Monthly                                 | 1925                                  |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                       |
| Database Formats                        | CRSPAccess                            |
| Product Types                           | STK                                   |
| ts_print Daily Usage                    | n/a                                   |
| ts_print Monthly Usage                  | n/a                                   |
| stk_print Option(s)                     | /sh, /sa                              |
| C USAGE                                 |                                       |
| Object                                  | shares_arr                            |
| Array                                   | shares[ ]                             |
| Element                                 | shrflg                                |
| FORTTRAN-95 USAGE                       |                                       |
| Type or Subtype                         | shares_arr                            |
| Member and/or Array                     | shares()                              |
| Element                                 | shrflg                                |

## SHARES OUTSTANDING, UNADJUSTED FOR RIGHTS

**Category:** Shares

**Data Type:** Double Precision Floating Point

**Description:** The number of publicly held shares on NYSE, NYSE MKT, NASDAQ, and Arca exchanges, recorded in 1000s and adjusted for price factors other than rights.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | shr        |
| Monthly ITEMID                          | mshr       |
| Header                                  | Shrxr      |
| SUBNO                                   | 1          |

## SIC CODE, END OF PERIOD

**Category:** Name History

**Data Type:** Double Precision Floating Point

**Description:** The SIC code used to group companies with similar products or services at the end of the period reported.

**Extended Information:** The Standard Industrial Classification Manual contains descriptions of categories recognized by the US Government. SIC Code is an integer between 100 and 9999. The first two digits refer to a major group. The first three digits refer to an industry group. All four digits indicate an industry. Missing SIC Codes are set to either 0 or 9999, more so the latter after March 2000 although both do still exist after this time frame. Prior to March 2000, the NASDAQ stock exchange reported the first three digits of NASDAQ listed companies based on the company reported primary industry and CRSP has commonly added a fourth digit of zero in these situations. SIC codes of NYSE and NYSE MKT companies are reported with four digits based on SEC groupings. Since March 2000 most new SIC Codes assigned include four significant digits, but not all do and so some codes after March 2000 may still only have 3 significant digits.

SIC Codes were introduced around 1930. Securities populating the CRSP universe that existed prior to 1930 may have code assignments. CRSP actively chose to apply the original SIC coding scheme to these securities as a way to provide a valid means of classification.

The North American Industry Classification System (NAICS) was introduced in 1997, to succeed the SIC

codes. See “North American Industry Classification System Code”.

In the December 2009 stock database, CRSP removed SIC Codes provided by our source, Mergent, from our Stock Databases and replaced them with SIC Codes from Interactive Data Corporation. Mergent was the primary source for SIC Code for NYSE, NYSE MKT & Arca securities from 20010824 through 2009. IDC has always been a continuous alternate source of SIC Codes, so no holes in coverage were introduced by the elimination of the Mergent data. The differences in codes resulting from our change in source did not impact the CRSP Indexes.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | siccd      |
| Monthly ITEMID                          | msiccd     |
| Header                                  | SIC        |
| SUBNO                                   | 0          |

## SIC CODE, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** Double Precision Floating Point

**Description:** The SIC code used to group companies with similar products or services at the end of the period preceding the period reported.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | siccd      |
| Monthly ITEMID                          | msiccd     |
| Header                                  | SICE       |
| SUBNO                                   | 1          |

## SIC CODE, MOST RECENT

**Category:** Name History

**Data Type:** Double Precision Floating Point

**Description:** The most recent SIC code used to group companies with similar products or services.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | siccd      |
| Monthly ITEMID                          | msiccd     |
| Header                                  | SICL       |
| SUBNO                                   | 2          |

## SIC CODE - HEADER

Standard Industrial Classification (SIC) Code - Header is the last non-zero SIC Code found in a specific security's name structure. The Standard Industrial Classification (SIC) Code - Header is zero for companies for which CRSP has no SIC Codes.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | integer number                         |
| Unit of Item                            | Code                                   |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925                                   |
| Monthly                                 | 1925                                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| stk_print or ind_print Option(s)        | /hh, /hr, /hrl, /hn                    |
| C USAGE                                 |  |
| Object                                  | header_row                             |
| Array                                   | header                                 |
| Element                                 | hsiccd                                 |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | stkhdr                                 |
| Member and/or Array                     | n/a                                    |
| Element                                 | hsiccd                                 |

## SPREAD BETWEEN BID AND ASK

Monthly: Spread Between Bid and Ask is the difference between the closing bid and ask quotes for a security. It is available only when Ask or High Price and Bid or Low Price are available and Closing Price or Bid/Ask Average is a bid/ask average. If Closing Price or Bid/Ask Average is zero and Spread between Bid and Ask is negative, the spread represents a Bid or Low Price. If Closing Price or Bid/Ask Average is zero and Spread between Bid and Ask is positive, Spread Between Bid and Ask represents an Ask or High Price. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                            |
|---|----------------------------|
| Primary Concepts                        | Auxiliary Time Series Data |
| Data Type                               | real number                |
| Unit of Item                            | Mathematical value         |
| DATE RANGE AVAILABILITY                 |                            |
| Daily                                   | n/a                        |
| Monthly                                 | 1925                       |
| DATABASE AVAILABILITY AND UTILITY USAGE |                            |
| Database Formats                        | CRSPAccess                 |
| Product Types                           | STK                        |
| ts_print Daily Usage                    | n/a                        |
| ts_print Monthly Usage                  | n/a                        |
| stk_print or ind_print Option(s)        | /p2                        |
| C USAGE                                 |                            |
| Object                                  | spread_ts                  |
| Array                                   | spread[ ]                  |
| Element                                 | n/a                        |
| FORTRAN-95 USAGE                        |                            |
| Type or Subtype                         | spread_ts                  |
| Member and/or Array                     | spread()                   |
| Element                                 | n/a                        |

## STATISTIC AVERAGE IN PERIOD

Statistic Average in Period is the average statistical value in a portfolio at the beginning of a rebalancing period of a market segment index. It is set to zero if missing or unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | real number                      |
| Unit of Item                            | Mathematical value               |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | 1925                             |
| Monthly                                 | 1925                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |

| Database Formats       | CRSPAccess   |
|------------------------|--------------|
| Product Types          | IND          |
| ts_print Daily Usage   | n/a          |
| ts_print Monthly Usage | n/a          |
| ind_print Option(s)    | n/a          |
| C USAGE                |              |
| Object                 | rebal_arr[ ] |
| Array                  | rebal[ ][ ]  |
| Element                | avgstat      |
| FORTRAN-95 USAGE       |              |
| Type or Subtype        | rebal_arr()  |
| Member and/or Array    | rebal(,)     |
| Element                | avgstat      |

## STATISTIC MAXIMUM IDENTIFIER

Statistic Maximum Identifier is the identifier of the entity in a portfolio with the maximum statistic at the beginning of a rebalancing period. The identifier can be PERMNO or PERMCO depending on Index Statistic Grouping Code. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | integer number                   |
| Unit of Item                            | Id                               |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | 1925                             |
| Monthly                                 | 1925                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |
| Database Formats                        | CRSPAccess                       |
| Product Types                           | IND                              |
| ts_print Daily Usage                    | n/a                              |
| ts_print Monthly Usage                  | n/a                              |
| ind_print Option(s)                     | /rb#                             |
| C USAGE                                 |                                  |
| Object                                  | rebal_arr[ ]                     |
| Array                                   | rebal[ ][ ]                      |
| Element                                 | maxid                            |
| FORTRAN-95 USAGE                        |                                  |
| Type or Subtype                         | rebal_arr()                      |
| Member and/or Array                     | rebal(,)                         |
| Element                                 | maxid                            |

## STATISTIC MAXIMUM IN PERIOD

Statistic Maximum in Period is a maximum statistic value in the portfolio at the beginning of a rebalancing period. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | real number                      |
| Unit of Item                            | Mathematical value               |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | 1925                             |
| Monthly                                 | 1925                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |
| Database Formats                        | CRSPAccess                       |
| Product Types                           | IND                              |
| ts_print Daily Usage                    | n/a                              |
| ts_print Monthly Usage                  | n/a                              |
| ind_print Option(s)                     | /rb#                             |
| C USAGE                                 |                                  |
| Object                                  | rebal_arr[ ]                     |
| Array                                   | rebal[ ][ ]                      |
| Element                                 | maxstat                          |
| FORTRAN-95 USAGE                        |                                  |
| Type or Subtype                         | rebal_arr()                      |
| Member and/or Array                     | rebal(,)                         |
| Element                                 | maxstat                          |

### STATISTIC MEDIAN IN PERIOD

Statistic Median in Period is the median statistic value in a portfolio at the beginning of a rebalancing period. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | real number                      |
| Unit of Item                            | Mathematical value               |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | 1925                             |
| Monthly                                 | 1925                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |
| Database Formats                        | CRSPAccess                       |
| Product Types                           | IND                              |
| ts_print Daily Usage                    | n/a                              |
| ts_print Monthly Usage                  | n/a                              |
| ind_print Option(s)                     | n/a                              |
| C USAGE                                 |                                  |
| Object                                  | rebal_arr[ ]                     |
| Array                                   | rebal[ ][ ]                      |
| Element                                 | medstat                          |
| FORTRAN-95 USAGE                        |                                  |
| Type or Subtype                         | rebal_arr()                      |
| Member and/or Array                     | rebal(,)                         |
| Element                                 | medstat                          |

### STATISTIC MINIMUM IDENTIFIER

Statistic Minimum Identifier is the identifier of the entity in a portfolio with the minimum statistic at the beginning of a rebalancing period. The identifier can be PERMNO or PERMCO depending on the Index Statistic Grouping Code. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | integer number                   |
| Unit of Item                            | Id                               |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | 1925                             |
| Monthly                                 | 1925                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |
| Database Formats                        | CRSPAccess                       |
| Product Types                           | IND                              |
| ts_print Daily Usage                    | n/a                              |
| ts_print Monthly Usage                  | n/a                              |
| ind_print Option(s)                     | /rb#                             |
| C USAGE                                 |                                  |
| Object                                  | rebal_arr[ ]                     |
| Array                                   | rebal[ ][ ]                      |
| Element                                 | minid                            |
| FORTRAN-95 USAGE                        |                                  |
| Type or Subtype                         | rebal_arr()                      |
| Member and/or Array                     | rebal(,)                         |
| Element                                 | minid                            |

### STATISTIC MINIMUM IN PERIOD

Statistic Minimum in Period is the minimum statistic value in the portfolio at the beginning of the rebalancing period. It is set to zero if unavailable.

| GENERAL INFORMATION                     |                                  |
|---|----------------------------------|
| Primary Concepts                        | Index Rebalancing History Arrays |
| Data Type                               | real number                      |
| Unit of Item                            | Mathematical value               |
| DATE RANGE AVAILABILITY                 |                                  |
| Daily                                   | 1925                             |
| Monthly                                 | 1925                             |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                  |
| Database Formats                        | CRSPAccess                       |
| Product Types                           | IND                              |
| ts_print Daily Usage                    | n/a                              |
| ts_print Monthly Usage                  | n/a                              |
| ind_print Option(s)                     | /rb#                             |
| C USAGE                                 |                                  |
| Object                                  | rebal_arr[ ]                     |

|                          |             |
|--------------------------|-------------|
| Array                    | rebal[ ][ ] |
| Element                  | minstat     |
| <b>FORTTRAN-95 USAGE</b> |             |
| Type or Subtype          | rebal_arr() |
| Member and/or Array      | rebal(,)    |
| Element                  | minstat     |

## T.

### TICKER, END OF PERIOD

**Category:** Name History

**Data Type:** String

**Description:** An alphabetic symbol assigned to a security by an exchange at the end of the period reported.

#### Extended Information

Tickers can be reused over time. The combination of Ticker Symbol, Share Class, Exchange Code, and Calendar Trading Date uniquely identifies a security. A ticker may be one to three characters for NYSE and NYSE MKT securities or four to five characters for NASDAQ securities.

NASDAQ trading tickers have four base characters and may include a fifth character suffix that provides information about an issue's type or temporary information about an issue's status. CRSP only includes the suffix when it provides permanent descriptive information. The following table describes the suffixes appearing in CRSP databases:

| SUFFIX | DESCRIPTION                   |
|--------|-------------------------------|
| A      | Class A                       |
| B      | Class B                       |
| S      | Shares of Beneficial Interest |
| U      | Unit                          |
| V      | When-issued                   |
| Y      | ADR                           |
| Z      | Miscellaneous common issues   |

Occasionally NASDAQ will add two additional suffixes to the base ticker to identify certain issues. However, because the NASDAQ ticker field only allows for five characters, one letter of the base ticker will be dropped. For example:

If a foreign company with a class A stock has a base

ticker symbol ABCD, NASDAQ adds two additional characters, A and F. Due to NASDAQ's limited fields, they will delete a letter from the base ticker, so ABCDAF would be truncated to ABCAF.

There is no guarantee that the ticker suffix matches a share type. The Share Code variable should be used to determine the security's share type. NASDAQ tickers before 1982 in an issue's name history are presumed to represent legitimate trading symbols for that issue at some point in time, although these symbols may be listed out of proper chronological sequence. In addition, the NASDAQ file ticker symbols provided do not necessarily constitute a definitive list of all symbols used throughout an issue's trading history. Due to source limitations, the ticker field may be blank in name histories of NASDAQ securities that stopped trading from the early 1970s through the early 1980s. NYSE tickers prior to July 1962 are blank.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ticker     |
| Monthly ITEMID                          | mticker    |
| Header                                  | Ticker     |
| SUBNO                                   | 0          |

### TICKER, END OF PREVIOUS PERIOD

**Category:** Name History

**Data Type:** String

**Description:** An alphabetic symbol assigned to a security by an exchange at the end of the period preceding the period reported.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1962       |
| Monthly                                 | 196207     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ticker     |

|                |         |
|----------------|---------|
| Monthly ITEMID | mticker |
| Header         | Tickere |
| SUBNO          | 1       |

## TICKER - HEADER

Ticker - Header is set to the first seven characters of Trading Ticker Symbol - Header for active issues, and is blank for delisted issues. The Trading Ticker Symbol - Header contains the symbol used by automated trading systems, including all supplied class, share type, or status suffixes, with no punctuation for active securities in the file. There are no current trading symbols longer than seven characters.

Ticker - Header is used in CRSP access routines and utility programs using ticker as a database key. Usage is

unchanged, but input lists built on previous conventions of TICKER.SHRCLS for NYSE and NYSE MKT securities must be changed to comply with the new data. This change provides a field in the CRSP database that contains an exact match with symbols available directly from exchanges and other sources.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | character                              |
| Unit of Item                            | Id                                     |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1962                                   |
| Monthly                                 | 196207                                 |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| ind_print Option(s)                     | /hh, /hn                               |
| C USAGE                                 |  |
| Object                                  | header_row                             |
| Array                                   | header                                 |
| Element                                 | htick                                  |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | stkhdr                                 |
| Member and/or Array                     | n/a                                    |
| Element                                 | htick                                  |

## TICKER, MOST RECENT

Category: Name History

Data Type: String

Description: The most recently used alphabetic symbol assigned to a security by an exchange.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1962       |
| Monthly                                 | 196207     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | ticker     |
| Monthly ITEMID                          | mticker    |
| Header                                  | Tickerl    |
| SUBNO                                   | 2          |

## TRADING STATUS, END OF PERIOD

Category: Name History

Data Type: Character

Description: One-character field describing the status of a security at the end of the period. (A = active, H = halted, S = suspended, X = unknown)

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | trdstat    |
| Monthly ITEMID                          | mtrdstat   |
| Header                                  | Trdstat    |
| SUBNO                                   | 0          |

## TRADING STATUS, END OF PREVIOUS PERIOD

Category: Name History

Data Type: Character

Description: One-character field describing the status of a security at the end of the period preceding the period reported. (A = active, H = halted, S = suspended, X = unknown)



| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | trdstat    |
| Monthly ITEMID                          | mtrdstat   |
| Header                                  | Trdstate   |
| SUBNO                                   | 1          |

### TRADING STATUS - HEADER

Trading Status is a one-character field containing the trading status of securities. See Trading Status for a list of codes.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | character                              |
| Unit of Item                            | Code                                   |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 1925                                   |
| Monthly                                 | 1925                                   |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| ind_print Option(s)                     | /hn                                    |
| C USAGE                                 |  |
| Object                                  | header_row                             |
| Array                                   | header                                 |
| Element                                 | htrdstat                               |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | stkhdr                                 |
| Member and/or Array                     | n/a                                    |
| Element                                 | htrdstat                               |

### TRADING STATUS, MOST RECENT

Category: Name History

Data Type: Character

Description: One-character field describing the status of a security most recently known at the end of the period. (A = active, H = halted, S = suspended, X = unknown)

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | trdstat    |
| Monthly ITEMID                          | mtrdstat   |
| Header                                  | Trdstatl   |
| SUBNO                                   | 2          |

### TRADING TICKER SYMBOL, END OF PERIOD

Category: Name History

Data Type: String

Description: Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, at the end of the period reported. There is no punctuation (no periods) in the Trading Ticker Symbol. N.B. this field includes data starting on 20020102 for NYSE/NYSE MKT, and 19821101 for NASDAQ.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19821101   |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | tsymbol    |
| Monthly ITEMID                          | mtsymbol   |
| Header                                  | Symbol     |
| SUBNO                                   | 0          |

### TRADING TICKER SYMBOL, END OF PREVIOUS PERIOD

Category: Name History

Data Type: String

Description: Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, at the end of the period preceding each period reported.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19821101   |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | tsymbol    |
| Monthly ITEMID                          | mtsymbol   |
| Header                                  | Symbole    |
| SUBNO                                   | 1          |

### TRADING TICKER SYMBOL - HEADER

Trading Ticker Symbol - Header is the most current trading symbol on file, listed by exchanges and consolidated quote systems. It includes all temporary values, share classes, and share type suffixes.

| GENERAL INFORMATION                     |  |
|---|--|
| Primary Concepts                        | Header Identification and Summary Data |
| Data Type                               | character                              |
| Unit of Item                            | ld                                     |
| DATE RANGE AVAILABILITY                 |  |
| Daily                                   | 19821101                               |
| Monthly                                 | 198211                                 |
| DATABASE AVAILABILITY AND UTILITY USAGE |  |
| Database Formats                        | CRSPAccess                             |
| Product Types                           | STK                                    |
| ts_print Daily Usage                    | n/a                                    |
| ts_print Monthly Usage                  | n/a                                    |
| ind_print Option(s)                     | /hn                                    |
| C USAGE                                 |  |
| Object                                  | header_row                             |
| Array                                   | header                                 |
| Element                                 | htsymbol                               |
| FORTRAN-95 USAGE                        |  |
| Type or Subtype                         | stkhdr                                 |
| Member and/or Array                     | n/a                                    |
| Element                                 | htsymbol                               |

### TRADING TICKER SYMBOL, MOST RECENT

Category: Name History

Data Type: String

Description: Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, most recently known.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 19821101   |
| Monthly                                 | 198211     |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | tsymbol    |
| Monthly ITEMID                          | mtsymbol   |
| Header                                  | Symboll    |
| SUBNO                                   | 2          |

### U.

### UNIVERSE SUBSET TYPE CODE (PARTITION OR INDEX RESTRICTION)

Universe Subset Type Code is an integer code defining a set of restrictions used to define the universe of stocks used to create partitions for an index or for the actual index. The following codes are used:

| CODE | DESCRIPTION   |
|------|---|
| 0    | Identifier restriction not applicable   |
| 10   | NYSE common excluding foreign, ADRs, REIT, Closed End Funds                                     |
| 11   | NYSE/NYSE MKT common excluding foreign, ADRs, REIT, Closed End Funds                            |
| 12   | NYSE/NYSE MKT/The NASDAQ National Market common excluding foreign, ADRs, REIT, Closed End Funds |
| 20   | NYSE common excluding ADRs  |
| 21   | NYSE MKT common excluding ADRs  |
| 22   | NYSE/NYSE MKT common excluding ADRs   |
| 23   | NASDAQ common excluding ADRs  |
| 24   | NYSE/NYSE MKT/NASDAQ common excluding ADRs  |
| 30   | NYSE common   |
| 31   | NYSE MKT common   |
| 32   | NYSE/NYSE MKT common  |
| 33   | NASDAQ common   |
| 34   | NYSE/NYSE MKT/NASDAQ common   |
| 35   | NYSE common excluding ADRs and foreigners   |
| 36   | NYSE MKT common excluding ADRs and foreigners   |
| 37   | NYSE/NYSE MKT common excluding ADRs and foreigners  |
| 38   | NASDAQ common excluding ADRs and foreigners   |
| 39   | NYSE/NYSE MKT/NASDAQ common excluding ADRs and foreigners                                       |
| 40   | Arca common excluding ADRs  |
| 41   | Arca common   |
| 42   | NYSE/NYSE MKT/NASDAQ/Arca common excluding ADRs   |
| 43   | NYSE/NYSE MKT/NASDAQ/Arca common  |

| GENERAL INFORMATION                     |                                       |
|---|---------------------------------------|
| Primary Concepts                        | Index Header                          |
| Data Type                               | integer number                        |
| Unit of Item                            | Code                                  |
| DATE RANGE AVAILABILITY                 |                                       |
| Daily                                   | 1925                                  |
| Monthly                                 | 1925                                  |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                       |
| Database Formats                        | CRSPAccess                            |
| Product Types                           | IND                                   |
| ts_print Daily Usage                    | n/a                                   |
| ts_print Monthly Usage                  | n/a                                   |
| ind_print Option(s)                     | /hr                                   |
| C USAGE                                 |                                       |
| Object                                  | indhdr_row                            |
| Array                                   | indhdr                                |
| Element                                 | partuniv.univcode or induniv.univcode |
| FORTRAN-95 USAGE                        |                                       |
| Type or Subtype                         | indhdr                                |
| Member and/or Array                     | partuniv or induniv                   |
| Element                                 | univcode                              |

## V.

### VALID EXCHANGE CODES IN UNIVERSE (PARTITION OR INDEX RESTRICTION)

Valid Exchange Codes in Universe is an integer code indicating the base exchanges in the universe used to partition an index or to populate the actual index. The following table lists the base codes used. The sum of two or more codes indicates all selected exchanges are valid.

| CODE | DESCRIPTION             |
|------|-------------------------|
| 0    | No exchange restriction |
| 1    | NYSE                    |
| 2    | NYSE MKT                |
| 4    | NASDAQ Stock Market     |
| 8    | Arca                    |

| GENERAL INFORMATION                     |                |
|---|----------------|
| Primary Concepts                        | Index Header   |
| Data Type                               | integer number |
| Unit of Item                            | Code           |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |

| ts_print Daily Usage   | n/a                                   |
|------------------------|---------------------------------------|
| ts_print Monthly Usage | n/a                                   |
| ind_print Option(s)    | /hr                                   |
| C USAGE                |                                       |
| Object                 | indhdr_row                            |
| Array                  | indhdr                                |
| Element                | partuniv.wantexch or induniv.wantexch |
| FORTRAN-95 USAGE       |                                       |
| Type or Subtype        | indhdr                                |
| Member and/or Array    | partuniv or induniv                   |
| Element                | wantexch                              |

### VALID FIRST DIGIT OF SHARE CODE (PARTITION OR INDEX RESTRICTION)

Valid First Digit of Share Code is an integer code describing the valid digits in the first digit of the share code in a subset universe used to partition an index or in the actual index. Valid First Digit of Share Code is the decimal representation of a 10-digit binary number. The nth bit of the binary number is 1 if an n in the first digit of the Share Code is valid in the subset, and a 0 otherwise.

| GENERAL INFORMATION                     |   |
|---|---|
| Primary Concepts                        | Index Header                                  |
| Data Type                               | integer number                                |
| Unit of Item                            | Code  |
| DATE RANGE AVAILABILITY                 |   |
| Daily                                   | 1925  |
| Monthly                                 | 1925  |
| DATABASE AVAILABILITY AND UTILITY USAGE |   |
| Database Formats                        | CRSPAccess                                    |
| Product Types                           | IND   |
| ts_print Daily Usage                    | n/a   |
| ts_print Monthly Usage                  | n/a   |
| ind_print Option(s)                     | /hr   |
| C USAGE                                 |   |
| Object                                  | indhdr_row                                    |
| Array                                   | indhdr  |
| Element                                 | partuniv.shrcd.fstdig or induniv.shrcd.fstdig |
| FORTRAN-95 USAGE                        |   |
| Type or Subtype                         | indhdr  |
| Member and/or Array                     | partuniv or induniv                           |
| Element                                 | fstdig  |

## VALID INCORPORATION OF SECURITIES IN UNIVERSE (PARTITION OR INDEX RESTRICTION)

Valid Incorporation of Securities in Universe describes the incorporation of companies selected in a subset universe used to partition an index or in the actual index. The following integer codes are used.

| CODE | DESCRIPTION  |
|------|--|
| 0    | Not applicable or no restriction by country of incorporation |
| 1    | Companies incorporated outside of the US are excluded        |

| GENERAL INFORMATION                     |                                     |
|---|-------------------------------------|
| Primary Concepts                        | Index Header                        |
| Data Type                               | integer number                      |
| Unit of Item                            | Code                                |
| DATE RANGE AVAILABILITY                 |                                     |
| Daily                                   | 1962                                |
| Monthly                                 | 1925                                |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                     |
| Database Formats                        | CRSPAccess                          |
| Product Types                           | IND                                 |
| ts_print Daily Usage                    | n/a                                 |
| ts_print Monthly Usage                  | n/a                                 |
| ind_print Option(s)                     | /hr                                 |
| C USAGE                                 |                                     |
| Object                                  | indhdr_row                          |
| Array                                   | indhdr                              |
| Element                                 | partuniv.wantinc or induniv.wantinc |
| FORTRAN-95 USAGE                        |                                     |
| Type or Subtype                         | indhdr                              |
| Member and/or Array                     | partuniv or induniv                 |
| Element                                 | wantinc                             |

## VALID NASDAQ MARKET GROUPS IN UNIVERSE (PARTITION OR INDEX RESTRICTION)

Valid NASDAQ Market Groups in Universe is an integer code indicating valid NASDAQ markets in the universe subset used to partition an index or used in the actual index. The NASDAQ National Market is a subset of The NASDAQ Stock Market<sup>SM</sup>. The following codes are used:

| CODE | DESCRIPTION   |
|------|---|
| 0    | No National Market restriction, or not applicable             |
| 1    | Only issues listed on The NASDAQ National Market are included |

| GENERAL INFORMATION                     |                                     |
|---|-------------------------------------|
| Primary Concepts                        | Index Header                        |
| Data Type                               | integer number                      |
| Unit of Item                            | Code                                |
| DATE RANGE AVAILABILITY                 |                                     |
| Daily                                   | 19820402                            |
| Monthly                                 | 198204                              |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                     |
| Database Formats                        | CRSPAccess                          |
| Product Types                           | IND                                 |
| ts_print Daily Usage                    | n/a                                 |
| ts_print Monthly Usage                  | n/a                                 |
| ind_print Option(s)                     | /hr                                 |
| C USAGE                                 |                                     |
| Object                                  | indhdr_row                          |
| Array                                   | indhdr                              |
| Element                                 | partuniv.wantnms or induniv.wantnms |
| FORTRAN-95 USAGE                        |                                     |
| Type or Subtype                         | indhdr                              |
| Member and/or Array                     | partuniv or induniv                 |
| Element                                 | wantnms                             |

## VALID SECOND DIGIT OF SHARE CODE (PARTITION OR INDEX RESTRICTION)

Valid Second Digit of Share Code is an integer code describing the valid digits in the second digit of the Share Code in a subset universe used in an index partition or in the actual index. Valid Second Digit of Share Code is the decimal representation of a 10-digit binary number. The *n*th bit of the binary number is 1 if an *n* in the second digit of the Share Code is valid in the subset, and a 0 otherwise.

| GENERAL INFORMATION                     |                |
|---|----------------|
| Primary Concepts                        | Index Header   |
| Data Type                               | integer number |
| Unit of Item                            | Code           |
| DATE RANGE AVAILABILITY                 |                |
| Daily                                   | 1925           |
| Monthly                                 | 1925           |
| DATABASE AVAILABILITY AND UTILITY USAGE |                |
| Database Formats                        | CRSPAccess     |
| Product Types                           | IND            |
| ts_print Daily Usage                    | n/a            |
| ts_print Monthly Usage                  | n/a            |
| ind_print Option(s)                     | /hr            |
| C USAGE                                 |                |
| Object                                  | indhdr_row     |

|                          |   |
|--------------------------|---|
| Array                    | indhdr  |
| Element                  | partuniv.shrcd.secdig or induniv.shrcd.secdig |
| <b>FORTTRAN-95 USAGE</b> |   |
| Type or Subtype          | indhdr  |
| Member and/or Array      | partuniv or induniv                           |
| Element                  | secdig  |

### VALID WHEN-ISSUED SECURITIES IN UNIVERSE (PARTITION OR INDEX RESTRICTION)

Valid When-Issued Securities in Universe is an integer code describing the types of when-issued trading allowed in a subset universe used in an index partition or in the actual index. The following codes are used:

| CODE | DESCRIPTION  |
|------|--|
| 0    | No when-issued restrictions, or not applicable   |
| 10   | Initial when-issued trading is included when available. Ex-distribution trading is excluded. When-issued trading during reorganizations is included.                         |
| 110  | Initial when-issued trading is excluded until issue attains regular-way status. Ex-distribution trading is excluded. When-issued trading during reorganizations is included. |

| GENERAL INFORMATION                     |                                   |
|---|-----------------------------------|
| Primary Concepts                        | Index Header                      |
| Data Type                               | integer number                    |
| Unit of Item                            | Code                              |
| DATE RANGE AVAILABILITY                 |                                   |
| Daily                                   | 1925                              |
| Monthly                                 | 1925                              |
| DATABASE AVAILABILITY AND UTILITY USAGE |                                   |
| Database Formats                        | CRSPAccess                        |
| Product Types                           | IND                               |
| ts_print Daily Usage                    | n/a                               |
| ts_print Monthly Usage                  | n/a                               |
| ind_print Option(s)                     | /hr                               |
| C USAGE                                 |                                   |
| Object                                  | indhdr_row                        |
| Array                                   | indhdr                            |
| Element                                 | partuniv.wantwi or induniv.wantwi |
| FORTTRAN-95 USAGE                       |                                   |
| Type or Subtype                         | indhdr                            |
| Member and/or Array                     | partuniv or induniv               |
| Element                                 | wantwi                            |

### VOLUME, AVERAGE

Category: Volume

Data Type: Double Precision Floating Point

Description: Daily – Average daily volume traded within the selected output calendar. For example, the weekly calendar will average the 5 trading days within each week.

Monthly – Average monthly volume traded within the selected output calendar. For example, the quarterly calendar will average the 3 month-end volumes in the quarter.

| Date Range Availability                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| Database Availability and Product Types |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| ts_print/TsQuery Usage                  |            |
| Daily ITEMID                            | volavg     |
| Monthly ITEMID                          | mvolavg    |
| Header                                  | Volavg     |
| SUBNO                                   | 0          |

### VOLUME, MEDIAN

Category: Volume

Data Type: Double Precision Floating Point

Description: Daily – Median daily volume traded within the selected output calendar. For example, the weekly calendar will select the median value for the 5 trading days within each week.

Monthly – Median monthly volume traded within the selected output calendar. For example, the quarterly calendar will select the median value for the 3 month-end volumes in the quarter.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | volmed     |

|                |         |
|----------------|---------|
| Monthly ITEMID | mvolmed |
| Header         | Volmed  |
| SUBNO          | 0       |

## VOLUME, TOTAL

**Category:** Volume

**Data Type:** Floating Point

**Description:**

**Daily:** Total raw number of shares of a stock traded on that day, and is not adjusted for splits during the month and it does not contain over-allotments.

**Monthly:** The sum of the trading volumes during that month. Monthly volumes are the sum of shares reported in units of 100, and are not adjusted for splits during the month.

Volume, Total is the integer raw number of shares traded during the calendar period. It is expressed in units of one share, for daily data, and on hundred shares for monthly data. Up until March, 2014, our data source for NYSE/NYSE MKT reports the number rounded to the nearest hundred. For example, 12,345 shares traded will be reported on the NASDAQ Stock Exchange as 12,345 and on the NYSE or NYSE MKT exchanges as 12,300. Volume is set to -99 if the value is missing. A volume of zero usually indicates that there were no trades during the time period and is usually paired with bid/ask quotes in price fields. Trades on all exchanges connected to the consolidated pricing network are included in the volume.

On NASDAQ, volumes of after-hours trades are included in the current day, while the trades or quotes are included the next day. Therefore, it is possible to have bid/ask or missing price quotes paired with nonzero volumes. Trades on all exchanges connected to the consolidated pricing network and all late trades are included in the volume. There are no volumes available on NASDAQ prior to November 1, 1982.

Until June 15, 1992, NASDAQ reported volumes differently on the NASDAQ National Market and NASDAQ SmallCap Market. On the National Market, the volume of each transaction was reported by one party involved in the transaction. On the SmallCap Market, all market makers of a security made two volume reports at the end of the market day, the total

number of shares they bought and the total number of shares they sold. The NASDAQ system summed the greater figure (whether buy or sell) from the market reports to create daily volume figures.

Beginning in November 2008, the BATS Exchange joined the consolidated pricing network. From that time forward, volumes reported in the CRSP Stock database include trades on the BATS Exchange, which now accounts for over 10% of all US equity trading on a daily basis.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | tvol       |
| Monthly ITEMID                          | mtvol      |
| Header                                  | Vol        |
| SUBNO                                   | 0          |

## VOLUME, TOTAL ADJUSTED

**Category:** Volume

**Data Type:** Floating Point

**Description:**

**Daily:** Total volume traded within the selected output calendar, adjusted for splits. For example, the weekly calendar will sum the 5 trading days within each week.

**Monthly:** Total volume traded within the selected output calendar, adjusted for splits. For example, the quarterly calendar will sum the 3 months within each quarter.

| DATE RANGE AVAILABILITY                 |            |
|---|------------|
| Daily                                   | 1925       |
| Monthly                                 | 1925       |
| DATABASE AVAILABILITY AND PRODUCT TYPES |            |
| Database Formats                        | CRSPAccess |
| Product Types                           | STK        |
| TS_PRINT/TSQUERY USAGE                  |            |
| Daily ITEMID                            | adjvol     |
| Monthly ITEMID                          | madjvol    |
| Header                                  | Adjvol     |
| SUBNO                                   | 0          |

W.**WEIGHT OF ISSUE**

Weight of Issue is the defined weight of an issue within the index during the range indicated in a list defining the index. It is set to zero if weighting is defined based on data and not part of the list definition.

| GENERAL INFORMATION                     |                          |
|---|--------------------------|
| Primary Concepts                        | Index List History Array |
| Data Type                               | real number              |
| Unit of Item                            | Mathematical value       |
| DATE RANGE AVAILABILITY                 |                          |
| Daily                                   | 1925                     |
| Monthly                                 | 1925                     |
| DATABASE AVAILABILITY AND UTILITY USAGE |                          |
| Database Formats                        | CRSPAccess               |
| Product Types                           | IND                      |
| ts_print Daily Usage                    | n/a                      |
| ts_print Monthly Usage                  | n/a                      |
| ind_print Option(s)                     | /hr                      |
| C USAGE                                 |                          |
| Object                                  | list_arr[]               |
| Array                                   | list[][]                 |
| Element                                 | weight                   |
| FORTRAN-95 USAGE                        |                          |
| Type or Subtype                         | list_arr()               |
| Member and/or Array                     | list()                   |
| Element                                 | weight                   |



## CHAPTER 3: CRSP CALCULATIONS

This area contains formulas and methodologies used to derive CRSP variables in the stock and index files and generated by the CRSP data utilities.

### **ADJUSTED DATA**

Price, dividend, shares, and volume data are historically adjusted for split events to make data directly comparable at different times during the history of a security. CRSP provides raw, Unadjusted Data, but data utilities `stk_print` and `ts_print` can be used to generate Adjusted Data.

An adjustment base date is chosen as the anchor date. All data on this date are unadjusted, and other data are converted based on the split events between the base date and the time of that data. The adjustment base date is usually chosen to be the last available day of trading.

Split events always include stock splits, stock dividends, and other distributions with price factors such as spin-offs, stock distributions, and rights. Shares and volumes are only adjusted using stock splits and stock dividends. Split events are applied on the Ex-Distribution Date.

**Price and dividend data are adjusted with the calculation:**

$$A(t) = P(t) / C(t),$$

where  $A(t)$  is the adjusted value at time  $t$ ,  $P(t)$  is the raw value at time  $t$ , and  $C(t)$  is the cumulative adjustment factor at time  $t$ .

Share and volume data are adjusted with the calculation:

$$A(t) = P(t) * C(t),$$

where  $A(t)$  is the adjusted value at time  $t$ ,  $P(t)$  is the raw value at time  $t$ , and  $C(t)$  is the cumulative adjustment factor at time  $t$ .

In both cases, where  $C_0$  is the adjustment base date, the cumulative adjustment factor is:

$$\begin{aligned} \text{if } t = C_0, \\ C(t) = 1.0 \end{aligned}$$

**if  $t > C_0$  and no split events since  $t-1$ ,**

$$C(t) = C(t-1)$$

**if  $t > C_0$  and a split event with factor  $f$  since  $t-1$ ,**

$$C(t) = C(t-1) * f$$

**if  $t > C_0$  and split event change**

$$C(t-1)/f$$

**if  $t < C_0$  and a split event change**

$$C(t+1)*f$$

Where factor is typically the Factor to Adjust Price variable + 1.

If there is a gap in trading where possible split events are not known, all adjusted values are set to missing when the gap is between the observation and the adjustment base date.

Monthly: If monthly summary data (id or Low Price, Ask or High Price, and Volume Traded) are adjusted, the adjustment factor cannot take into account adjustments that take place in the middle of the month. Therefore, the result assumes all adjustment events occur on the last trading day of the month. A more accurate monthly adjusted value can be derived by adjusting and resummarizing the underlying daily data.

### **ANNUALIZED RETURN**

Annualized Return is the constant annual return applied to each period in arrays that would result in the actual compounded return over that range. An Annualized Return is a special case of a Geometric Average Return where the time periods are expressed in terms of years.

### **ASSOCIATED PORTFOLIO RETURN**

Associated Portfolio Returns are a composite of a group of portfolio index series based on a time-dependent portfolio assignment for a security. They are built for each security based on assignments within the specified portfolio type. The associated portfolio return at any time is the return of the portfolio to which the security belongs at that time. If the security is not assigned to a portfolio of that type at the time, the associated portfolio return is set to a missing value.

**CUMULATIVE RETURN**

A Cumulative Return is a compounded return from a fixed starting point. Each period in a time series of Cumulative Returns contains the compounded return from the first period in the time series to the end of that period.

**DELISTING RETURN**

Delisting Return is the return of security after it is delisted. It is calculated by comparing a value after delisting against the price on the security's last trading date. The value after delisting can include a price on another exchange or the total value of distributions to shareholders. If there is no opportunity to trade a stock after delisting before it is declared worthless, the value after delisting is zero. Delisting Returns are calculated similarly to total returns except that the value after delisting is used as the current price.

Valid delisting payment information is either a valid price with at least a bid and ask quote within ten trading periods, or a complete set of payments received for the shares. If information after delisting is insufficient to generate a return a missing value is reported.

Monthly: The monthly Delisting Return is calculated from the last month ending price to the last daily trading price if no other delisting information is available. In this case the delisting payment date is the same as the delisting date. If the return is calculated from a daily price, it is a partial-month return. The partial-month returns are not truly Delisting Returns since they do not represent values after delisting, but allow the researcher to make a more accurate estimate of the Delisting Returns.

When valuing a portfolio, the Delisting Return or other representation can be used to assign a value to the delisted security. The researcher must decide whether to assign alternate estimated values based on the Delisting Code when delisting payment information is unavailable. If using monthly data and an alternate estimate for Delisting Return is used, partial month returns should also be adjusted by this factor.

**DIVIDEND AMOUNT IN PERIOD (TS\_PRINT ITEM)**

Dividend Amount is the cash adjustment factor in a holding period return time period used to calculate returns. It is an adjusted summation of all distribution cash amounts available in the distribution history with Ex-distribution dates after the previous period and up to and including the current period, adjusted to the basis at the end of the previous period. Dividend Amount can be divided into nonordinary and ordinary types. Nonordinary dividends include return of capital distributions. Ordinary dividends are excluded from capital appreciation returns calculations.

To calculate an adjusted Dividend Amount in Period to its basis at the end of a date range, the following formula may be used with data items extracted through `ts_print`:

$$\text{Divamt in period adjusted to end of range} = \text{divamt} / \text{cumfacpr} / \text{facpr}$$

**Where**

|                 |  |
|-----------------|--|
| <b>divamt</b>   | Dividend Amount in Period                            |
| <b>cumfacpr</b> | Cumulative Factor to Adjust Prices over a Date Range |
| <b>facpr</b>    | Factor to Adjust Price in Period                     |

Thus, to calculate a total return using adjusted prices and dividends,

$$\text{Total Return} = (\text{adjpr} + (\text{divamt} / \text{cumfacpr} / \text{facpr})) / \text{prev\_adjpr} - 1$$
**Where**

|                 |  |
|-----------------|--|
| <b>adjpr</b>    | Price Adjusted, End of Period          |
| <b>ev_adjpr</b> | Price Adjusted, End of Previous Period |

**EXCESS RETURN**

An Excess Return is defined as the return in excess of a comparable benchmark. The benchmark can be a single associated index series or a composite of a group of portfolio index series based on security and time-dependent portfolio assignments.

If an Excess Return is based on a single index series, the Excess Return for a period is

$$E(t) = R(t) - I(t),$$

where  $E(t)$  is the Excess Return at time  $t$ ,  $R(t)$  is the security return at time  $t$ , and  $I(t)$  is the index return at time  $t$ . If the security return  $R(t)$  is based on a previous price  $t'$  that is not the previous time period,  $I(t)$  is the compounded index return from  $t' + 1$  to  $t$ .

If an Excess Return is based on associated portfolios, the Excess Return for a period is

$$E(t) = R(t) - I(p(t), t),$$

where  $E(t)$  is the Excess Return at time  $t$ ,  $R(t)$  is the security return at time  $t$ ,  $p(t)$  is the portfolio assignment of the security at time  $t$ , and  $I(p(t), t)$  is the return of that portfolio at time  $t$ . If the security return  $R(t)$  is based on a previous price  $t'$  that is not the previous time period,  $I(p(t), t)$  is the compounded return of the security's portfolio return from  $t' + 1$  to  $t$ . If the security is not assigned a portfolio assignment of the given type at time  $t$ ,  $E(t)$  is set to a missing value.

When cumulating Excess Return, the security returns and the index returns are cumulated separately before subtracting the difference.

### **FACTOR TO ADJUST PRICES IN PERIOD (TS PRINT ITEM)**

Factor to Adjust Prices in Period is the amount the current price is multiplied by in returns calculations so that current and previous prices are on the same split-adjusted basis. Factor to Adjust Prices in Period is derived from the Factor to Adjust Price field of distributions with Ex-Distribution Dates after the previous period and up to and including the current period. In simple stock splits, Factor to Adjust Prices in Period is distribution Factor to Adjust Price plus one.

### **GEOMETRIC AVERAGE RETURN**

A Geometric Average Return is the constant return applied to each period in a range that would result in the compounded return over that range.

The Geometric Average Return is calculated using the formula below:

$$g_n = (1 + r_c)^{1/n} - 1$$

Where

$g_n$  = the Geometric Average Return applicable on each subset period  $n$

$r_c$  = the cumulative return over the entire period

$n$  = the number of equal subset periods to average the return

### **INCOME RETURN**

Income Return is the return on the ordinary dividends paid to shareholders of a security. It is the ratio of the amount of ordinary dividends since the end of the previous period up to and including the end of the period of interest to the price at the end of the previous period. It is similar to a dividend yield.

Income Return is calculated by CRSP as the difference of the Total Return and Capital Appreciation Return, as follows.

$$iret_t = tre_t - aret_t \text{ where:}$$

$iret_t$  is the income return for time  $t$

$tre_t$  is the total return for time  $t$ ,

$aret_t$  is the capital appreciation return for time  $t$ .

### **INDEX COUNT**

Index Count is the count in an index for a time period is the number of securities in the portfolio during the time period. Rules are based on the specific index or portfolio methodology. See Total and Used Counts for more details.

### **INDEX LEVEL**

Index Level is the value of an investment relative to its value at one fixed point in time. Index Levels allow convenient comparison of the relative performance of the different portfolios or asset classes. Differences arise when indexes are based on different underlying databases such as daily and monthly CRSP stock products.

The initial date and value are set arbitrarily, but must be consistent if comparing multiple indexes. The Index Level for any series at any time after the initial point indicates the value at that time of the initial value

invested at the initial point. The Index Level for any series at any time before the initial point, indicates the value invested at that time that will result in the initial value at the initial point. The Index Level of a series missing prior to its first available return. Let:

- $I_t$  = Index Level for any series at time  $t$
- $R_t$  = return for the period  $t-1$  to  $t$
- $F$  = First Return. The time of the first non-missing return of the series
- $D$  = Initial Date. An arbitrary date where the level is set to the initial value
- $L$  = Initial Level. An arbitrary value the level is set to on the initialization date

then

- if  $t = D$ , then  $I_t = L$
- if  $t > D$ , then  $I_t = \frac{I_{t-1}}{1 + R_{t-1}}$
- if  $t < D$ , then  $I_t = \frac{I_{t-1}}{1 + R_{t-1}}$
- if  $t-1 < F$  then  $I_t$  is set to missing- Note: Missing values are file format specific.

Defined CRSP indexes use the following initial dates and levels:

#### CRSP Stock File Indexes

|                      |                   |
|----------------------|-------------------|
| <b>initial level</b> | 100.00            |
| <b>initial date</b>  | December 29, 1972 |

#### CRSP Cap-Based Portfolios

|                      |                   |
|----------------------|-------------------|
| <b>initial level</b> | 1.00              |
| <b>initial date</b>  | December 31, 1925 |

#### CRSP US Government Treasury and Inflation Indexes

|                      |                   |
|----------------------|-------------------|
| <b>initial level</b> | 100.00            |
| <b>initial date</b>  | December 29, 1972 |

Publicly available indexes such as for the S&P 500 Composite and NASDAQ Composite have initial values set by their creators and differ from the CRSP initializations.

## INDEX RETURN

An Index Return is the change in value of a portfolio over some holding period. The return on an index ( $R_t$ ) is calculated as the weighted average of the returns for the individual securities in the index:

$$R_t = \frac{\sum(w_{i,t} * r_{i,t})}{\sum(w_{i,t})}$$

where:

- $R_t$  is the index return
- $w_{i,t}$  is the weight of security  $i$  at time  $t$ .
- $r_{i,t}$  is the return of security  $i$  at time  $t$ . (see section xxxx of Stock guide for Security Return Calculation)

In a value-weighted index, the weight ( $w_{i,t}$ ) assigned is its total market value; see **Index Weight** below. In an equally-weighted index, the weight is equal and by convention  $w_{i,t}$  is set to one for every stock. Such an index would consist of  $n$  stocks, with the same dollar amount invested in each stock.

The security returns can be total returns or capital appreciation (returns without dividends). This determines whether the index is a total return index or a capital appreciation index.

In an index where the individual components are not known, but an index level is available from an external source, such as the Standard & Poor's 500 Composite Index, the return  $R_t$  is calculated as follows:

$$R_t = \frac{I_t}{I_{t-1}} - 1$$

$R_t$  is the index return for time  $t$

$I_t$  is the index level at time  $t$

$I_{t-1}$  is the index level at end of the previous period (time  $t-1$ )

**INDEX WEIGHT**

The weight of an index for a time period is the total market value of the securities in the index at the end of the previous trading period.  $V_t = \sum(w_{i,t}) = \sum(v_{i,t})$  where:  $v_{i,t} = p_{i,t-1} * s_{i,t-1}$  in which:

- $v_{i,t}$  is value of security  $i$  at time  $t$
- $p_{i,t-1}$  is the price of security  $i$  at the end of the previous trading period (time  $t-1$ ).
- $s_{i,t-1}$  is the number of shares outstanding of security  $i$  at the end of the previous trading period (time  $t-1$ ).

**MARKET CAPITALIZATION**

Market Capitalization (in 1000s) is a measurement of the size of a security defined as the price multiplied by the number of shares outstanding. CRSP uses the closing price or the absolute value of the bid/ask average from the Price or Bid/Ask Average variable and the applicable shares observation from the Shares Outstanding Observation Array for each calendar period to calculate Market Capitalization.

**REBASING INDEX LEVELS**

It is possible to rebase an index to make index levels of two index level series comparable. To rebase an index, choose a new initial date and value, find the current index level on the new initial date, and multiply the levels on all dates by the new initial value divided by the old initial date index level:

$$N_t = I_t * \frac{L}{I_D}$$

where:

- $I_t$  = Original Index Level for the series at time  $t$
- $N_t$  = New Index Level for the series at time  $t$
- $D$  = New Initial Date.
- $I_D$  = Original Index Level for the series on the new initial date
- $L$  = New Initial Level.

**RETURN**

A Return is the change in the total value of an investment in a security over some period of time per dollar of initial investment. Total Return is the Holding Period Total Return for a sale of a security on the given day, taking into account and reinvesting all distributions to shareholders. It is based on a purchase on the most recent time previous to this day when the security had a valid price. Usually, this time is the previous calendar period, but may be up to ten calendar periods prior to the calculation.

Returns are calculated as follows:

For time  $t$  (a holding period), let

- ♦  $t'$  = time of last available price  $< t$
- ♦  $r(t)$  = return on purchase at  $t'$ , sale at  $t$
- ♦  $p(t)$  = last sale price or closing bid/ask average at time  $t$
- ♦  $d(t)$  = dividend amount for  $t$
- ♦  $f(t)$  = factor to adjust price in period  $t$
- ♦  $p(t')$  = last sale price or closing bid/ask average at time of last available price  $< t$

$$r(t) = \frac{p(t)f(t) + d(t)}{p(t')} - 1$$

$t'$  is usually one period before  $t$ , but  $t'$  can be up to ten periods before  $t$  if there are no valid prices in the interval. If there is a trading gap with unknown status between  $t$  and  $t'$ , the previous price is considered invalid.

In daily databases, dividends are reinvested in the security on the Ex-Distribution Date. In monthly databases, the returns are holding period returns from month-end to month-end, not compounded daily returns, and dividends are reinvested in the security at month-end.

The Factor to Adjust Prices in Period is derived from the distribution history Factor to Adjust Price using all distributions with Ex-Distribution dates after the

previous period and up to the end of the current period. The dividend amount is derived from the distribution history Dividend Cash Amount and Factor to Adjust Price in the same range. For example, if a 2-for-1 split is the only distribution event in the time range, Factor to Adjust Price is 1.0, Factor to Adjust Prices in Period is 2.0, and Dividend Cash Amount is 0.0. If a one dollar dividend is the only distribution event in the time range, both Dividend Cash Amount and dividend amount are 1.0.

A series of special return codes specify the reason a return is missing:

|       |  |
|-------|--|
| -66.0 | Valid current price, but no valid previous price; either first price, unknown exchange between current and previous price, or more than 10 periods between time $t$ and the time of the preceding price $t'$ |
| -77.0 | Not trading on the current exchange at time $t$  |
| -88.0 | Outside the range of the security's price range  |
| -99.0 | Missing return due to missing price at time $t$  |

### SCHOLES-WILLIAMS BETA

Beta is a statistical measurement of the relationship between two time series, and has been used to compare security data with benchmark data to measure risk in financial data analysis. CRSP provides annual betas computed using the methods developed by Scholes and Williams (Myron Scholes and Joseph Williams, "Estimating Betas from Nonsynchronous Data," *Journal of Financial Economics*, vol 5, 1977, 309-327).

$$\beta_i = \frac{\sum (lr_{i,t} * M3_t) - \left(\frac{1}{n_i}\right) * (\sum lr_{i,t}) * (\sum M3_t)}{\sum (lM_t * M3_t) - \left(\frac{1}{n_i}\right) * (\sum lM_t) * (\sum M3_t)}$$

where:

- $\beta_i$  is the Beta for security  $i$  for the year being calculated
- $r_{i,t}$  is the return of security  $i$  at day  $t$
- $lr_{i,t} = \ln(1+r_{i,t})$  is the natural log of the return of security  $i$  at time  $t+1$  or the continuously compounded return.

- $M_t$  is the value-weighted market return at time  $t$
- $lM_t = \ln(1+M_t)$  is the natural log of the value-weighted market return at time  $t+1$  or the continuously compounded return.
- $M3_t = lM_{t-1} + lM_t + lM_{t+1}$  is the three-day moving window of the above market return
- $n_i$  is the number of non-missing returns for security  $i$  during the year

where the summations are over  $t$  and include all days on which security  $i$  traded, beginning with the first trading day of the year and ending with the last trading day of the year. There are two index families based on Scholes-Williams Beta calculations: NYSE/NYSE MKT and NASDAQ-only.

In the NYSE/NYSE MKT family, only trading prices are considered in the beta calculation, and a security must have traded half the days in a year to be given a non-missing beta for that year. The index used in the calculation is the total returns on the Trade-only NYSE/NYSE MKT Value-Weighted Market Index.

Betas for the NASDAQ family do not use the standard Scholes-Williams trade-only data restriction, since most NASDAQ securities were not required to report transactions until 1992. Removing bid/ask averages would restrict NASDAQ data to only NASDAQ National Market securities after 1982. NASDAQ returns based on bid/ask averages have different characteristics from trade-based returns, and betas are provided for comparison. NASDAQ betas are based on the total returns on the NASDAQ Value-Weighted Market Index.



**STANDARD DEVIATION**

Standard Deviation is a statistical measurement of the volatility of a series. CRSP provides annual standard deviations of daily returns using the following calculations:

$$\sigma_i = \sqrt{\frac{\sum (r_{i,t}^2) - \left(\frac{1}{n_i}\right) * (\sum r_{i,t})^2}{n_i - 1}}$$

where:

- $\sigma_i$  is the standard deviation for security  $i$  for the year being calculated
- $r_{i,t}$  is the return of security  $i$  at time  $t$
- $n_i$  is the number of non-missing returns for security  $i$  during the year

where the summations are over  $t$  and include all days on which security  $i$  had a non-missing return, beginning with the first trading day of the year and ending with the last trading day of the year. A security must have valid returns for eighty percent of the trading days in a year to have a Standard Deviation calculated. There are two families of indexes provided by CRSP with annual standard deviations as the statistic, the NYSE/NYSE MKT Standard Deviation Portfolios and the NASDAQ Standard Deviation Portfolios.

**TOTAL COUNTS (TOTCNT) AND USED COUNTS (USDCNT)**

Total Counts and Used Counts are provided for all indexes and portfolios. The following table identifies differences.

| TOTAL COUNT  | USED COUNT   |
|--|--|
| Current Day closing price required for inclusion   | Previous day & current day closing prices required for inclusion   |
| On same date the Total Count will always be greater than or equal to the Used Count. The difference will be the number of securities with missing prices on the previous day (usually adds). | The Total Count on Day $t$ will be greater than or equal to the Used Count on Day $t+1$ . The difference will be the number of securities with missing prices on $t+1$ (usually the drops) |
| Total Count will fluctuate throughout the year.  | Used Count will fluctuate throughout the year.   |

**TOTAL VALUE (TOTVAL) AND USED VALUE (USDVAL)**

Total Value and Used Value are provided for all CRSP stock indexes. The following table identifies differences.

| TOTAL VALUE   | USED VALUE   |
|---|--|
| Current Day market value of eligible securities - price and shares for the current day are required for inclusion | For value-weighted indexes, this is the Index weight - market value of eligible securities with - price for the current day and price and shares for the previous day are required for inclusion |
| On same date the Total Value will always be greater than or equal to the Used Value.                              |  |

**TRADE-ONLY DATA**

CRSP provides Price or Bid/Ask Average as the standard daily price field, and derives returns from this field. Bid/ask averages are marked as negative numbers by convention. A trade-only price is derived from Price or Bid/Ask Average by setting all bid/ask average prices to missing. Trade-only returns are calculated using trade-only prices. A trade-only index is calculated using trade-only prices and returns.

**UNADJUSTED DATA**

Unadjusted Data is price, dividend, shares, and volume data reported in the amounts reported at the time of the observations. All CRSP data are provided unadjusted. However, the distribution history can be used to generate Adjusted Data from the raw data.

**WEIGHTED RETURN**

Weighted Return is the relative weight of a security within a portfolio or index multiplied by its return. In a value-weighted portfolio, Weighted Return is the capitalization at the end of the previous period multiplied by the return for the period.



## CHAPTER 4: INDEX METHODOLOGIES

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CRSP provides a wide range of indexes that can be used as benchmarks of market performance. Broad market indexes are provided with CRSP stock files. Additional market indexes, stock portfolios, bond indexes, and inflation series are provided with CRSP index files. The combination of portfolio results and assignment data provided with CRSP index files added to the security data in CRSP stock files allows a comparison of securities against comparative benchmarks with a historical perspective.

### I. STOCK FILE INDEXES

The CRSP Stock File Indexes are a set of Market Indexes and Decile Portfolio Indexes provided daily, monthly, quarterly, and annually for five market groups of securities. The market groups of securities for which indexes are calculated are the individual NYSE, NYSE MKT, NASDAQ and Arca markets, the NYSE/NYSE MKT, NYSE/NYSE MKT/NASDAQ, and the NYSE/NYSE MKT/NASDAQ/Arca market combinations. Published S&P 500 and NASDAQ Composite Index Data are also included.

The ranges for individual exchange data are listed below. The series containing combinations of exchanges begin at the earliest point that data for any of the exchanges is available.

- The New York Stock Exchange (NYSE) all series begins December 31, 1925
- NYSE MKT all series begins July 2, 1962
- The NASDAQ Stock Market (NASDAQ) all series begins December 14, 1972
- The Arca Exchange (Arca) all series begins March 8, 2006

NOTE: Quarterly and annual index returns are not available for the series including Arca.

Daily and monthly index returns are calculated based on daily and monthly security holding period returns respectively. Quarterly and annual frequency index returns are calculated by compounding monthly index returns.

### **A. CRSP MARKET INDEXES**

An Equal-Weighted Index and a Value-Weighted Index are calculated for each market group. Each index contains index returns with and without dividends, index weights and counts.

The Equal-Weighted Index is an Equal-Weighted Portfolio built each calendar period from all issues listed on the selected exchanges with valid prices on the current and previous periods.

The Value-Weighted Index is a Value-Weighted Portfolio built each calendar period using all issues listed on the selected exchanges with available shares outstanding and valid prices in the current and previous periods, excluding American Depositary Receipts. Issues are weighted by their Market Capitalization at the end of the previous period.

An additional daily trade-only value-weighted index is available for NYSE/NYSE MKT. This index uses the same methodology as the NYSE/NYSE MKT Value-Weighted Market Index, but only includes non-ADR securities with trades on current and previous trading days.

Index Levels of CRSP Market Indexes are set to 100.0 on December 29, 1972.

The NYSE/NYSE MKT/NASDAQ/Arca Market Indexes are available in Daily and Monthly Stock Files. Other exchange combinations are available in the CRSP US Index Database and Security Portfolio Assignment Module.

### **B. PUBLISHED S&P 500 AND NASDAQ COMPOSITE INDEX DATA**

The S&P 500 Composite Index is a value-weighted index created by Standard & Poor's. Since March 1957, the index contains 500 securities. Prior to that time the index contained 90 securities. These have been combined into a single time series. S&P Composite levels are collected from public sources such as the Dow Jones New Service, the Wall Street Journal and the Standard & Poor's Statistical Service.

The NASDAQ Composite Index is a value-weighted index created by the NASDAQ Stock Market.

Published S&P 500 and NASDAQ Composite Index Data are provided with the daily and monthly CRSP Access Stock Files. Index levels and returns exclude dividends. As a result, the Return with Dividends variable returns a -88, or missing return code, for both indexes. Total returns and membership data for the S&P 500 are available to subscribers of the CRSP Access Index Files.

### C. CRSP STOCK FILE CAPITALIZATION DECILE INDEXES

CRSP Stock File Capitalization Decile Indexes are calculated for each of the Stock File Indexes market groups. All securities excluding American Depositary Receipts on a given exchange or combination of exchanges are ranked according to capitalization and then divided into ten equal parts each rebalancing period.

The portfolios are rebalanced each year, using the security market capitalization at the end of the previous year to rank the securities. If a security starts trading in the middle of a year, its first capitalization of the year is used in the ranking. The largest securities are placed in portfolio 10 and the smallest in portfolio 1. A security not assigned to a portfolio is not used in the index and has its Portfolio Assignment set to 0.

Value-Weighted Index Returns including all dividends are calculated on each of the ten portfolios. Index levels are calculated based on an initial value of 100.0 on December 29, 1972.

Each set of decile indexes represents one Index Group of index results and one Portfolio Type of portfolio assignments and statistics. Ten Index Series are created for each Portfolio Type.

### D. CRSP STOCK FILE RISK-BASED DECILE INDEXES

CRSP Stock File Risk-Based Decile Indexes are created for the daily NYSE/NYSE MKT and NASDAQ market combinations for two risk-based criteria. In these Market Segment Indexes, portfolios are created by ranking securities according to a measurement of the risk of their returns. One ranking uses beta values computed using the methods developed by Scholes and Williams (Myron Scholes and Joseph Williams,

“Estimating Betas from Nonsynchronous Data”, Journal of Financial Economics, vol 5, 1977, 309-327). The other ranking uses the annual standard deviation of the daily returns for its ranking.

The methodologies used to calculate these statistics are described in the CRSP Calculations section under Scholes- Williams Beta and Standard Deviation.

CRSP Stock File Risk-Based Decile Indexes are rebalanced each year by ranking the statistics at the end of the previous year. If there are no data for the previous year for an issue but a valid statistic can be calculated for the current year, that statistic is used in the rankings.

CRSP Beta Deciles are ranked with Portfolio 1 containing the securities with the largest positive betas and 10 containing securities with the smallest and most negative.

CRSP Standard Deviation Deciles are ranked with Portfolio 1 containing the securities containing the largest standard deviations and portfolio 10 containing securities with the lowest. Once securities are assigned to portfolios, an equal-weighted total return index is calculated for each portfolio each calendar period. Trade-only security total returns are used for the NYSE/NYSE MKT Beta Portfolios only. Index levels are calculated based on an initial value of 100.0 on December 29, 1972.

Each set of decile indexes represents one Index Group of index results and one Portfolio Type of portfolio assignments and statistics. Ten Index Series are created for each Portfolio Type.

## II. CRSP CAP-BASED PORTFOLIOS

CRSP Cap-Based Portfolio Index data are a monthly series based on portfolios that are rebalanced quarterly. The methodology used to calculate the series differs from the CRSP Stock File Capitalization Decile Indexes.

The universe includes all common stocks listed on the NYSE, NYSE MKT, and NASDAQ National Market excluding Unit Investment Trusts, Closed-End Funds,

REITs, Americus Trusts, foreign stocks and American Depositary Receipts. Eligible companies with primary listings on the NYSE are ranked into equally populated deciles. The largest capitalizations in each decile serve as the breakpoints that are applied to various exchange groupings of the universe.

Decile results are created for three exchange groups:

- NYSE only
- NYSE and NYSE MKT. NYSE MKT data are added beginning July 1962
- NYSE, NYSE MKT and the NASDAQ National Market. The NASDAQ National Market data are added beginning April 1982

Individual decile portfolios are created for each exchange group, the largest being in decile 1 and the smallest in decile 10. In addition to each decile portfolio, returns are calculated for the following: CRSP 1-2, CRSP 3-5, CRSP 6-8, CRSP 9-10, CRSP 6-10 and CRSP 1-10.

Companies becoming eligible or ineligible during a quarter are handled with the following rules:

- Previous period market capitalizations are used for assigning deciles and weights.
- Securities added during a quarter are assigned to appropriate portfolios when two consecutive month-end prices are available.
- When a security's last price is a month-end price, its month's return is included in the portfolios' quarterly return.
- When the month-end price is missing, a replacement month-end value is derived from the delisting return including merger terms, regional exchanges, etc. If the derived replacement month-end price is not available, the last available daily price is used.
- If an issue becomes ineligible for an index in the middle of a quarter but is still active, such as after an exchange change or because the issue is leaving the NASDAQ National Market, the issue is considered held until the end of the month and then dropped.
- Index Total Returns, Index Capital Appreciation, and Index Income Returns are calculated from a value-weighted portfolio of securities in the portfolio each period. Index Levels are calculated for each of

these returns series based on an investment of one dollar on December 25, 1925.

- Only monthly indexes and portfolio assignments are calculated for the Cap-Based Portfolios. Each of the three sets of Cap-Based Indexes represents one Index Group of index results and one Portfolio Type of portfolio assignments and statistics. Seventeen Index Series, one for each decile and each composite, are created for each Portfolio Type.

### III. CRSP INDEXES FOR THE S&P 500 UNIVERSE

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CRSP Indexes for the S&P 500® Universe are standard CRSP Market Indexes derived from CRSP Stock Files but include only issues from the CRSP stock data that are in the S&P 500® universe.

The CRSP Indexes for the S&P 500® series contain value- and equal-weighted returns with and without dividends for a market of stocks in the S&P 500® universe. Daily and monthly data beginning December 25, 1925 are provided. The published S&P 500® index and returns are also included for comparison. For a security to be included in the CRSP indexes for the S&P 500 Universe, it must have a price at the end of the current period, a price at the end of the previous period, and it must be a member of the S&P 500 Universe at the end of the current period. See CRSP Market Indexes for the variables calculated and the methodology used.

Prior to March, 1957, the index contains 90 issues. CRSP does not have data for two securities between 1925 and 1931 as follows.

| Company Name                | Start Date  | End Date    |
|-----------------------------|-------------|-------------|
| INT'L MERCANTILE MARINE PFD | 31-dec-1925 | 22-jul-1929 |
| STANDARD POWER & LIGHT "B"  | 06-feb-1930 | 16-nov-1931 |

Due to differences in handling mergers, reorganizations, and other major corporate actions, CRSP data and the S&P 500® universe do not always have a one-to-one mapping. In some cases this results in a short period where CRSP is missing prices or has multiple prices per company listed by S&P.

The Count of Securities Used is not always 500 (90

prior to March 1957) due to missing prices. Known reasons for missing prices are when-issued trading, halts, and suspensions.

### A. CRSP PORTFOLIOS FOR THE S&P 500 UNIVERSE

The CRSP Portfolios for the S&P 500 Universe include an alternate value- and equal-weighted version of the CRSP indexes for the S&P 500 Universe. The methodology differences are:

- Issues are selected based on membership in the S&P 500 at the end of the previous period instead of the end of the current period.
- Delisting returns are used to evaluate the value of securities that delist before the end of a period they were selected.

## IV. CRSP TREASURY AND INFLATION INDEXES

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The CRSP US Treasury and Inflation Series (CTI) Files are provided on a monthly frequency. The series contains returns adapted from the CRSP US Treasury Fixed Term Index Series, the CRSP Risk Free Rates File, and the US Government Consumer Price Index. These derived files offer 10 groups of indexes: 30 year, 20 year, 10 year, 7 year, 5 year, 2 year, 1 year, 90 day, and 30 day target maturity indexes, as well as the Consumer Price Index.

For fixed-term series with maturities of one year or greater, a representative Treasury bond or note for each series is selected. Available issues are filtered on the basis of their characteristics. Each month, the most recent non-callable, non-flower, and fully taxable issue closest to the target maturity is selected. If none are found, a second pass allows flower bonds. Note that all these series begin in 1941 or 1942 due to the lack of suitable issues in the early history.

For thirty and ninety day risk-free series, a representative Treasury bill for each series is selected. Each month the issue maturing closest to the target duration, as measured from the end of the previous month, is selected. Bills must have at least thirty days to their maturity date to be selected for the thirty day series. However, for ninety day series, bills with less

than ninety days to maturity may be selected. Due to the lack of data, the selection process in periods prior to 1942 is somewhat subjective and the maturities of the selected issues may deviate more than several days from the thirty and ninety day targets. Where bills were not available, certificates or notes may have been used. Exclusions may include:

- suspicious quotes,
- issues that did not mature on their next coupon payment data, or
- bid quotations that implied negative yields.

Each monthly return is calculated as price change plus interest, divided by last month's price. The returns and corresponding index values are set to -99 for months in which a return cannot be calculated, i.e. if the price is missing for either this month or last month, or if no valid issue was available.

The issue chosen for the 30, 20, 10, 7, 5, 2, and 1 year Fixed Term Index series for a given date was selected based on its length to maturity as of the date. The returns contained in these series are calculated under the assumption that the relevant issue is bought one month prior to the quote date and sold on the date.

The issue chosen for the 90 and 30 day Treasury Bill series on a given date was selected based on its length to maturity as of the month immediately prior to the date. The 90 and 30 day series returns were calculated on the basis of buying the relevant issue one month prior to the date and selling it on the date. For example, a 90 day bill return is calculated between a date approximately 90 days prior to the bill's maturity, and the date which is a month after this date. Likewise, a 30 day bill return is calculated between a date approximately 30 days prior to the bill's maturity, and the date which is a date one month later. In cases where the date chronologically approached or exceeded the maturity date, thereby making a final price unavailable, the return was calculated based on a final price of \$100.

The associated index levels of the CRSP US Treasury and Inflation Series all have been initialized so that December 29, 1972 (19721229) equals 100. This facilitates comparison between the CTI Indexes and Stock File Indexes.

## V. CRSP SELECT FILE SPECIFICATIONS

### A. LONG TERM BOND SELECTION

1. Select the 20-year bond that is the closest to having a term of at least 19.5 years to maturity at the beginning of the year. If more than one exists, choose the bond with the most current dated date (i.e. most recently issued).
2. If a 20-year bond does not meet the above criteria, choose the 25-year bond with at least 19.7 years to maturity at the beginning of the year. If more than one exists, choose the bond closest to 20 years to maturity.
3. If a 25-year bond does not meet the above criteria, choose the 30-year bond with at least 19.7 years to maturity at the beginning of the year. If more than one exists, choose the bond closest to 20 years to maturity on the quote date.

The bond chosen under any of the categories above cannot be dated any later than December 1st of the previous year for which the bond is being considered for inclusion in the index (i.e. dated date + one month  $\leq$  quote date). Before 1942, only partially tax-exempt bonds (itax=2) are chosen because of the limited number of fully taxable bond issues. After 1942, only fully taxable issues are chosen (itax=1).

The bond is held for one full year in the index. Bonds chosen for this index are either non-callable or callable Treasury bonds with a type of Bond or Callable Bond. A 20-year bond can be selected from a universe of bonds that were issued as having a term to maturity of 7305-7693 days, a 25-year bond from an issue of 8766-9892 days, and a 30-year bond from an issue of 10955-11288 days.

### B. INTERMEDIATE TERM BOND SELECTION

1. Select the most currently issued 5 year bond with at least 5 years to maturity at the beginning of the calendar year.
2. If a 5-year bond does not meet the above criteria select the next shortest maturity that is closest to 5 years to maturity on the quote date. For example, if a 7-year bond exists, choose the 7-year closest to 5 years to maturity. If a 7-year bond does not exist

move up to the next highest maturity and so forth.

For the period 1934-1942, always choose a non-flower bond (iflwr of 1) and preference is given to a bond that is partially tax-exempt (itax of 2). If a partially tax-exempt bond does not meet the above criteria, choose a wholly tax-exempt bond (itax of 3). After 1942 only fully taxable non-flower bonds are chosen.

Callable and non-callable U.S. Treasury bonds and notes are considered for index inclusion. The issues are chosen from a universe of bonds issued with a term to maturity between 1000 to 7000 days to maturity.

### SHORT TERM BOND SELECTION

Choose the Treasury Bill closest to 90 days to maturity on the quote date. A bill can be within 4 days of target maturity, i.e. 90 days plus or minus 4 days. If a bill is not available use a certificate or a note.



## VI. CRSP INDEX SERIES

### A. CRSP INDEX SERIES

The following table lists all CRSP Index Series by INDNO.

| INDNO   | Index Name  | Daily Setid | Monthly Setid | Product |
|---------|---|-------------|---------------|---------|
| 1000000 | CRSP NYSE Value-Weighted Market Index                     | 460         | 420           | IX      |
| 1000001 | CRSP NYSE Equal-Weighted Market Index                     | 460         | 420           | IX      |
| 1000002 | CRSP NYSE Market Capitalization Decile 1                  | 460         | 420           | IX      |
| 1000003 | CRSP NYSE Market Capitalization Decile 2                  | 460         | 420           | IX      |
| 1000004 | CRSP NYSE Market Capitalization Decile 3                  | 460         | 420           | IX      |
| 1000005 | CRSP NYSE Market Capitalization Decile 4                  | 460         | 420           | IX      |
| 1000006 | CRSP NYSE Market Capitalization Decile 5                  | 460         | 420           | IX      |
| 1000007 | CRSP NYSE Market Capitalization Decile 6                  | 460         | 420           | IX      |
| 1000008 | CRSP NYSE Market Capitalization Decile 7                  | 460         | 420           | IX      |
| 1000009 | CRSP NYSE Market Capitalization Decile 8                  | 460         | 420           | IX      |
| 1000010 | CRSP NYSE Market Capitalization Decile 9                  | 460         | 420           | IX      |
| 1000011 | CRSP NYSE Market Capitalization Decile 10                 | 460         | 420           | IX      |
| 1000012 | CRSP NYSE Market Capitalization Deciles                   | 440         | 400           | IX      |
| 1000020 | CRSP NYSE MKT Value-Weighted Market Index                 | 460         | 420           | IX      |
| 1000021 | CRSP NYSE MKT Equal-Weighted Market Index                 | 460         | 420           | IX      |
| 1000022 | CRSP NYSE MKT Market Capitalization Decile 1              | 460         | 420           | IX      |
| 1000023 | CRSP NYSE MKT Market Capitalization Decile 2              | 460         | 420           | IX      |
| 1000024 | CRSP NYSE MKT Market Capitalization Decile 3              | 460         | 420           | IX      |
| 1000025 | CRSP NYSE MKT Market Capitalization Decile 4              | 460         | 420           | IX      |
| 1000026 | CRSP NYSE MKT Market Capitalization Decile 5              | 460         | 420           | IX      |
| 1000027 | CRSP NYSE MKT Market Capitalization Decile 6              | 460         | 420           | IX      |
| 1000028 | CRSP NYSE MKT Market Capitalization Decile 7              | 460         | 420           | IX      |
| 1000029 | CRSP NYSE MKT Market Capitalization Decile 8              | 460         | 420           | IX      |
| 1000030 | CRSP NYSE MKT Market Capitalization Decile 9              | 460         | 420           | IX      |
| 1000031 | CRSP NYSE MKT Market Capitalization Decile 10             | 460         | 420           | IX      |
| 1000032 | CRSP NYSE MKT Market Capitalization Deciles               | 440         | 400           | IX      |
| 1000040 | CRSP NYSE/NYSE MKT Value-Weighted Market Index            | 460         | 420           | IX      |
| 1000041 | CRSP NYSE/NYSE MKT Equal-Weighted Market Index            | 460         | 420           | IX      |
| 1000042 | CRSP NYSE/NYSE MKT Market Capitalization Decile 1         | 460         | 420           | IX      |
| 1000043 | CRSP NYSE/NYSE MKT Market Capitalization Decile 2         | 460         | 420           | IX      |
| 1000044 | CRSP NYSE/NYSE MKT Market Capitalization Decile 3         | 460         | 420           | IX      |
| 1000045 | CRSP NYSE/NYSE MKT Market Capitalization Decile 4         | 460         | 420           | IX      |
| 1000046 | CRSP NYSE/NYSE MKT Market Capitalization Decile 5         | 460         | 420           | IX      |
| 1000047 | CRSP NYSE/NYSE MKT Market Capitalization Decile 6         | 460         | 420           | IX      |
| 1000048 | CRSP NYSE/NYSE MKT Market Capitalization Decile 7         | 460         | 420           | IX      |
| 1000049 | CRSP NYSE/NYSE MKT Market Capitalization Decile 8         | 460         | 420           | IX      |
| 1000050 | CRSP NYSE/NYSE MKT Market Capitalization Decile 9         | 460         | 420           | IX      |
| 1000051 | CRSP NYSE/NYSE MKT Market Capitalization Decile 10        | 460         | 420           | IX      |
| 1000052 | CRSP NYSE/NYSE MKT Market Capitalization Deciles          | 440         | 400           | IX      |
| 1000053 | CRSP NYSE/NYSE MKT Trade-Only Value-Weighted Market Index | 460         | -             | IX      |
| 1000060 | CRSP NASDAQ Value-Weighted Market Index                   | 460         | 420           | IX      |

| INDNO   | Index Name  | Daily Setid | Monthly Setid | Product |
|---------|---|-------------|---------------|---------|
| 1000061 | CRSP NASDAQ Equal-Weighted Market Index                   | 460         | 420           | IX      |
| 1000062 | CRSP NASDAQ Market Capitalization Decile 1                | 460         | 420           | IX      |
| 1000063 | CRSP NASDAQ Market Capitalization Decile 2                | 460         | 420           | IX      |
| 1000064 | CRSP NASDAQ Market Capitalization Decile 3                | 460         | 420           | IX      |
| 1000065 | CRSP NASDAQ Market Capitalization Decile 4                | 460         | 420           | IX      |
| 1000066 | CRSP NASDAQ Market Capitalization Decile 5                | 460         | 420           | IX      |
| 1000067 | CRSP NASDAQ Market Capitalization Decile 6                | 460         | 420           | IX      |
| 1000068 | CRSP NASDAQ Market Capitalization Decile 7                | 460         | 420           | IX      |
| 1000069 | CRSP NASDAQ Market Capitalization Decile 8                | 460         | 420           | IX      |
| 1000070 | CRSP NASDAQ Market Capitalization Decile 9                | 460         | 420           | IX      |
| 1000071 | CRSP NASDAQ Market Capitalization Decile 10               | 460         | 420           | IX      |
| 1000072 | CRSP NASDAQ Market Capitalization Deciles                 | 440         | 400           | IX      |
| 1000080 | CRSP NYSE/NYSE MKT/NASDAQ Value-Weighted Market Index     | 460         | 420           | STK, IX |
| 1000081 | CRSP NYSE/NYSE MKT/NASDAQ Equal-Weighted Market Index     | 460         | 420           | STK, IX |
| 1000082 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 1  | 460         | 420           | IX      |
| 1000083 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 2  | 460         | 420           | IX      |
| 1000084 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 3  | 460         | 420           | IX      |
| 1000085 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 4  | 460         | 420           | IX      |
| 1000086 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 5  | 460         | 420           | IX      |
| 1000087 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 6  | 460         | 420           | IX      |
| 1000088 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 7  | 460         | 420           | IX      |
| 1000089 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 8  | 460         | 420           | IX      |
| 1000090 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 9  | 460         | 420           | IX      |
| 1000091 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Decile 10 | 460         | 420           | IX      |
| 1000092 | CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Deciles   | 440         | 400           | IX      |
| 1000102 | CRSP NYSE/NYSE MKT Beta Decile 1                          | 460         | -             | IX      |
| 1000103 | CRSP NYSE/NYSE MKT Beta Decile 2                          | 460         | -             | IX      |
| 1000104 | CRSP NYSE/NYSE MKT Beta Decile 3                          | 460         | -             | IX      |
| 1000105 | CRSP NYSE/NYSE MKT Beta Decile 4                          | 460         | -             | IX      |
| 1000106 | CRSP NYSE/NYSE MKT Beta Decile 5                          | 460         | -             | IX      |
| 1000107 | CRSP NYSE/NYSE MKT Beta Decile 6                          | 460         | -             | IX      |
| 1000108 | CRSP NYSE/NYSE MKT Beta Decile 7                          | 460         | -             | IX      |
| 1000109 | CRSP NYSE/NYSE MKT Beta Decile 8                          | 460         | -             | IX      |
| 1000110 | CRSP NYSE/NYSE MKT Beta Decile 9                          | 460         | -             | IX      |
| 1000111 | CRSP NYSE/NYSE MKT Beta Decile 10                         | 460         | -             | IX      |
| 1000112 | CRSP NYSE/NYSE MKT Beta Deciles                           | 440         | -             | IX      |
| 1000122 | CRSP NYSE/NYSE MKT Standard Deviation Decile 1            | 460         | -             | IX      |
| 1000123 | CRSP NYSE/NYSE MKT Standard Deviation Decile 2            | 460         | -             | IX      |
| 1000124 | CRSP NYSE/NYSE MKT Standard Deviation Decile 3            | 460         | -             | IX      |
| 1000125 | CRSP NYSE/NYSE MKT Standard Deviation Decile 4            | 460         | -             | IX      |
| 1000126 | CRSP NYSE/NYSE MKT Standard Deviation Decile 5            | 460         | -             | IX      |
| 1000127 | CRSP NYSE/NYSE MKT Standard Deviation Decile 6            | 460         | -             | IX      |
| 1000128 | CRSP NYSE/NYSE MKT Standard Deviation Decile 7            | 460         | -             | IX      |
| 1000129 | CRSP NYSE/NYSE MKT Standard Deviation Decile 8            | 460         | -             | IX      |
| 1000130 | CRSP NYSE/NYSE MKT Standard Deviation Decile 9            | 460         | -             | IX      |
| 1000131 | CRSP NYSE/NYSE MKT Standard Deviation Decile 10           | 460         | -             | IX      |



| INDNO   | Index Name   | Daily Setid | Monthly Setid | Product |
|---------|--|-------------|---------------|---------|
| 1000132 | CRSP NYSE/NYSE MKT Standard Deviation Deciles              | 440         | -             | IX      |
| 1000142 | CRSP NASDAQ Beta Decile 1                                  | 460         | -             | IX      |
| 1000143 | CRSP NASDAQ Beta Decile 2                                  | 460         | -             | IX      |
| 1000144 | CRSP NASDAQ Beta Decile 3                                  | 460         | -             | IX      |
| 1000145 | CRSP NASDAQ Beta Decile 4                                  | 460         | -             | IX      |
| 1000146 | CRSP NASDAQ Beta Decile 5                                  | 460         | -             | IX      |
| 1000147 | CRSP NASDAQ Beta Decile 6                                  | 460         | -             | IX      |
| 1000148 | CRSP NASDAQ Beta Decile 7                                  | 460         | -             | IX      |
| 1000149 | CRSP NASDAQ Beta Decile 8                                  | 460         | -             | IX      |
| 1000150 | CRSP NASDAQ Beta Decile 9                                  | 460         | -             | IX      |
| 1000151 | CRSP NASDAQ Beta Decile 10                                 | 460         | -             | IX      |
| 1000152 | CRSP NASDAQ Beta Deciles                                   | 440         | -             | IX      |
| 1000162 | CRSP NASDAQ Standard Deviation Decile 1                    | 460         | -             | IX      |
| 1000163 | CRSP NASDAQ Standard Deviation Decile 2                    | 460         | -             | IX      |
| 1000164 | CRSP NASDAQ Standard Deviation Decile 3                    | 460         | -             | IX      |
| 1000165 | CRSP NASDAQ Standard Deviation Decile 4                    | 460         | -             | IX      |
| 1000166 | CRSP NASDAQ Standard Deviation Decile 5                    | 460         | -             | IX      |
| 1000167 | CRSP NASDAQ Standard Deviation Decile 6                    | 460         | -             | IX      |
| 1000168 | CRSP NASDAQ Standard Deviation Decile 7                    | 460         | -             | IX      |
| 1000169 | CRSP NASDAQ Standard Deviation Decile 8                    | 460         | -             | IX      |
| 1000170 | CRSP NASDAQ Standard Deviation Decile 9                    | 460         | -             | IX      |
| 1000171 | CRSP NASDAQ Standard Deviation Decile 10                   | 460         | -             | IX      |
| 1000172 | CRSP NASDAQ Standard Deviation Deciles                     | 440         | -             | IX      |
| 1000200 | CRSP NYSE/NYSE MKT/NASDAQ/Arca Value-Weighted Market Index | 460         | 440           | STK, IX |
| 1000201 | CRSP NYSE/NYSE MKT/NASDAQ/Arca Equal-Weighted Market Index | 460         | 440           | STK, IX |
| 1000300 | CRSP NYSE Cap-Based Portfolio 1                            | -           | 420           | IX      |
| 1000301 | CRSP NYSE Cap-Based Portfolio 2                            | -           | 420           | IX      |
| 1000302 | CRSP NYSE Cap-Based Portfolio 3                            | -           | 420           | IX      |
| 1000303 | CRSP NYSE Cap-Based Portfolio 4                            | -           | 420           | IX      |
| 1000304 | CRSP NYSE Cap-Based Portfolio 5                            | -           | 420           | IX      |
| 1000305 | CRSP NYSE Cap-Based Portfolio 6                            | -           | 420           | IX      |
| 1000306 | CRSP NYSE Cap-Based Portfolio 7                            | -           | 420           | IX      |
| 1000307 | CRSP NYSE Cap-Based Portfolio 8                            | -           | 420           | IX      |
| 1000308 | CRSP NYSE Cap-Based Portfolio 9                            | -           | 420           | IX      |
| 1000309 | CRSP NYSE Cap-Based Portfolio 10                           | -           | 420           | IX      |
| 1000310 | CRSP NYSE Cap-Based Portfolio 1-2                          | -           | 420           | IX      |
| 1000311 | CRSP NYSE Cap-Based Portfolio 3-5                          | -           | 420           | IX      |
| 1000312 | CRSP NYSE Cap-Based Portfolio 6-8                          | -           | 420           | IX      |
| 1000313 | CRSP NYSE Cap-Based Portfolio 9-10                         | -           | 420           | IX      |
| 1000314 | CRSP NYSE Cap-Based Portfolio 1-5                          | -           | 420           | IX      |
| 1000315 | CRSP NYSE Cap-Based Portfolio 6-10                         | -           | 420           | IX      |
| 1000316 | CRSP NYSE Cap-Based Portfolio Market                       | -           | 420           | IX      |
| 1000317 | CRSP NYSE Cap-Based Portfolios                             | -           | 400           | IX      |
| 1000320 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 1                   | -           | 420           | IX      |
| 1000321 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 2                   | -           | 420           | IX      |
| 1000322 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 3                   | -           | 420           | IX      |

| INDNO   | Index Name   | Daily Setid | Monthly Setid | Product |
|---------|--|-------------|---------------|---------|
| 1000323 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 4                             | -           | 420           | IX      |
| 1000324 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 5                             | -           | 420           | IX      |
| 1000325 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 6                             | -           | 420           | IX      |
| 1000326 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 7                             | -           | 420           | IX      |
| 1000327 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 8                             | -           | 420           | IX      |
| 1000328 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 9                             | -           | 420           | IX      |
| 1000329 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 10                            | -           | 420           | IX      |
| 1000330 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 1-2                           | -           | 420           | IX      |
| 1000331 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 3-5                           | -           | 420           | IX      |
| 1000332 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 6-8                           | -           | 420           | IX      |
| 1000333 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 9-10                          | -           | 420           | IX      |
| 1000334 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 1-5                           | -           | 420           | IX      |
| 1000335 | CRSP NYSE/NYSE MKT Cap-Based Portfolio 6-10                          | -           | 420           | IX      |
| 1000336 | CRSP NYSE/NYSE MKT Cap-Based Portfolio Market                        | -           | 420           | IX      |
| 1000337 | CRSP NYSE/NYSE MKT Cap-Based Portfolios                              | -           | 400           | IX      |
| 1000340 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 1      | -           | 420           | IX      |
| 1000341 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 2      | -           | 420           | IX      |
| 1000342 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 3      | -           | 420           | IX      |
| 1000343 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 4      | -           | 420           | IX      |
| 1000344 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 5      | -           | 420           | IX      |
| 1000345 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 6      | -           | 420           | IX      |
| 1000346 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 7      | -           | 420           | IX      |
| 1000347 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 8      | -           | 420           | IX      |
| 1000348 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 9      | -           | 420           | IX      |
| 1000349 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 10     | -           | 420           | IX      |
| 1000350 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 1-2    | -           | 420           | IX      |
| 1000351 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 3-5    | -           | 420           | IX      |
| 1000352 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 6-8    | -           | 420           | IX      |
| 1000353 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 9-10   | -           | 420           | IX      |
| 1000354 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 1-5    | -           | 420           | IX      |
| 1000355 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio 6-10   | -           | 420           | IX      |
| 1000356 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolio Market | -           | 420           | IX      |
| 1000357 | CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolios       | -           | 400           | IX      |
| 1000500 | CRSP Value-Weighted Index of the S&P 500 Universe                    | 460         | 420           | IX      |
| 1000501 | CRSP Equal-Weighted Index of the S&P 500 Universe                    | 460         | 420           | IX      |
| 1000502 | S&P 500 Composite  | 460         | 420           | STK, IX |
| 1000503 | NASDAQ Composite   | 460         | 420           | STK, IX |
| 1000510 | CRSP Value-Weighted Portfolios of the S&P 500 Universe               | 460         | 420           | IX      |
| 1000511 | CRSP Equal-Weighted Portfolios of the S&P 500 Universe               | 460         | 420           | IX      |
| 1000700 | CRSP 30-Year Bond Returns  | -           | 420           | IX      |
| 1000701 | CRSP 20-Year Bond Returns  | -           | 420           | IX      |
| 1000702 | CRSP 10-Year Bond Returns  | -           | 420           | IX      |
| 1000703 | CRSP 7-Year Bond Returns   | -           | 420           | IX      |
| 1000704 | CRSP 5-Year Bond Returns   | -           | 420           | IX      |
| 1000705 | CRSP 2-Year Bond Returns   | -           | 420           | IX      |
| 1000706 | CRSP 1-Year Bond Returns   | -           | 420           | IX      |

| INDNO   | Index Name               | Daily Setid | Monthly Setid | Product |
|---------|--------------------------|-------------|---------------|---------|
| 1000707 | CRSP 90-Day Bill Returns | -           | 420           | IX      |
| 1000708 | CRSP 30-Day Bill Returns | -           | 420           | IX      |
| 1000709 | Consumer Price Index     | -           | 420           | IX      |

## B. CRSP INDEX GROUPS

The following table lists all CRSP Index Groups by INDNO.

| Index Group  | INDNO   | Daily | Monthly | Product Availability |
|--|---------|-------|---------|----------------------|
| CRSP NYSE Market Capitalization Deciles                        | 1000012 | Yes   | Yes     | IX                   |
| CRSP NYSE MKT Market Capitalization Deciles                    | 1000032 | Yes   | Yes     | IX                   |
| CRSP NYSE/NYSE MKT Market Capitalization Deciles               | 1000052 | Yes   | Yes     | IX                   |
| CRSP NASDAQ Market Capitalization Deciles                      | 1000072 | Yes   | Yes     | IX                   |
| CRSP NYSE/NYSE MKT/NASDAQ Market Capitalization Deciles        | 1000092 | Yes   | Yes     | IX                   |
| CRSP NYSE/NYSE MKT Beta Deciles                                | 1000112 | Yes   | -       | IX                   |
| CRSP NYSE/NYSE MKT Standard Deviation Deciles                  | 1000132 | Yes   | -       | IX                   |
| CRSP NASDAQ Beta Deciles                                       | 1000152 | Yes   | -       | IX                   |
| CRSP NASDAQ Standard Deviation Deciles                         | 1000172 | Yes   | -       | IX                   |
| CRSP NYSE Cap-Based Portfolios                                 | 1000317 | -     | Yes     | IX                   |
| CRSP NYSE/NYSE MKT Cap-Based Portfolios                        | 1000337 | -     | Yes     | IX                   |
| CRSP NYSE/NYSE MKT/NASDAQ National Market Cap-Based Portfolios | 1000357 | -     | Yes     | IX                   |

## C. CRSP PORTFOLIO TYPES

| Portfolio Type Description                                | Rebalancing Calendar | INDNO   | Daily Portfolio Type | Monthly Portfolio Type | Product Availability |
|---|----------------------|---------|----------------------|------------------------|----------------------|
| NYSE/NYSE MKT/NASDAQ Capitalization Deciles               | Annual               | 1000092 | 1                    | 1                      | DA, MA, IX           |
| NYSE/NYSE MKT Capitalization Deciles                      | Annual               | 1000052 | 2                    | 2                      | IX                   |
| NASDAQ Capitalization Deciles                             | Annual               | 1000072 | 3                    | 3                      | IX                   |
| NYSE Capitalization Deciles                               | Annual               | 1000012 | 4                    | 4                      | IX                   |
| NYSE MKT Capitalization Deciles                           | Annual               | 1000032 | 5                    | 5                      | IX                   |
| NYSE/NYSE MKT Beta Deciles                                | Annual               | 1000112 | 6                    | -                      | IX                   |
| NYSE/NYSE MKT Standard Deviation Deciles                  | Annual               | 1000132 | 7                    | -                      | IX                   |
| NASDAQ Beta Deciles                                       | Annual               | 1000152 | 8                    | -                      | IX                   |
| NASDAQ Standard Deviation Deciles                         | Annual               | 1000172 | 9                    | -                      | IX                   |
| Cap-Based NYSE/NYSE MKT/NASDAQ National Market Portfolios | Quarterly            | 1000357 | -                    | 6                      | IX                   |
| Cap-Based NYSE Portfolios                                 | Quarterly            | 1000317 | -                    | 7                      | IX                   |
| Cap-Based NYSE/NYSE MKT Portfolios                        | Quarterly            | 1000337 | -                    | 8                      | IX                   |

# CHAPTER 5: DATA CODING SCHEMES

## I. NAME HISTORY ARRAY CODES

### SHARE TYPE

A share type code contains two digits. The first digit describes the type of security traded.

The second digit describes more detailed information about the type of security.

#### SHARE TYPE - FIRST DIGIT

| CODE | DEFINITION  |
|------|---|
| 1    | Ordinary Common Shares  |
| 2    | Certificates, Americus Trust Components (Prime, Score, & Units)*  |
| 3    | ADRs (American Depositary Receipts)   |
| 4    | SBIs (Shares Of Beneficial Interest)  |
| 7    | Units (Depositary Units, Units Of Beneficial Interest, Units Of Limited Partnership Interest, Depositary Receipts, etc.), Exchange Traded Funds** |

Note: \*Americus Trust Components are exclusive to First Digit 2 and Second Digit 3.

Note: \*\*Exchange Traded Funds are exclusive to First Digit 7 and Second Digit 3.

#### SHARE TYPE - SECOND DIGIT

| CODE | DEFINITION  |
|------|---|
| 0    | Securities Which Have Not Been Further Defined                              |
| 1    | Securities Which Need Not Be Further Defined                                |
| 2    | Companies Incorporated Outside The U.S                                      |
| 3    | Americus Trust Components (Prime, Score, & Units)*, Exchange Traded Funds** |
| 4    | Closed-End Funds and Unit Investment Trusts                                 |
| 5    | Closed-End Fund Companies Incorporated Outside The US                       |
| 8    | REIT's (Real Estate Investment Trusts)                                      |

Note: \*Americus Trust Components are exclusive to First Digit 2 and Second Digit 3.

Note: \*\*Exchange Traded Funds are exclusive to First Digit 7 and Second Digit 3.

## NORTH AMERICAN SECURITY EXCHANGE & INDEX CODES

The following is a list of codes for major North American security exchanges and indexes found in the CRSP data files:

| CODE | EXCHANGE NAME                                   |
|------|---|
| -2   | Halted By NYSE Or NYSE MKT                      |
| -1   | Suspended By NYSE, NYSE MKT, or NASDAQ          |
| 0    | Not Trading On NYSE, NYSE MKT, or NASDAQ        |
| 1    | NYSE  |
| 2    | NYSE MKT  |
| 3    | NASDAQ  |
| 4    | Arca  |
| 5    | Bats (As Quoted By NASDAQ)                      |
| 10   | Boston Stock Exchange                           |
| 13   | Chicago Stock Exchange                          |
| 16   | Pacific Stock Exchange                          |
| 17   | Philadelphia Stock Exchange                     |
| 19   | Toronto Stock Exchange                          |
| 20   | Over-The-Counter (Non-NASDAQ Dealer Quotations) |
| 31   | When-Issued Trading On NYSE                     |
| 32   | When-Issued Trading On NYSE MKT                 |
| 33   | When-Issued Trading On NASDAQ                   |
| 34   | When-Issued Trading On Arca                     |

## II. DISTRIBUTION CODES

A four-digit code describes distribution events. The first digit describes the distribution in general terms. The second digit describes the form or method of payment. The meaning of the third digit varies with the value of the first digit, and gives a more detailed description of the event. The fourth digit provides information about the tax status of the distribution.

The coding and meanings of the four digits are described below. For digits 2, 3, and 4, special conventions apply: a value of "0" implies that CRSP has not yet discovered the descriptive information for the corresponding digit; a value of "1" implies sources have been checked and the status for the corresponding attribute is actually unspecified, not applicable, or not available for the distribution.

**FIRST DIGIT: EVENT TYPE**

| CODE | MEANING   |
|------|---|
| 1    | ordinary dividend                                   |
| 2    | liquidating dividend                                |
| 3    | exchanges and reorganizations                       |
| 4    | subscription rights                                 |
| 5    | splits and stock dividends                          |
| 6    | notation of issuance (change in shares outstanding) |
| 7    | general information announcement for dropped issues |

**SECOND DIGIT: PAYMENT METHOD**

| CODE | MEANING  |
|------|--|
| 0    | unknown, not yet coded   |
| 1    | unspecified or not applicable                                  |
| 2    | cash, United States dollars                                    |
| 3    | cash, foreign currency converted to US dollars                 |
| 4    | cash, Canadian dollars (now obsolete, converted to US dollars) |
| 5    | same issue of common stock                                     |
| 6    | units including same issue of common stock                     |
| 7    | an issue of a different common stock which is on the file      |
| 8    | other property   |

**THIRD DIGIT:****Dividend Frequency (for first digit = 1 only)**

| CODE | MEANING                       |
|------|-------------------------------|
| 0    | unknown, not yet coded        |
| 1    | unspecified or not applicable |
| 2    | monthly                       |
| 3    | quarterly                     |
| 4    | semi-annual                   |
| 5    | annual                        |
| 6    | year-end or final             |
| 7    | extra or special              |
| 8    | interim                       |
| 9    | non-recurring                 |

**Event Descriptor (for first digit = 2 only)**

| CODE | MEANING  |
|------|--|
| 0    | unknown, not yet coded                                 |
| 1    | unspecified or not applicable                          |
| 3    | partial liquidation                                    |
| 4    | step in total liquidation                              |
| 5    | final liquidation                                      |
| 6    | approval of liquidation                                |
| 7    | sale of assets resulting in liquidation of company     |
| 8    | court proceedings determining status of company assets |

**Event Descriptor (for first digit = 3 only)**

| CODE | MEANING                                    |
|------|--|
| 0    | unknown, not yet coded                     |
| 1    | unspecified or not applicable              |
| 2    | merger                                     |
| 5    | non-ordinary distribution in another stock |
| 6    | reorganization                             |
| 7    | option of stock                            |
| 8    | exchange                                   |

**Rights Valuation Method (for first digit = 4 only)**

| CODE | MEANING  |
|------|--|
| 0    | unknown, not yet coded   |
| 1    | Transferable unknown value (no price or assigned value)                                  |
| 2    | market value of trading right on exdate  |
| 3    | Fair market value  |
| 4    | Value at exdate, calculate   |
| 5    | Non-transferable fair market value   |
| 6    | Non-transferable value at exdate, calculated (based on recdate if exdate is unavailable) |
| 7    | Non-transferable, unknown value  |

**Split Type (for first digit = 5 only)**

| CODE | MEANING   |
|------|---|
| 0    | unknown, not yet coded                                      |
| 1    | unspecified or not applicable                               |
| 2    | split   |
| 3    | stock dividend  |
| 4    | split & stock dividend                                      |
| 5    | option of cash  |
| 6    | distribution of different issue of common; same company     |
| 7    | initial distribution of other class of common; same company |

**Types of Offer or Reason for Issuance (for first digit = 6 only)**

| CODE | MEANING                                 |
|------|---|
| 0    | unknown, not yet coded                  |
| 1    | unspecified or not applicable           |
| 2    | step in merger with company on file     |
| 3    | step in merger with company not on file |
| 4    | stock conversion                        |
| 5    | executive option exercise               |
| 6    | own tender offer: stock buy-back        |
| 7    | own exchange offer: recapitalization    |
| 8    | stock offering                          |

**Event Descriptor (for first digit = 7 only)**

| CODE | MEANING   |
|------|---|
| 0    | unknown, not yet coded                                |
| 1    | bankruptcy filing                                     |
| 2    | negative financial performance                        |
| 3    | external tender offer results in too few shareholders |
| 4    | internal tender offer results in too few shareholders |
| 5    | US government intervention                            |
| 6    | foreign or external intervention                      |
| 7    | company request                                       |
| 8    | failure to meet exchange requirements                 |

**FOURTH DIGIT: TAX STATUS**

| CODE | MEANING   |
|------|---|
| 0    | unknown, not yet coded  |
| 1    | unspecified or not applicable   |
| 2    | normal taxable at same rate as dividends  |
| 3    | normal non-taxable  |
| 4    | return of capital (i.e., gain recognized, loss not)   |
| 5    | gain or loss realized compared with cost  |
| 6    | realized capital gain (Investment Companies)  |
| 7    | capital gains tax credit  |
| 8    | fully taxable as ordinary income to individuals   |
| 9    | dividend reinvestment plan qualifies for the limited exclusion provided by Sec. 305(e) of the Internal Revenue Code |

Coding convention note for distribution codes with the fourth digit (tax status) coded as 2 or 8: Until 1986, distribution codes 2 and 8 were used in conjunction with one another such that the 2 represented the part of the dividend qualifying for the dividend exclusion and the 8 representing the part that did not. Since the tax reform act of 1986, which eliminated the exclusion, these have been coded as 2's.

**Commonly Coded Distribution Events in CRSP Stock Files**

The following table describes some of the most commonly coded distribution events in the CRSP stock files. CRSP did not verify the tax status of ordinary dividends in the NYSE/NYSE MKT file after April, 1987 or in the Supplemental NASDAQ file at any time. Instead, CRSP assigned ordinary dividends the default tax code (12\*2); that is, US cash dividend, taxable in the normal way as a dividend. If a dividend received is in the form of a security which is traded on

the CRSP Stock files, the dividend code will be in the form \*7\*\*.

The distribution codes 6\*\*\*, excepting 6225, are informational. They indicate a significant change in the shares outstanding and the reason for the change. Code 6225 specifies a dividend amount. See the variable Dividend Cash Amount for additional information on the 6225 code.

| DIVIDEND |   |
|----------|---|
| CODE     | DESCRIPTION   |
| 1200     | US cash dividend, tax status unknown  |
| 1202     | US cash dividend, taxable in normal way   |
| 1212     | US cash dividend, unspecified frequency, taxable same rate as dividends   |
| 1214     | US cash dividend, tax status - return of capital, gain recognized, loss not   |
| 1218     | US cash dividend, unspecified frequency, fully taxable as ordinary income to individuals  |
| 1222     | US cash dividend, monthly, taxable same rate as dividends   |
| 1224     | US cash dividend, monthly, tax status - return of capital, gain recognized, loss not  |
| 1228     | US cash dividend, monthly, fully taxable as ordinary income to individuals  |
| 1232     | US cash dividend, quarterly, taxable same rate as dividends   |
| 1234     | US cash dividend, quarterly, tax status - return of capital, gain recognized, loss not  |
| 1238     | US cash dividend, quarterly, fully taxable as ordinary income to individuals  |
| 1239     | US cash dividend, quarterly, tax status - dividend reinvestment plan qualifies for the limited exclusion provided by Sec. 305(e) of the Internal Revenue Code |
| 1242     | US cash dividend, semi-annual, taxable same rate as dividends   |
| 1244     | US cash dividend, semi-annual, tax status - return of capital, gain recognized, loss not  |
| 1248     | US cash dividend, semi-annual, fully taxable as ordinary income to individuals  |
| 1252     | US cash dividend, annual, taxable same rate as dividends  |
| 1254     | US cash dividend, annual, tax status - return of capital, gain recognized, loss not   |
| 1258     | US cash dividend, annual, fully taxable as ordinary income to individuals   |
| 1262     | US cash dividend, year-end or final, taxable same rate as dividends   |
| 1272     | US cash dividend, extra or special, taxable same rate as dividends  |
| 1274     | US cash dividend, extra or special, tax status - return of capital, gain recognized, loss not   |
| 1278     | US cash dividend, extra or special, fully taxable as ordinary income to individuals   |
| 1282     | US cash dividend, interim, taxable same rate as dividends   |

| DIVIDEND |  |
|----------|--|
| CODE     | DESCRIPTION  |
| 1292     | US cash dividend, non-recurring, or proceeds from sale of rights, taxable same rate as dividends   |
| 1312     | Cash dividend (foreign currency converted to US), unspecified frequency, tax status - unspecified or not applicable                                      |
| 1318     | Cash dividend (foreign currency converted to US), unspecified frequency, fully taxable as ordinary income to individuals                                 |
| 1332     | Cash dividend (foreign currency converted to US), quarterly, taxable same rate as dividends  |
| 1338     | Cash dividend (foreign currency converted to US), quarterly; fully taxable as ordinary income to individuals   |
| 1342     | Cash dividend (foreign currency converted to US), semi-annual, taxable same rate dividends   |
| 1348     | Cash dividend (foreign currency converted to US), semi-annual, fully taxable as ordinary income to individuals   |
| 1352     | Cash dividend (foreign currency converted to US), annual, taxable same rate as dividends   |
| 1372     | Cash dividend (foreign currency converted to US), extra or special, taxable same rate as dividends   |
| 1378     | Cash dividend (foreign currency converted to US), extra or special, fully taxable as ordinary income to individuals                                      |
| 1412     | Cash dividend return of capital, taxable as normal dividend  |
| 1712     | Dividend in other issue on file, unspecified frequency, taxable same rate as dividends   |
| 1713     | Dividend in other issue on file, non-taxable   |
| 1714     | Dividend in other issue on file, taxable as return of capital  |
| 1718     | Dividend in other issue on file, taxable as ordinary income to individuals   |
| 1772     | Dividend in other issue on file with an extra or special frequency, taxable same rate as dividends   |
| 1812     | Dividend in issue not on file, unspecified frequency, taxable as dividend  |
| 1813     | Dividend in issue not on file, non-taxable   |
| 1814     | Dividend in issue not on file, taxable as return of capital  |
| 1872     | Special Dividend in issue not on file, taxable as normal dividend  |
| 1999*    | Missing dividend terms, tax status - dividend reinvestment plan qualifies for the limited exclusion provided by Sec. 305(e) of the Internal Revenue Code |

| LIQUIDATION |   |
|-------------|---|
| CODE        | DESCRIPTION   |
| 2161        | Announcement of liquidation or liquidating plan, tax status unspecified                     |
| 2171        | Announcement of sale of assets, tax status unspecified                                      |
| 2181        | Liquidation involved in court proceedings, tax status unspecified                           |
| 2216        | Cash paid in distribution, tax status - realized capital gains, (Investment Companies)      |
| 2234        | Cash paid in partial liquidation, tax status - return of capital, gain recognized, loss not |

| LIQUIDATION |   |
|-------------|---|
| CODE        | DESCRIPTION   |
| 2235        | Cash paid in partial liquidation, tax status - return of capital, gain, loss realized   |
| 2243        | Cash paid as a step in liquidation, non-taxable   |
| 2244        | Cash paid as a step in liquidation tax status - return of capital, gain recognized, loss not  |
| 2245        | Cash paid as a step in liquidation, tax status - return of capital, gain or loss realized   |
| 2255        | Cash paid as a final liquidating payment, tax status - return of capital, gain or loss realized   |
| 2744        | Other issue on file distributed as a step in liquidation, tax status - return of capital, gain recognized, loss not   |
| 2817        | Issue not on file distributed as a step in unspecified liquidation process, tax status - capital gains tax credit   |
| 2844        | Issue not on file distributed as a step in liquidation, tax status return of capital, gain recognized, loss not   |
| 2999*       | Missing liquidation information, tax status - dividend reinvestment plan qualifies for the limited exclusion provided by Sec. 305(e) of the Internal Revenue Code |

| ACQUISITION/REORGANIZATION |  |
|----------------------------|--|
| CODE                       | DESCRIPTION  |
| 3131                       | Announcement of tender offer - offer not accepted, offer rescinded, or merger failed, tax status unspecified       |
| 3215                       | Cash received, preferred redeemed, tax status - gain or loss realized compared with cost                           |
| 3222                       | Cash received in a merger, taxable same rate as dividends  |
| 3224                       | Cash received in a merger, tax status - return of capital gain, gain recognized, loss not                          |
| 3225                       | Cash received in a merger, tax status - gain or loss realized compared with cost                                   |
| 3285                       | Cash received in an exchange of stock, tax status - gain or loss realized compared with cost                       |
| 3723                       | Issue on file, received in a non-taxable merger  |
| 3724                       | Issue on file, received in a merger tax status - return of capital, gain recognized, loss not                      |
| 3725                       | Issue on file, received in a merger, tax status - gain or loss realized compared with cost                         |
| 3752                       | Issue on file, received as a non-ordinary stock distribution, taxable same rate as dividends                       |
| 3753                       | Issue on file, received as a non-ordinary stock distribution, non-taxable  |
| 3762                       | Issue on file, received as a spin-off in reorganization, taxable same rate as dividends                            |
| 3763                       | Issue on file, received as a spin-off in reorganization, non-taxable   |
| 3764                       | Issue on file, received as a spin-off in reorganization, tax status - return of capital, gain recognized, loss not |
| 3783                       | Issue on file, received as an exchange, non-taxable  |
| 3784                       | Issue on file, received as an exchange, tax status - return of capital, gain recognized, loss not                  |



| ACQUISITION/REORGANIZATION |   |
|----------------------------|---|
| CODE                       | DESCRIPTION   |
| 3785                       | Issue on file, received as an exchange, tax status - gain or loss realized compared with cost                         |
| 3823                       | Issue not on file, received in a merger, non-taxable  |
| 3824                       | Issue not on file, received in a merger, tax status - return of capital, gain recognized, loss not                    |
| 3825                       | Issue not on file, received in a merger, tax status - gain or loss realized compared with cost                        |
| 3852                       | Issue not on file, received as a non-ordinary distribution in another stock, taxable same rate as dividends           |
| 3853                       | Issue not on file, received as a non-ordinary distribution, non-taxable   |
| 3854                       | Issue not on file, received as a non-ordinary distribution, tax status - return of capital, gain recognized, loss not |
| 3862                       | Issue not on file, received in a reorganization, taxable as dividend  |
| 3863                       | Issue not on file, received in a reorganization, non-taxable  |
| 3864                       | Issue not on file, received in a reorganization, tax status - return of capital, gain recognized, loss not            |
| 3883                       | Issue not on file, received in an exchange of stock, non-taxable  |
| 3884                       | Issue not on file, received in an exchange of stock, return of capital (gain recognized, loss not), nontaxable        |
| 3885                       | Issue not on file, received in an exchange of stock, gain or loss realized compared with cost                         |
| 3888*                      | Partially coded final or other non-ordinary distribution; amount or some terms missing; tax status unknown            |
| 3989*                      | Debenture without established market value, tax status unknown  |

| RIGHTS |   |
|--------|---|
| CODE   | DESCRIPTION   |
| 4523   | Rights to buy more of this security, at market value, non-taxable   |
| 4533   | Rights to buy more of this security at indicated value, non-taxable   |
| 4563   | Rights to buy more of this security, non-transferable value at exdate, calculated (based on redate if exdate unavailable), non-taxable                        |
| 4623   | Rights to buy 'units' that include this security, non-taxable   |
| 4722   | Rights to buy another common issue on file, taxable same rate as dividends  |
| 4822   | Rights to buy other securities at market value, taxable same rate as dividends  |
| 4823   | Rights to buy other securities, nontaxable  |
| 4833   | Rights to buy other securities at indicated value, non-taxable  |
| 4999*  | Missing rights distribution, tax status - dividend reinvestment plan qualifies for the limited exclusion provided by Sec. 305(e) of the Internal Revenue Code |

| STOCK |   |
|-------|---|
| CODE  | DESCRIPTION   |
| 5523  | Stock split, non-taxable  |
| 5533  | Stock dividend, non-taxable                                     |
| 5538  | Stock dividend, fully taxable as ordinary income to individuals |

| STOCK |   |
|-------|---|
| CODE  | DESCRIPTION   |
| 5763  | Stock distribution in different issue of same company which trades on the file, non-taxable                                 |
| 5773  | Initial stock distribution of other class of common, same company, which is on the file, non-taxable                        |
| 5872  | Initial stock distribution in different issue of common, same company, which is not on file, taxable same rate as dividends |
| 5873  | Initial stock distribution in different issue of common, same company, which does not trade on the file, non-taxable        |

| OFFER/ISSUANCES |  |
|-----------------|--|
| CODE            | DESCRIPTION  |
| 6235            | Common shares increased by merger with company not on file, tax status - gain or loss realized compared with cost  |
| 6261            | Common shares decreased through a companies own tender offer, tax status - unknown   |
| 6511            | Common shares increased or decreased for reasons not specified   |
| 6521            | Common shares increased by merger with company on file, tax status - unspecified or not applicable   |
| 6531            | Common shares increased by merger with company not on file, tax status - unspecified or not applicable   |
| 6541            | Common shares increased through stock conversion, tax status - unspecified or not applicable   |
| 6543            | Common shares increased through stock conversion, non-taxable  |
| 6561            | Common shares reduced through company's buy-back of shares, tax status - unspecified or not applicable   |
| 6571            | Common shares increased through company's own exchange offer, tax status - unspecified or not applicable   |
| 6581            | Common shares increased through sale of stock other than rights issue, tax status - unspecified or not applicable  |
| 7111            | Bankruptcy filing (for any reason) tax status - unspecified or not applicable  |
| 7121            | Negative financial performance tax status - unspecified or not applicable  |
| 7131            | External tender offer results in too few shareholders tax status - unspecified or not applicable   |
| 7141            | Internal tender offer results in too few shareholders tax status - unspecified or not applicable   |
| 7151            | US government intervention (SEC intervention, other government intervention or request)  |
| 7161            | Foreign or external intervention (non-US government intervention, foreign non-government intervention, "acts of god") tax status - unspecified or not applicable |
| 7171            | Company request (any reason except bankruptcy) tax status - unspecified or not applicable  |
| 7181            | Failure to meet exchange requirements tax status - unspecified or not applicable   |

\*This code alerts the user to information that is not coded, and is inconsistent with the conventional distribution-coding scheme.

## III. DELISTING CODES

| ACTIVE |  |
|--------|--|
| CODE   | DESCRIPTION  |
| 100    | Issue still trading NYSE/NYSE MKT, NASDAQ, Arca or Bats.                               |
| 150*   | Issue still active, but no prices in this version of file.                             |
| 160*   | Issue stopped trading, but no prices in file after 840831.                             |
| 170*   | Issue stopped trading, but not delisted from current exchange (suspended or inactive). |

| MERGERS |  |
|---------|--|
| CODE    | DESCRIPTION  |
| 200     | Issue acquired in merger, payment details unknown.   |
| 201     | Merged into or in order to form an issue trading on NYSE.  |
| 202     | Merged into or in order to form an issue trading on NYSE MKT.  |
| 203     | Merged into or in order to form an issue trading on NASDAQ.  |
| 205     | When merged, shareholders primarily receive shares of mutual funds.  |
| 231     | When merged, shareholders primarily receive common stock or ADRs. Replaces codes 201, 202 and 203. Codes 201-203 are no longer assigned.   |
| 232     | When merged, shareholders primarily receive common stock or ADRs. (Merged stock is not maintained on the CRSP file.) Replaces codes 210-220. Codes 210-220 are no longer assigned. |
| 233     | When merged, shareholders receive cash payments.   |
| 234     | When merged, shareholders primarily receive preferred stock, bundled units, warrants, or rights, or debentures, or notes, or bundled units.  |
| 235     | When merged, shareholders primarily receive other property.  |
| 240*    | Flags merger with missing final distribution information.  |
| 241     | When merged, shareholders primarily receive common stock and cash, issue on CRSP file.   |
| 242     | When merged, shareholders primarily receive common stock and preferred stock or warrants or rights or debentures or notes, issue on CRSP file.                                     |
| 243     | When merged, shareholders primarily receive common stock, issue on CRSP file and other property, issue on CRSP file.   |
| 244     | When merged, shareholders primarily receive common stock or ADR, and cash and preferred stock or warrants or rights or debentures or notes. Issue on CRSP file.                    |
| 251     | When merged, shareholders primarily receive common stock or ADRs and cash. (Merged stock is not maintained on the CRSP file.)  |
| 252     | When merged, shareholders primarily receive common stock or ADRs and preferred stock, or warrants, or rights, or debentures, or notes.   |
| 253     | When merged, shareholders primarily receive common stock or ADRs and other property.   |
| 261     | When merged, shareholders primarily receive cash and preferred stock, or warrants, or rights, or debentures, or notes.   |
| 262     | When merged, shareholders primarily receive cash and other property.   |
| 271     | When merged, shareholders primarily receive preferred stock or warrants, or rights, or debentures, or notes and other property.  |
| 280     | Issue delisted due to merger attempt, but merger attempt failed.   |

| MERGERS |  |
|---------|--|
| CODE    | DESCRIPTION  |
| 290     | Flags a merger with missing final distribution information. Replaces code 240. Code 240 is no longer assigned. |

| EXCHANGES |  |
|-----------|--|
| CODE      | DESCRIPTION  |
| 300       | Issue acquired by exchange of stock, details unknown.  |
| 301       | Issue exchanged for issue trading on NYSE.   |
| 302       | Issue exchanged for issue trading on NYSE MKT.   |
| 303       | Issue exchanged for issue trading on NASDAQ.   |
| 320       | Issue exchanged for stock trading Over-the-Counter.  |
| 331       | Issue exchanged, primarily for another class of common stock. Replaces codes 301, 302, and 303. Codes 301-303 are no longer assigned.              |
| 332       | Issue exchanged, primarily for another class of common stock. (Other stock is not maintained on the CRSP file.)                                    |
| 333       | Issue exchanged, primarily for cash.   |
| 334       | Issue exchanged, primarily for preferred stock, or rights, or warrants, or debentures, or notes.   |
| 335       | Issue exchanged, primarily for other property.   |
| 340*      | Flags an exchange with missing final distribution information.   |
| 341       | Flags an exchange, shareholders receive common stock and cash. Issue on CRSP file.   |
| 342       | Flags an exchange, shareholders receive common stock and preferred stock or warrants or rights or debentures or notes. Issue on CRSP file.         |
| 343       | Flags an exchange, shareholders receive common stock and other property. Issue on CRSP file.   |
| 350*      | Flags an exchange attempt that was not sufficient to "kill" issue.   |
| 351       | Flags an exchange, shareholders receive common stock and cash. Issue not on CRSP file.   |
| 352       | Flags an exchange, shareholders receive common stock and preferred stock, or warrants, or rights, or debentures, or notes. Issue not on CRSP file. |
| 353       | Flags an exchange, shareholders receive common stock and other property. Issue not on CRSP file.   |
| 361       | When exchanged, shareholders primarily receive cash and preferred stock or warrants or rights or debentures or notes.                              |
| 362       | When exchanged, shareholders primarily receive cash and other property.  |
| 371       | When exchanged, shareholders primarily receive preferred stock or warrants or rights or debentures or notes and other property.                    |
| 390*      | Flags an unsuccessful exchange attempt with missing distribution information.  |

| LIQUIDATIONS |   |
|--------------|---|
| CODE         | DESCRIPTION   |
| 400          | Issue stopped trading as result of company liquidation. |
| 401          | Issue liquidated, for issue trading on NYSE.            |
| 403          | Issue liquidated for issue trading on NASDAQ.           |

| LIQUIDATIONS |  |
|--------------|--|
| CODE         | DESCRIPTION  |
| 450          | Issue liquidated, final distribution verified, issue closed to further research.               |
| 460          | Issue liquidated, no final distribution is verified, issue closed to further research.         |
| 470          | Issue liquidated, no final distribution is verified, issue pending further research.           |
| 480          | Issue liquidated, no distribution information is available, issue is pending further research. |
| 490          | Issue liquidated, no distributions are to be paid, issue closed to further research.           |

| DROPPED |  |
|---------|--|
| CODE    | DESCRIPTION  |
| 500     | Issue stopped trading on exchange - reason unavailable.  |
| 501     | Issue stopped trading current exchange - to NYSE.  |
| 502     | Issue stopped trading current exchange - to NYSE MKT.  |
| 503     | Issue stopped trading current exchange - to NASDAQ.  |
| 505     | Issue stopped trading current exchange - to Mutual Funds.  |
| 510     | Issue stopped trading current exchange - to Boston Exchange.                                     |
| 513     | Issue stopped trading current exchange - to Midwest Exchange.                                    |
| 514     | Issue stopped trading current exchange - to Montreal Exchange.                                   |
| 516     | Issue stopped trading current exchange - to Pacific Stock Exchange.                              |
| 517     | Issue stopped trading current exchange - to Philadelphia Stock Exchange.                         |
| 519     | Issue stopped trading current exchange - to Toronto Stock Exchange.                              |
| 520     | Issue stopped trading current exchange - trading Over-the-Counter.                               |
| 535     | Delisted by current exchange - unlisted trading privileges.                                      |
| 550     | Delisted by current exchange - insufficient number of market makers.                             |
| 551     | Delisted by current exchange - insufficient number of shareholders.                              |
| 552     | Delisted by current exchange - price fell below acceptable level.                                |
| 560     | Delisted by current exchange - insufficient capital, surplus, and/or equity.                     |
| 561     | Delisted by current exchange - insufficient (or non-compliance with rules of) float or assets.   |
| 570     | Delisted by current exchange - company request (no reason given).                                |
| 572*    | Delisted by current exchange - company request, liquidation.                                     |
| 573     | Delisted by current exchange - company request, deregistration (gone private).                   |
| 574     | Delisted by current exchange - bankruptcy, declared insolvent.                                   |
| 575     | Delisted by current exchange - company request, offer rescinded, issue withdrawn by underwriter. |
| 580     | Delisted by current exchange - delinquent in filing, non-payment of fees.                        |
| 581     | Delisted by current exchange - failure to register under 12G of Securities Exchange Act.         |
| 582     | Delisted by current exchange - failure to meet exception or equity requirements.                 |

| DROPPED |   |
|---------|---|
| CODE    | DESCRIPTION   |
| 583     | Delisted by current exchange - denied temporary exception requirement.                              |
| 584     | Delisted by current exchange - does not meet exchange's financial guidelines for continued listing. |
| 585     | Delisted by current exchange - protection of investors and the public interest.                     |
| 586     | Delisted by current exchange - composition of unit is not acceptable.                               |
| 587     | Delisted by current exchange - corporate governance violation.                                      |
| 588     | Conversion of a closed-end investment company to an open-end investment company.                    |
| 589     | Delisted by current exchange - unlisted trading privileges  |
| 591     | Delisted by current exchange - delist required by Securities Exchange Commission (SEC)              |

| EXPIRATIONS |  |
|-------------|--|
| CODE        | DESCRIPTION  |
| 600         | Expired warrant or right                                     |
| 601         | Warrants, rights, preferreds, or units called for redemption |
| 610         | Unit split into its component parts                          |

| DOMESTICS THAT BECAME FOREIGN |   |
|-------------------------------|---|
| CODE                          | DESCRIPTION   |
| 900                           | A domestic Security becomes foreign                                     |
| 901                           | A domestic Security becomes foreign, but continues to trade on NYSE     |
| 902                           | A domestic Security becomes foreign, but continues to trade on NYSE MKT |
| 903                           | A domestic Security becomes foreign, but continues to trade on NASDAQ   |

\*Discontinued. Replaced with specific codes in the 400-range.

## IV. NASDAQ INFORMATION CODES

### NASDAQ STATUS CODE

|   |                                    |
|---|------------------------------------|
| 0 | Unknown or not applicable          |
| 1 | Active                             |
| 2 | Trading with only one market maker |
| 3 | Suspended                          |
| 4 | Inactive                           |
| 5 | Delisted                           |

### NASDAQ NATIONAL MARKET INDICATOR

|   |   |
|---|---|
| 0 | Unknown or unavailable                          |
| 1 | The NASDAQ SmallCap Market before June 15, 1992 |
| 2 | The NASDAQ National Market                      |
| 3 | The NASDAQ SmallCap Market after June 15, 1992  |

### NASDAQ INDEX CODE

|    |                                   |
|----|-----------------------------------|
| 1  | NONE - No index                   |
| 2  | INDS - Nasdaq Industrial          |
| 3  | BANK - Nasdaq Bank                |
| 4  | OFIN - Nasdaq Other Finance       |
| 5  | INSR - Nasdaq Insurance           |
| 6  | TRAN - Nasdaq Transportation      |
| 7  | IXUT - Nasdaq Utility             |
| 8  | IXTC - Nasdaq Telecommunication   |
| 9  | IXCO - Nasdaq Computer            |
| 10 | IXBT - Nasdaq Biotechnology       |
| 11 | IXCM - Nasdaq Composite           |
| 12 | NDX - Nasdaq 100                  |
| 13 | IXO - Nasdaq 100(Unadjusted)      |
| 17 | NDXE - Nasdaq 100 alternate       |
| 18 | IXHC - Nasdaq Health Care         |
| 19 | XNBI - NQ Biotechnology Tot Ret   |
| 20 | DIVQ - NQ Div. Achievers Index    |
| 21 | NBIE - NQ Biotech Equal Weight    |
| 22 | IXIDN - Nasdaq NNM Industrial     |
| 23 | IXBKN - Nasdaq NNM Bank           |
| 24 | IXFNN - Nasdaq NNM Other Finance  |
| 25 | IXISN - Nasdaq NNM Insurance      |
| 28 | IXTCN - Nasdaq NNM Telecommunicat |
| 29 | IXCON - Nasdaq NNM Computer       |
| 30 | IXBTN - Nasdaq NNM Biotechnology  |
| 31 | IXCMN - Nasdaq NNM Composite      |
| 32 | DTEC - NQ Dallas Regional Chambe  |
| 33 | DVQT - NQ Div. Achievers Tot Ret  |
| 34 | NDXT - NQ-100 Tech. Sector Ind.   |

|    |                                   |
|----|-----------------------------------|
| 35 | NDXX - NQ-100 Ex-Tech Sect. Ind.  |
| 39 | NQGS - NQ Glob Sel Mark Comp Ind  |
| 40 | NQGM - NQ Glob Market Comp Index  |
| 41 | RCMP - Nasdaq Cap Mkt Composite   |
| 42 | IXIDR - Nasdaq SCM Industrial     |
| 43 | IXBKR - Nasdaq SCM Bank           |
| 44 | IXFNR - Nasdaq SCM Other Finance  |
| 45 | IXISR - Nasdaq SCM Insurance      |
| 49 | IXCS - Nasdaq SCM Computer        |
| 50 | IXBTS - Nasdaq SCM Biotechnology  |
| 51 | IXCMR - SmallCap Market Composite |
| 52 | NETR - NQ100 Eq Wght Tot Ret Ind  |
| 53 | NTTR - NQ100 Tech Sec Tot Ret In  |
| 54 | NXTR - NQ100 Ex-Tech Sec Tot Ret  |
| 55 | BIXX - BetterInvesting 100 Index  |
| 62 | IXF - Nasdaq Financial 100        |
| 63 | NDXL - NQ 100 Double Leverage IN  |
| 70 | QGRD - NQ OMX Cln Edg Smrt Gr IN  |
| 71 | NBI - Nasdaq Biotechnology(DRM)   |
| 72 | QNET - NASDAQ Internet Index      |
| 73 | ILTI - NQ OMX AeA IL Tech Index   |
| 74 | NOCO - NQ OMX Excess Return Indx  |
| 75 | QWND - NQ OMX Clean Edge Wind IN  |
| 76 | QWNX - NQ OMX Clean Edge Wind TR  |
| 77 | NHXC - NQ OMX Halter USX China I  |
| 78 | FINX - NQ Banking & Finl Index    |
| 79 | QAGR - NQ OMX Glob Agri Index     |
| 80 | QAGX - NQ OMX Glob Agri Tot Ret   |
| 81 | HAUL - Wilder Glob Enrgy Tran IN  |
| 82 | HAUX - Wilder Glob Enrgy Tot Ret  |
| 83 | QGBI - NQ OMX Glob Biotech Index  |
| 84 | QGBX - NQ OMX Glob Biotech Tot R  |
| 85 | QCOL - NQ OMX Glob Coal Index     |
| 86 | QCLX - NQ OMX Glob Coal Tot Ret   |
| 87 | QSTL - NQ OMX Glob Steel Index    |
| 88 | QSTS - NQ OMX Glob Steel Tot Ret  |
| 89 | QGLD - NQ OMX Glob Gold&Prec Ind  |
| 90 | QGLX - NQ OMX Glob Gold&Prec Tot  |
| 91 | CDGR - Copeland Risk Man Div GTR  |
| 92 | ABQI - NQ OMX ABA Comm Bank Indx  |
| 93 | ABQX - NQ OMX ABA Com Bank IndxR  |
| 94 | CHXI - Unknown                    |
| 95 | CDGX - Copeland Risk Man Div Gro  |
| 96 | XABQ - ABA NQ COM BANK TOT RET    |
| 97 | QCRX - NQ OMX CRD GL SUS TOT RET  |
| 98 | QCRD - NQ OMX CRD GLOB SUST 50    |
| 99 | XCMP - NQ COMP TOT RET            |

## V. MISSING RETURN CODES

| PARAMETER | RET(I) | REASON FOR MISSING RETURN   |
|-----------|--------|---|
| RMISSN    | -44.0  | missing excess return due to no portfolio assignment.                             |
| RMISSD    | -55.0  | missing delisting return.   |
| RMISSG    | -66.0  | more than 10 trading days between this day and the day of latest preceding price. |
| RMISSE    | -77.0  | not trading on an included exchange for this file.                                |
| RMISSR    | -88.0  | no return, array index not within range of Begin and End Index of Return Data.    |
| RMISSP    | -99.0  | missing return due to missing price.  |

# CHAPTER 6: DATABASE STRUCTURES

## I. BASE CRSPACCESS DATA STRUCTURES

### A. TIME SERIES OBJECTS

Time Series Objects are data structures used to store time series data in CRSPAccess databases. A CRSP time series contains information about the type of data stored for each observation, the ranges of valid data for the current entity, the actual list of data observations, and the calendar information needed to place the observations in time.

|                                 | Variable Name                         | Variable            |
|---------------------------------|---------------------------------------|---------------------|
| Data Description Information    | Object Type Code                      | objtype             |
|                                 | Array Type Code                       | arrtype             |
|                                 | Data Subtype Code                     | subtype             |
|                                 | Array Structure Size                  | size_of_array_width |
|                                 | Maximum Number of Array Elements      | maxarr              |
| Ranges of Valid Data            | Begin of Valid Data                   | beg                 |
|                                 | End of Valid Data                     | end                 |
| Associated Calendar Information | Calendar Time Period Description Code | caltype             |
|                                 | Calendar Associated with Time Series  | cal                 |
| Object Array                    | Object Array                          | arr                 |

### B. EVENT ARRAY OBJECTS

Event Array Objects are data structures used to store event data in CRSPAccess databases. A CRSP event array contains information about the type of data stored for each observation, the number of events for the current entity, and the actual event observations. The event dates or effective date ranges are contained within the observations.

|                              | Variable Name                    | Variable            |
|------------------------------|----------------------------------|---------------------|
| Data Description Information | Object Type Code                 | objtype             |
|                              | Array Type Code                  | arrtype             |
|                              | Data Subtype Code                | subtype             |
|                              | Array Structure Size             | size_of_array_width |
|                              | Data Secondary Subtype Code      | dummy               |
|                              | Maximum Number of Array Elements | maxarr              |
| Number of Array Elements     | Number of Array Elements         | num                 |
| Object Array                 | Object Array                     | arr                 |

### C. HEADER OBJECTS

Header Objects are data structures used to store header data in CRSPAccess databases. A CRSP Header Object contains information about the type of data stored and the actual header fields.

|                              | Variable Name        | Variable            |
|------------------------------|----------------------|---------------------|
| Data Description Information | Object Type Code     | objtype             |
|                              | Array Type Code      | arrtype             |
|                              | Data Subtype Code    | subtype             |
|                              | Array Structure Size | size_of_array_width |
| Object Array                 | Object Array         | arr                 |

### D. CALENDAR OBJECTS

Calendar Objects are data structures used to store calendar data in CRSPAccess databases. A Calendar Object contains information about the type of data stored, descriptive information about the calendar, the number of time periods available, and lists of calendar periods. The Calendar Objects are used with Time Series Objects to match data observations with a point in time. The calendar periods are usually identified by the last trading date in the period.

|                                  | Variable Name                        | Variable |
|----------------------------------|--------------------------------------|----------|
| Data Description Information     | Object Type Code                     | objtype  |
|                                  | Maximum Number of Array Elements     | maxarr   |
|                                  | Calendar Type Availability Flag      | loadflag |
| Ranges of Valid Data             | Number of Periods in Calendar        | ndays    |
| Calendar Description Information | Calendar Name                        | name     |
|                                  | Calendar Identification Number       | calid    |
| Calendar Period Arrays           | Calendar Period Grouping Identifiers | callist  |
|                                  | Calendar Trading Date                | caldt    |

## II. STOCK DATA STRUCTURE

### A. HEADER IDENTIFICATION AND SUMMARY DATA - HEADER

Header Identification and Summary Data is a set of variables, in a CRSPAccess stock database using CRSP C access functions, that identify an issue and summarize its

classification. There is no time component to the header data so the data are valid the entire range of the issue. Header Identification and Summary Data contains the most current information on the issue maintained in the file. There is only one header structure per issue for any data iteration. Note that Ticker Symbol - Header only contains tickers for active securities.

|  | Variable Name  | Variable                |          |
|--|--|-------------------------|----------|
| Primary Permanent Identifiers                                  | PERMCO   | permco                  |          |
|  | PERMNO   | permno                  |          |
| Secondary Permanent Identifiers                                | CUSIP - Header   | hcusip                  |          |
|  | NASDAQ Company Number                                  | compno                  |          |
|  | NASDAQ Issue Number                                    | issuno                  |          |
| Security Date Ranges   | Begin of Stock Data                                    | begdt                   |          |
|  | End of Stock Data                                      | enddt                   |          |
| Most Recent Header Identification and Summary Data Information | Company Name - Header                                  | hcomnam                 |          |
|  | Convertible Code - Header                              | hconvcd                 |          |
|  | Country Code - Header                                  | hcntrycd                |          |
|  | Eligibility Code - Header                              | heligcd                 |          |
|  | Exchange Code - Header                                 | hexcd                   |          |
|  | Expiration Date  | hexpdt                  |          |
|  | Incorporation Code - Header                            | hincdd                  |          |
|  | Interest Rate or Strike Price                          | hrating                 |          |
|  | Intermarket Trading System Indicator - Header          | hits                    |          |
|  | Issue Description - Header                             | hnamedesc               |          |
|  | Issuer Code - Header                                   | hissuercd               |          |
|  | Name Code - Header                                     | hnamecd                 |          |
|  | Name Description - Header                              | hnamedesc               |          |
|  | Name Flag - Header                                     | hnameflag               |          |
|  | North American Industry Classification Code - Header   | hnaics                  |          |
|  | Primary Exchange - Header                              | hprimexch               |          |
|  | Security Status - Header                               | hsecstat                |          |
|  | Share Code - Header                                    | hshrcd                  |          |
|  | Share Type - Header                                    | hshrtype                |          |
|  | Standard Industrial Classification (SIC) Code - Header | hsiccd                  |          |
|  | Sub-exchange - Header                                  | hsubexch                |          |
|  | Ticker Symbol - Header (active securities only)        | htick                   |          |
|  | Trading Denomination - Header                          | hdenom                  |          |
|  | Trading Ticker Symbol - Header                         | htsymbol                |          |
|  | Most Recent Listing Information                        | Delisting Code - Header | dlstcd   |
|  |  | Trading Status - Header | htrdstat |

## B. NAME HISTORY ARRAY - NAMES

The Name History Array includes sets of identification variables effective at different times during the history of a security. Each set of information, or name structure, contains name and classification fields and the effective date ranges of those fields. Each security has at least one name structure.

|                                   | Variable Name  | Variable  |
|-----------------------------------|--|-----------|
| Secondary Identifiers             | CUSIP  | ncusip    |
|                                   | North American Industry Classification System (NAICS) Code | naics     |
|                                   | Ticker Symbol  | ticker    |
|                                   | Standard Industrial Classification (SIC) Code              | siccd     |
| Date Range of Name History Record | Name Effective Date  | namedt    |
|                                   | Last Date of Name <sup>1</sup>                             | nameenddt |
| Identifying Information           | Company Name   | comnam    |
|                                   | Convertible Code   | convcd    |
|                                   | Country Code   | cntrycd   |
|                                   | Eligibility Code   | eligcd    |
|                                   | Exchange Code  | exchcd    |
|                                   | Expiration Date  | expdt     |
|                                   | Incorporation Code   | incdd     |
|                                   | Interest Rate or Stricke Price                             | rating    |
|                                   | Intermarket Trading System Indicator                       | its       |
|                                   | Issuer Code  | issuercd  |
|                                   | Name Code  | namecd    |
|                                   | Name Description   | namedesc  |
|                                   | Name Flag  | nameflag  |
|                                   | Primary Exchange   | primexch  |
|                                   | Security Status  | secstat   |
|                                   | Share Class  | shrcls    |
|                                   | Share Code   | shrcd     |
|                                   | Share Type   | shrtype   |
|                                   | Sub-exchange   | subexch   |
|                                   | Trading Denomination                                       | denom     |
| Trading Status                    | trdstat  |           |
| Trading Ticker Symbol             | tsymbol  |           |

<sup>1</sup>CRSPAccess only

If the CUSIP, Company Name, Exchange Code, Exchange Ticker Symbol, Share Class, or SIC Code changes during the security's trading history, a new name structure is added, with the Name Effective Date of the change. That information is valid until another name structure is added or the security becomes obsolete.



Name Histories may include periods, possibly outside the data range, when the security is trading on a different exchange or is not trading at all. The Exchange Code description contains more detailed information on trading status and location for a given date range.

### C. DISTRIBUTION EVENT ARRAY - DISTS

The Distribution Event Array is a list of events describing cash dividends, capital adjustments, and other distributions made to shareholders of a security.

|   | Variable Name                       | Variable |
|---|-------------------------------------|----------|
| Distribution Information                  | Distribution Code                   | DISTCD   |
|   | Dividend Cash Amount                | DIVAMT   |
| Factors to Adjust Prices and Shares       | Factor to Adjust Price              | FACPR    |
|   | Factor to Adjust Shares Outstanding | FACSHR   |
| Dates Associated with the Distribution    | Distribution Declaration Date       | DCLRDT   |
|   | Ex-Distribution Date                | EXDT     |
|   | Record Date                         | RCRDDT   |
|   | Payment Date                        | PAYDT    |
| Securities/Companies Related to the Event | Acquiring PERMNO <sup>1</sup>       | ACPERM   |
|   | Acquiring PERMCO <sup>1</sup>       | ACCOMP   |

<sup>1</sup>CRSPAccess variable only, available in both FORTRAN and C.

If a distribution event has more than one component, CRSP codes each component of the event separately with a four-digit code. All components of a distribution event share the same Ex-Distribution Date. Distributions for each security are unique and are sorted by Ex-Distribution Date, Distribution Code, and Acquiring PERMNO. Distribution Events are a descriptive set of events, not a summary by period. The data can be summarized for returns calculations, delisting returns, price and shares adjustments, and dividend and split totals. The following types of event are available:

- Periodic and special cash dividends - the cash amount in US dollars, frequency, and related dates of all cash dividends are provided.
- Stock splits, stock dividends, and reverse splits - the factors to adjust price and shares, type of action, and related dates of all splits are provided.
- Spin-offs - All spin-off events are included. The cash value of the spin-off is the price at the end of the ex-distribution date of the stock received. A price factor is calculated by dividing the cash amount by the

price of the parent security on the Ex-Distribution Date. Acquiring PERMNO and Acquiring PERMCO can be used to link to the new company when available.

- Liquidation payments - All partial and final liquidation payments are included. These contain the value of each payment and relevant dates that are known. If the payment is in the form of stock, or if a payment is known to come from the purchase of assets by a known company, the Acquiring PERMNO and Acquiring PERMCO are set to that company or issue.
- Return of capital distributions.
- Rights offerings.
- Merger, acquisition, and reorganization distributions.
- Limited tender offers.
- Information on announcements related to liquidations and tender offers that resulted in delistings.
- Known shares buybacks, offerings, and share increases due to acquisitions.

See Distribution Codes for the coding scheme used by CRSP, as well as examples of specific cases of distributions.

### D. SHARES OUTSTANDING OBSERVATIONS ARRAY - SHARES

The Shares Outstanding Observations Array contains the history of observations of the shares outstanding history of a security. CRSP records the shares outstanding only for the security, not the total shares for the company. Treasury shares are not included. Shares outstanding for American Depositary Receipts (ADRs) are the shares outstanding of the ADR, not the underlying issue. Shares outstanding are recorded in thousands.

|                              | Variable Name  | Variable |
|------------------------------|--|----------|
| Shares Information           | Shares Outstanding                                   | SHROUT   |
|                              | Shares Outstanding Observation Flag                  | SHRFLG   |
| Share Observation Date Range | Shares Outstanding Observation End Date <sup>1</sup> | SHRENDT  |
|                              | Shares Outstanding Observation Date                  | SHRSDT   |

<sup>1</sup> CRSPAccess data access only.

There are two types of Shares Outstanding Observations:

1. Primary shares observations contain a shares outstanding amount taken directly from an annual or quarterly report or a data source using company reports.
2. These are supplemented with imputed shares observations derived from distributions affecting shares outstanding using Factor to Adjust Shares.

A new entry does not imply that there was a change in the number of shares outstanding. In general, every company has at least one shares structure per year.

Exactly one shares structure is effective each date in the security's history. One shares outstanding observation is effective until the next observation or the delisting date. The first shares observation is effective from the Shares Observation Date backward to the beginning of data.

The Shares Outstanding Observations Array cannot be used to directly find the shares outstanding each calendar period. Utility functions and programs are available to map observations to time series used to calculate market capitalization.

#### E. DELISTING EVENT ARRAY - DELIST

Every security on the CRSP file is assigned one delist record. The Delisting Event Array contains information on the status of a security after it is no longer listed on an exchange in a CRSP file. Each delisting history event contains a code describing the reason for delisting, the value after delisting (when available), forward links to acquiring issue and company traded on NYSE, NYSE MKT, NASDAQ, or Arca and delisting return. Active issues have a delisting history event where Delisting Date is set to the last date of available price data. The Distribution History Array includes itemized data on the payments made to shareholders after the delisting, and includes announcement information related to the delisting when available.

|   | Variable Name                      | Variable |
|---|------------------------------------|----------|
| Delist Information                          | Amount After Delisting             | dlamt    |
|   | Delisting Code                     | dlstcd   |
|   | Delisting Price                    | dlprc    |
|   | Delisting Return                   | dlret    |
|   | Delisting Return without Dividends | dlretx   |
| Dates Associated with Delist                | Delisting Date                     | dlstdt   |
|   | Date of Next Available Information | nextdt   |
|   | Delisting Payment Date             | dlpdt    |
| Securities/Companies Associated with Delist | New PERMCO <sup>1</sup>            | nwcomp   |
|   | New PERMNO <sup>1</sup>            | nwperm   |

<sup>1</sup> CRSPAccess C and FORTRAN only.

In current CRSP files only the most recent delisting event is coded in the Delisting Event Array. If an issue leaves an exchange in the CRSP data files and later returns, the gap is marked in the Name History Array with an Exchange Code of 0. During this time, event data are not tracked and time series data are filled in with missing values.

Delisting information is determined by several factors: the exchange of shares at the earliest possible opportunity, trade on a secondary market, payments from the company, or outstanding tender offer. The information is coded as it becomes available. An issue is considered closed to further research if any of the following conditions apply:

- Research has verified that a final distribution has been paid to stockholders.
- A price is found on another exchange.
- Research has verified that no distributions were ever paid to stockholders.
- Some distributions have been paid to stockholders, but no final distribution information can be found and 10 years have passed since the date of the most recent delisting information.
- No information concerning the delisting can be found and 10 years have passed since the delist date.

If none of these conditions applies to a delisted issue, the issue is pending, which means that further research is required until one of the above conditions has been met. If no information is found or the information found is incomplete, no delisting return will be calculated by CRSP.

Monthly: If no delisting information exists, and daily data exist after the last month-end trading date, CRSP generates partial-month delisting amounts and returns by using the price on the last daily trading date. Although the partial month returns are stored in the Delisting Return field, they are not delisting returns.

#### F. NASDAQ INFORMATION ARRAY - NASDIN

The NASDAQ Information Array contains a history of an issue's trading status on The NASDAQ Stock Market. Each set of information, or structure, contains status and classification fields and the effective date ranges of those fields. If the NASDAQ Traits Code, NASDAQ National Market Indicator, NASD Index Code, or Market Makers Count changes, then a new structure is added, and the date of the change is recorded in the NASDAQ Traits Date. Each issue traded on the NASDAQ Stock Market since November 1982 has at least one NASDAQ Information Array.

|                               | Variable Name                    | Variable  |
|-------------------------------|----------------------------------|-----------|
| NASDAQ Information Array Data | Market Maker Count               | mmcnt     |
|                               | NASD Index Code                  | nsdinx    |
|                               | NASDAQ National Market Indicator | nmsind    |
|                               | NASDAQ Traits Code               | trtscd    |
| NASDAQ Information Date Range | NASDAQ Traits Date               | trtsdt    |
|                               | NASDAQ Traits End Date           | trtsenddt |

NASDAQ information structures are available for securities trading on NASDAQ beginning on April 1, 1982 for NASDAQ Traits Date and NASDAQ National Market Indicator. All fields are available beginning November 1, 1982.<sup>1</sup>

<sup>1</sup> NASDAQ information data are missing in December, 1982 for all issues with NASD company numbers less than 1025 (approximately 20 percent of the securities active at that time), and are missing in February, 1986 for all issues. NASDAQ Traits Date, NASDAQ Traits Code, and NASDAQ National Market Indicator are complete. All other fields are missing.

The NASDAQ National Market was initiated in April 1982 for larger and generally more actively traded NASDAQ securities. The NASDAQ National Market Securities must meet higher financial and non-financial criteria than other NASDAQ stocks, and were always subject to last-sale reporting. In June of 1992 the regular NASDAQ segment of the NASDAQ Stock Market was renamed The NASDAQ SmallCap Market and for the first time these issues became subject to real-time price and volume reporting.

#### G. PRICE, VOLUME, AND RETURN TIME SERIES ARRAYS

Price, Volume, and Return Time Series Arrays are a set of time series that makes up the core of CRSP stock data. This includes three price time series, total returns, and trading volumes. All these time series in a stock file use the same calendar(s).

|  | Variable Name               | Variable |
|--|-----------------------------|----------|
| Price, Volume, and Return Time Series Data | Ask or High Price           | askhi    |
|  | Bid or Low Price            | bidlo    |
|  | Holding Period Total Return | ret      |
|  | Price or Bid/Ask Average    | prc      |
|  | Volume Traded               | vol      |

#### H. AUXILIARY TIME SERIES DATA

Auxiliary Data Time Series are additional time series provided in CRSPAccess stock files at the same frequency as the Price, Volume, and Return Time Series Arrays.

|  | Variable Name                             | Variable |
|--|---|----------|
| Monthly Alternate Price and Date, Daily Open Price, Returns Without Dividends, Spread Time Series Data | Price Alternate (monthly only)            | altprc   |
|  | Price Alternate Date (monthly only)       | altprcdt |
|  | Return Without Dividends                  | retx     |
|  | Spread Between Bid and Ask (monthly only) | spread   |
|  | Open Price (daily only)                   | openprc  |
|  | Ask                                       | ask      |
|  | Bid                                       | bid      |
|  | NASDAQ Number of Trades (daily only)      | numtrd   |

#### I. PORTFOLIO STATISTICS AND ASSIGNMENT TIME SERIES - PORT

Portfolio Statistics and Assignment Time Series is a set of portfolio time series. Each portfolio time series is based on a portfolio type defined by CRSP and contains a history of statistics and portfolio assignments for a security. Two variables are available for each calendar period:

|  | Variable Name               | Variable |
|--|-----------------------------|----------|
| Portfolio Statistic and Assignment Times Series Data | Portfolio Assignment Number | port     |
|  | Portfolio Statistic Value   | stat     |

Each Portfolio Statistics and Assignment Time Series in the set is called a Portfolio Type. Portfolio Types are predefined groupings based on CRSP indexes. The portfolio time series can be linked to CRSP index returns data to calculate excess returns of a security against its assigned index portfolio at any time during its history.

Each Portfolio Type represents a predefined index group with its own methodology and rebalancing period. The portfolio time series can be linked to different calendars based on the rebalancing frequency of the index. The timing and calculation of the statistic and assignment rules are also dependent on the index. Calendars used in portfolios are not the same calendars used with security price and returns data. Portfolio ranges and calendars can differ for all portfolio types. In a portfolio time series, the Data Subtype Code is set to the Permanent Index Identification Number, INDNO, of an index that contains the performance results of the group of index series built using the assignments.

The portfolio assignments for the CRSP Stock File Decile Capitalization Indexes for NYSE/NASDAQ are provided with daily and monthly stock files. Additional Portfolio Types are available with the CRSP US Index Database and Security Portfolio Assignment Module. Note that the portfolio information is a module of the associated CRSPAccess daily or monthly stock data. Portfolio assignment data for daily or monthly indexes can be extracted through the stock utilities when the user subscribes to the appropriate stock and index products. Indexes based on the portfolios are included in the CRSP Index File and Portfolio Assignments product.

See the Portfolio Types table for more details about the defined portfolios available in monthly and daily stock files.

## J. GROUP DATA

Group Data are a set of arrays of universe inclusion events. Each supported universe is called a grouptype and assigned an integer number that identifies it. The array for each grouptype lists the number of universe events and dates.

|                  | Variable Name                  | Variable   |
|------------------|--------------------------------|------------|
| Group Data       | Group Flag of Associated Index | grpflag    |
|                  | Group Secondary Flag           | grpsubflag |
| Group Date Range | Begin of Group Data            | grpdt      |
|                  | End of Group Data              | grpenddt   |

The only grouptype currently available is 16 - S&P 500 Universe. Only inclusion events are added to this group, so Group Flag of Associated Index is always 1. Begin of Group Data and End of Group Data identify the range the security was included in the S&P 500 index. The user must subscribe to the appropriate stock and index databases to extract group data.

## III. INDEX DATA STRUCTURES

### A. INDEX HEADER - INDHDR

The Index Header is a set of fields containing identification and methodology information about an index series or group. See Index Methodologies for more descriptive information about the methodologies of the CRSP index types.

|                                   | Variable Name                           | Variable  |
|-----------------------------------|---|-----------|
| Permanent Index Identifiers       | INDNO                                   | indno     |
|                                   | INDCO                                   | indco     |
| Descriptive Identifiers           | Index Primary Link                      | primflag  |
|                                   | Portfolio Number if Subset Series       | portnum   |
|                                   | Index Name                              | indname   |
|                                   | Index Group Name                        | groupname |
| Index Structures (detailed below) | Index Methodology Description Structure | method    |
|                                   | Index Exception Handling Flags          | flags     |
|                                   | Index Subset Screening Structure        | partuniv  |
|                                   | Partition Subset Screening Structure    | induniv   |
|                                   | Portfolio Building Rules Structure      | rules     |
|                                   | Related Assignment Information          | assign    |

### 1. Index Methodology Description Structure – method - Expansion

|                                   | Variable Name                     | Variable |
|-----------------------------------|-----------------------------------|----------|
| Methodology Description Structure | Index Method Type Code            | methcode |
|                                   | Index Primary Methodology Type    | primtype |
|                                   | Index Secondary Methodology Group | subtype  |
|                                   | Index Reweighting Type Flag       | wgttype  |
|                                   | Index Reweighting Timing Flag     | wgtflag  |

### 2. Index Exception Handling Flags – flags - Expansion

|                                   | Variable Name                    | Variable   |
|-----------------------------------|----------------------------------|------------|
| Exception Handling Flag Structure | Index Basic Exception Types Code | flagcode   |
|                                   | Index New Issues Flag            | addflag    |
|                                   | Index Ineligible Issues Flag     | delflag    |
|                                   | Return of Delisted Issues Flag   | delretflag |
|                                   | Index Missing Data Flag          | missflag   |

### 3. Partition/Index Subset Screening Structure - partuniv/induniv - Expansion

|   | Variable Name  | Variable |
|---|--|----------|
| Index Subset Screening Structure and Partition Subset Screening Structure | Universe Subset Types Code in a Restriction                    | univcode |
|   | Restriction Beginning Date                                     | begdt    |
|   | Restriction End Date   | enddt    |
|   | Valid Exchange Codes in Universe in a Restriction              | wantexch |
|   | Valid NASDAQ Market Groups in Universe in a Restriction        | wantnms  |
|   | Valid When-Issued Securities in Universe in a Restriction      | wantwi   |
|   | Valid Incorporation of Securities in Universe in a Restriction | wantinc  |
|   | Share Code Screen Structure in a Restriction                   | shrcd    |

### 4. Share Code Screen Structure in a Partition or Index Restriction - shrcd - Expansion

|                             | Variable Name                                     | Variable |
|-----------------------------|---|----------|
| Share Code Screen Structure | Share Code Groupings for Subsets in a Restriction | sccode   |
|                             | Valid First Digit of Share Code in a Restriction  | fstdig   |
|                             | Valid Second Digit of Share Code in a Restriction | secdig   |
|                             |   |          |

### 5. Portfolio Building Rules Structure - rules - Expansion

|                          | Variable Name                                 | Variable  |
|--------------------------|---|-----------|
| Portfolio Building Rules | Index Basic Rule Types Code                   | rulecode  |
|                          | Index Function Code for Buy Rules             | buyfnct   |
|                          | Index Function Code for Sell Rules            | sellfnct  |
|                          | Index Function Code for Generating Statistics | statfnct  |
|                          | Index Statistic Grouping Code                 | groupflag |
|                          |   |           |

### 6. Related Assignment Information – assign - Expansion

|                                    | Variable Name   | Variable   |
|------------------------------------|---|------------|
| Portfolio Building Rules Structure | Index Basic Assignment Types Code                       | assigncode |
|                                    | INDNO of Associated Index                               | asperm     |
|                                    | Portfolio Number in Associated Index                    | asport     |
|                                    | Calendar Identification Number of Rebalancing Calendar  | rebalcal   |
|                                    | Calendar Identification Number of Assignment Calendar   | assigncal  |
|                                    | Calendar Identification Number of Calculations Calendar | calccal    |
|                                    |   |            |

## B. INDEX REBALANCING HISTORY ARRAY - REBAL[#][N]

The Index Rebalancing History Arrays are a set of CRSPAccess event array structures containing decile-level historical rebalancing statistical information for rebalancing periods in an index. Each event array structure within the history contains the characteristics for one portfolio for one time range in the index, including the breakpoints used to assign securities to the portfolio.

|                                  | Variable Name                      | Variable |
|----------------------------------|------------------------------------|----------|
| Rebalancing Date Ranges          | Index Rebalancing Begin Date       | rbbegdt  |
|                                  | Index Rebalancing End Date         | rbenddt  |
| Rebalancing Portfolio Statistics | Count Used as of Rebalancing       | usdcnt   |
|                                  | Maximum Count During Period        | maxcnt   |
|                                  | Count Available as of Rebalancing  | totcnt   |
|                                  | Count at End of Rebalancing Period | endcnt   |
| Breakpoint Information           | Statistic Minimum Identifier       | minid    |
|                                  | Statistic Maximum Identifier       | maxid    |
|                                  | Statistic Minimum in Period        | minstat  |
|                                  | Statistic Maximum in Period        | maxstat  |
|                                  | Statistic Median in Period         | medstat  |
|                                  | Statistic Average in Period        | avgstat  |

The variable Number of Rebalancing Types contains the count of the rebalancing history arrays available for all indexes in a set. There are ten possible rebalancing arrays in current Index Groups and one in all Index Series. Each array has its own count of periods, which is set to zero if not applicable to the particular index.

## C. INDEX LIST HISTORY ARRAY

|                          | Variable Name                                | Variable |
|--------------------------|--|----------|
| Security Identifier      | Permanent Number of Securities in Index List | permno   |
| Date Range               | First Date Included in List                  | begdt    |
|                          | Last Date Included in List                   | enddt    |
| Security Characteristics | Index Subcategory Code                       | subind   |
|                          | Weight of Issue                              | weight   |

## D. INDEX TIME SERIES

Index Time Series are sets of result and summary time series arrays for indexes. They include the following variables:

|                          | Variable Name                          | Variable |
|--------------------------|--|----------|
| Index Summary Statistics | Index Used Count                       | usdcnt   |
|                          | Index Total Count                      | totcnt   |
|                          | Index Used Value                       | usdval   |
|                          | Index Total Value                      | totval   |
| Index Returns            | Index Total Return                     | tret     |
|                          | Index Capital Appreciation Return      | aret     |
|                          | Index Income Return                    | iret     |
| Index Levels             | Index Total Return Index Level         | tind     |
|                          | Index Capital Appreciation Index Level | aind     |
|                          | Index Income Return Index Level        | iind     |

The variable Number of Index Types contains the count of index series available for each of the indexes in a set. There is always one time series for all data items in an index series, and more than one time series for data items in an index group. Not all time series are available for each index. If the range for one of the time series is not set, data of that type is not available for that index.