Eventus Index Builder

Specialty_Index_Build Statement Usage

```
Eventus; or  Eventus Monthly;
  Specialty_Index_Build options;
```

Eventus Statement and Request Statement Option Usage

```
Eventus options; or  Eventus Monthly options;
  Request index selection options   other options;
  other statements for an event study or CAR or BHAR computation
```

Introduction

Eventus® Index Builder™ builds a variety of portfolio return and volume time series from your subscribed CRSP Stock database. You can use the resulting time series in Eventus or elsewhere. The indexes come in SAS datasets, which are easily exported to other formats such as Excel, CSV, and Stata.

You can choose size-decile portfolio returns, a variety of industry-portfolio returns, a market-wide return index, or market volume indexes. You can limit the stocks included by exchange and can exclude ADRs or limit the universe to regular U.S. stocks (further excluding funds, REITs, etc.). You can exclude newly listed stocks for a specific period or a list of specific stocks. You can include the post-delisting return reported by CRSP. When building size-decile returns, you can use decile cutoffs computed using the same stocks constituting the indexes, apply cutoffs computed using NYSE stocks only to every exchange, or apply NYSE-Nasdaq-American decile cutoffs to indexes encompassing those markets plus Arca.[1]

For access to the full suite of index building options, you run a small program that includes the Eventus statement followed by the Specialty_Index_Build statement. (SAS uses the term statement for what are often called commands in other languages, so Eventus does also.)

It is not always necessary to run Eventus Index Builder directly to use the desired indexes in Eventus. Depending on your institution's CRSP subscription type, you may have access to CRSP's pre-built size-decile returns, which Eventus can use automatically. If not, Eventus automatically builds size-decile return series when needed for the selections in your Eventus run. It similarly builds industry returns automatically when your options select them.

Eventus for Windows users can build several volume indexes using the Volume Index Wizard (found in the Windows Start menu folder for Eventus). On WRDS, Eventus subscribers have access to pre-built copies of the most common Eventus volume indexes.

[1] American refers to NYSE American, an exchange that has been renamed several times. Past names include NYSE MKT, the American Stock Exchange (Amex), the New York Curb Exchange, and others.

Running Eventus Index Builder Directly: Specialty_Index_Build Statement Options

Type of Index

Several options are available to select the type of index to build. All return indexes are based on individual security returns reported by CRSP, which are adjusted for stock splits and other share distributions and reflect cash dividend reinvestment. Each series includes all stocks in the CRSP universe as limited by options or defaults described in this document.

The table below lists the index type options and describes the resulting time series dataset. For size and industry indexes, Eventus Index Builder also produces a portfolio assignment dataset.

Type Option	Output Time-Series SAS Dataset Content
None (default)	Same as the SizeIndex option near the bottom of this table.
Marketwide	Equal-weighted and value-weighted return or relative volume series.
FF*n*=ALL, $n \in \{5,12,17,49\}$	Sets of equal-weighted and value-weighted industry portfolio return series (one series for each Fama-French 5, 12, 17, or 49 industry for each weighting).
FF*n*=*industry*, $n \in \{5,12,17,49\}$	Equal-weighted and value-weighted return series for just the one Fama-French 5, 12, 17, or 49 industry number *industry*.
FF*n*=(ind_1,..,ind_k), $n \in \{5,12, 17,49\}$	One equal-weighted and one value-weighted return series for the combined Fama French 5, 12, 17, or 49 industry numbers in the list ind_1,..,ind_k. Separate returns for individual industries are not produced.
SIC2=ALL or SIC3=ALL	Equal-weighted and value-weighted industry portfolio return series (one for each two- or three-digit SIC code with adequate data, for each weighting). A two- (three-) digit SIC code must be associated with 30 (10) or more stocks in at least one calendar year in the SIC history source being used (see SIC Code Source below) to be included. If a two- or three-digit SIC code passes the screen, a return is computed for its industry portfolio on each date possible, regardless of the number of portfolio returns available on a specific date.
SIC2=*industry* or SIC3=*industry* or SIC=*industry*	Equal-weighed and value-weighted return series for just the one two-, three-, or four-digit SIC code *industry*.
SIC2=(ind_1,..,ind_k) or SIC3=(ind_1,..,ind_k) or SIC=(ind_1,..,ind_k)	One equal- and one value-weighted return series for the combined industries with two-, three-, or four-digit SIC codes in the list ind_1,..,ind_k. Separate returns for individual industries are not produced by this option.
SizeIndex	Sets of equal-weighted and value-weighted size-decile portfolio return series. This is the default when no index type option is specified.
Volume	Four relative volume (shares traded divided by shares outstanding) series: equal weighted mean, equal weighted mean of logs, value weighted mean, and log of value weighted mean.

Share types

The following options are available to limit or expand, by CRSP share type code, the set of stocks included in the index(es) being built.

Share Type-Related Option	CRSP Share Type Codes Included or Excluded
None (default)	Exclude ADRs, defined as issues with a CRSP legacy share type code in the range 30-39, from the determination of size-decile cutoffs, and from value-weighted returns. ADRs are still included in equal-weighted returns. Stocks with all other share type codes are included in all computations.
KeepADRs=NEVER	Exclude ADRs from all computations. Stocks with all other share type codes are included in all computations.
KeepADRs=ALWAYS	Include stocks with all share type codes in all computations.
Index1011 *or* NF	Include only ordinary common stocks of U.S. corporations, defined as issues with a CRSP legacy share type code (discussed below) of 10 or 11, in all computations. This excludes ADRs (regardless of the KeepADRs setting), foreign listings, ETFs, REITs, closed-end funds and most other funds and trusts. NF is a synonym for Index1011.

Listing markets

The following options are available to change the set of stocks included in indexes, or used for size-decile cutoff determination, by exchange listing and by Nasdaq sub-market.

Exchange-Related Option	Stocks Included
None (default)	Returns or volumes for stocks listed on the NYSE, American, Nasdaq and Arca are included in indexes. Stocks listed on the NYSE, American, and Nasdaq are used in decile cutoff determination when building size-decile indexes.
XL=*bbbbb*	To use, replace each *b* with 0 to exclude or 1 to include the NYSE, American, Nasdaq, Arca and Cboe BZX (formerly BATS), respectively. For example, XL=00101 would include stocks listed on Nasdaq and Cboe BZX only. All stocks listed on the included market(s) are used in all computations, except as limited by other applicable defaults or options.
NM	Only stocks listed on the Nasdaq Global Market, Global Select Market, or (before July 2006) National Market are included in all computations. Using NM automatically sets XL=00100.
SC	Only stocks listed on the Nasdaq Capital Market or (before July 2006) SmallCap Market are used. Using SC automatically sets XL=00100.
NYSECutoffs	Only stocks listed on the NYSE are used to determine size-decile cutoffs that are used to assign decile portfolios to all stocks used. This option has no effect on whether NYSE stocks are included in the decile indexes built.

Excluding listing year

The following option is available to exclude stocks from size-decile cutoffs and indexes in the first calendar year they would otherwise be included, and, in some cases, the remainder of the year of a change in exchange listing. This option does not apply to industry, marketwide, or volume indexes.

Option	Effect
DropListYear	Specifying DropListYear causes a stock to be excluded from decile return indexes in its calendar year of initial listing on an included market. For example, suppose we build size deciles for the combined NYSE, American and Nasdaq markets, and suppose Fictional Corp. (FICT) has been listed on Nasdaq since its IPO in 2018. By default, FICT's 2018 calendar year end market capitalization is used to determine its decile rank for both 2018 and 2019 returns, and FICT is included in the respective decile index in those years. Specifying DropListYear causes FICT to receive no decile portfolio assignment for 2018 return purposes and causes FICT's returns not to be reflected in a decile index in 2018. FICT's 2018 year-end capitalization is still used to determine its decile rank for 2019 and it is still included in the respective 2019 decile index. When building default decile indexes, which apply NYSE-American-Nasdaq-based size cutoffs to stocks on those exchanges plus Arca, or when the NYSECutoffs option is in effect, DropListYear has two further effects. (Neither effect applies if you specify the XL option without the NYSECutoffs option.) First, if a firm goes public on an exchange used in finding cutoffs, it is not used in determining cutoffs until the end of the calendar year after the IPO year. Second, if a stock moves in mid-year from an exchange that is or is not used in finding decile cutoffs to one that is, the stock is not used in determining cutoffs, nor does it receive a decile portfolio number, from the date of the change until the end of the next calendar year.
None (default)	By default, Eventus Index Builder follows CRSP's practice of looking ahead to the end of the first calendar year of a stock's eligibility for the index being built to obtain the stock's initial market capitalization for ranking (finding decile cutoffs and portfolio assignment).

Excluding recently listed stocks

The following option is available to exclude stocks from return and volume indexes by recency of inclusion in the CRSP database.

Option	Effect
NewListPurge=*n*Y|*n*M	This option excludes each stock from the index(es) being built until *n* years (Y) or months (M) after the first day that the stock is present in the CRSP database. For example, if a stock first appears in CRSP data on August 10, 2015, NewListPurge=3Y would exclude the stock's returns or volumes dated before August 10, 2018 and NewListPurge=6M would exclude its returns or volumes dated before February 10, 2016. *n* must be an integer. If neither Y nor M appears, Y is assumed. This option has no effect on size decile cutoffs or on decile or industry portfolio number assignments. A newly listed stock still is considered in decile cutoff determination and still receives decile and industry portfolio numbers during the exclusion period, unless another option or default setting prevents its inclusion. The returns or volumes and portfolio weights of newly listed stocks are excluded from index computations during the exclusion period. NewListPurge differs from DropListYear in three ways. First, DropListYear applies only to size-decile return indexes, whereas you can use NewListPurge when building any type of return or volume index. Second, DropListYear affects only the first calendar year a stock would otherwise be included in or affect the index(es) being built or, in some cases, part of the calendar year of a change of exchange listing, whereas NewListPurge affects a period of any specified length after inclusion in the CRSP database, without regard to calendar-year boundaries or the specific exchange on which a stock is listed. Third, DropListYear alters size-decile cutoff determination and portfolio assignments as well as index return computation. In contrast, NewListPurge preserves the affected stocks' role in any cutoff determination and alters only whether their returns or volumes become data for the final computation of daily or monthly index return or index volume.

Specific exclusions

The following option is available to exclude specific stocks.

Option	Effect
Excluded_PERMNOs=[*libref.*]*data_set_name*	This form of the option points to the SAS library name (a shortcut to a folder, denoted *libref*) and dataset name of an existing SAS dataset containing the PERMNOs to exclude from all computations and output. The libref and dot can be omitted if the dataset is in the temporary SAS Work library. The dataset must have a column named PERMNO. Other columns may be present; if there are any, they have no effect.
Excluded_PERMNOs=(*perm1,...,permN)* *or* Excluded_PERMNOs=*permno*	In this form of the option, each PERMNO listed in the argument is excluded from all computations and output.

Returns for specific days or months

Period minus one price requirement

The following option is available to relax the requirement that a stock have both a price and market capitalization for the previous trading day or month for its return to be included in computing the index return for that period. Neither the default requirement nor the option is applicable to volume indexes.

Option	Requirement
KeepMD	When building return indexes, the KeepMD option specifies that a non-missing closing price for trading day or month *t*-1 is not required for inclusion in an index return for day or month *t*. The market capitalization based on the most recent non-missing closing price, whether from day or month *t-1* or earlier, regardless of the stock's listing at the time, is used as the weighting variable for day or month *t* value-weighted index return. A non-missing closing price in CRSP may be a trade price or a bid-ask average. Relaxing the *t*-1 price requirement allows CRSP multiday returns to stay in the series used for index calculations. A multiday return is a return computed from the last available closing price, on trading day *t-2* or earlier, to the day *t* closing price, when the *t*-1 closing price is missing. CRSP may report a missing return or a multiday return depending on the number of days between non-missing closing prices.
None (default)	By default, Eventus Index Builder follows CRSP 's practice of excluding, from the index return computation for day or month *t*, the return of any stock that has a missing closing price for trading day or month *t-1*, or that has a missing market capitalization at the end of day or month *t-1*, or that was not listed on an included exchange at the end of day or month *t-1*. Weekends and holidays are not considered; e.g., a Friday to Monday return is a one-day return.

Including delisting returns

The following option is available to include delisting returns. This option does not apply to volume indexes.

Option	Effect
UseDelist	The time series of prices and returns for a stock may end before the database cutoff date because the issuer was acquired, reorganized, or liquidated, or for another reason. In such a case, the final closing stock price and return from trading may not reflect any final value received by stockholders. CRSP LLC researches post-delisting distributions and payments, and when applicable, computes and reports the resulting *delisting return*, typically dated immediately after the last trading return. The UseDelist option includes delisting returns in return indexes.
None (default)	By default, Eventus Index Builder follows (and also applies to industry indexes) CRSP's practice of not including delisting returns in marketwide or size decile indexes.

SIC Code Source

The following option is available to limit the source of SIC codes when applicable.

Option	Effect
NoCSTIndustry	Prevents Eventus Index Builder from using Compustat SIC codes to determine the composition of industry indexes, resulting in only CRSP history being used as the source of SIC codes.
None (default)	When building SIC code-based industry indexes in Eventus on WRDS, Eventus Index Builder checks whether your WRDS account has access to the CRSP-Compustat Merged (CCM) product. If so, the Compustat historical SIC code (data item SICH) replaces the CRSP SIC code whenever an issuer-date pair has a non-missing SICH available. CRSP SIC codes are used for any issuer-date pair having a missing SICH and non-missing CRSP SIC code. When your WRDS account does not have CCM access, and in Eventus for Windows, only CRSP SIC codes are used.

Output Data Locations

The following option is available to specify the location and name of the output dataset(s). If you do not use the Out= option, Eventus Index Builder constructs a default name for each dataset based on its type, data frequency and security universe. Each output file's library and dataset name are displayed in the SAS Log tab or *.log file upon completion.

Option	Effect
Out=libref.data_set_name	Specifies the SAS library name (a shortcut to a folder, denoted *libref*) and the dataset name to be created containing the return or volume time series. The libref and dot can be omitted, in which case the temporary SAS Work library is used (unless you have assigned the library name User, which is not common). When size-decile or industry indexes are built, a separate portfolio assignment dataset is created in the same folder with a name consisting of data_set_name, or the first 24 characters if the name is longer, with _portnum appended.
None (default)	In Eventus on WRDS, the default folder for datasets being created is the temporary SAS Work library (unless you have assigned the library name User, which is not common). In Eventus for Windows, the default folder is the Eventus datasets folder associated with SAS library name evdata. Eventus Index Builder constructs a default name for each dataset based on its type, data frequency and security universe.

Output File Structure

Eventus Index Builder may create the following types of tables (SAS datasets) depending on your selections: size decile portfolio returns; size decile portfolio assignment table; industry portfolio returns; industry portfolio assignment table; market-wide return or volume indexes, Returns or volumes may be at daily or monthly frequency. In some cases, both equal-weighted and value-weighted returns or volumes are included. Equal and value-weighted portfolio return values appear on separate rows, while equal-weighted and value-weighted marketwide return or volume index values appear in different columns. Decile returns appear in one column per decile. Industry returns, in a table containing more than one industry separately, appear in different columns.

SAS datasets columns (also called variables) have names, and may have labels that further describe them. Eventus and SAS code use only the names to recognize and select data, but they may pass labels to output they create. When viewing a SAS dataset in traditional desktop SAS, we usually see labels for columns that have them and names for other columns. In SAS Studio, we can toggle between displaying names and labels while viewing a dataset. In SAS Enterprise Guide (EG), we see column names by default and can see the associated label by hovering the mouse pointer, or we can set a general EG option (under Data\Viewer) to show labels instead. When exporting a SAS dataset to Excel or another format, we may lose either the names or the labels.

The following examples illustrate the structure of several types of output tables showing column names.

Marketwide return indexes

	CalDt	EWRetD	VWRetD
1	19251231	.	.
2	19260102	0.009516	0.005689
3	19260104	0.005780	0.000706
4	19260105	-0.001927	-0.004821

Size-decile portfolio returns

_index_weight_	CalDt	CmpIdxR01	CmpIdxR02	CmpIdxR03	CmpIdxR04	CmpIdxR05	CmpIdxR06	CmpIdxR07	CmpIdxR08	CmpIdxR09	CmpIdxR10
E	19251231	.	.	.	.	.	.	.	.	.	.
E	19260102	0.03478642	0.00843371	0.00534881	0.00781528	0.01106212	0.00629706	0.00613116	0.00485547	0.00453483	0.00562966
E	19260104	0.01280752	0.01550660	0.01026061	0.00568506	0.00412127	0.00528826	0.00166755	0.00232503	0.00125954	0.00067902
E	20221230	0.01460593	0.01912665	0.00726818	0.00669484	0.00559515	0.00341777	-0.00050089	-0.00182911	-0.00338335	-0.00365135
V	19251231	.	.	.	.	.	.	.	.	.	.
V	19260102	0.01591140	0.00950153	0.00560427	0.00803393	0.01141910	0.00648644	0.00524708	0.00482585	0.00455641	0.00579334

Size-decile portfolio assignments

	yy	PERMNO	portfolio_number
	1926	10006	9
	1926	10014	2
	1926	10022	5
	1926	10030	7

Industry portfolio returns

Datasets with multiple industry-portfolio returns have a similar structure to size-decile portfolio return datasets with a varying number of CmpIdxR*n* columns.

Industry portfolio assignments (using FF49 as an example)

	PERMNO	yy	Portfolio_Number
131861	27167	2024	35
131862	27174	1960	10
131863	27174	1961	10

Marketwide volume indexes

CalDt	EW_Relative_Volume	EW_Log_Relative_Volume	VW_Relative_Volume	VW_Relative_Volume_Log
JUL2013	2.752318	-1.177964	23.026892	3.136663
AUG2013	2.472629	-1.196222	18.569956	2.921545
SEP2013	2.593097	-1.201065	18.475412	2.916441

Quality Assurance: Eventus Index Builder Replicates CRSP-Built Indexes

Below, Eventus builds NYSE-American-Nasdaq-Arca market indexes from CRSP stock returns, then SAS code compares the resulting index returns to the corresponding index returns produced by CRSP. The results that appear in the Results tab or Output tab after running will show that the Eventus-built indexes match the CRSP-built indexes to one one-hundredth basis point (0.0001 percentage point). This program is set up for WRDS. To run it in Eventus for Windows, change "CRSP." to "crspdata.".

```
Eventus;
 Specialty_index_build marketwide out=replicated_market_indexes;

title 'Eventus-Built versus CRSP-Built NYSE-American-Nasdaq-Arca Index';
proc compare base=CRSP.IndDlySeriesData(where=(INDNO=1000201))
   compare=replicated_market_indexes(rename=(CalDt=DlyCalDt))
   method=absolute criterion=0.000001 outnoequal out=differences_ew noprint;
       id DlyCalDt;
       var DlyTotRet;
 with EWRetD;
run;

proc compare base=CRSP.IndDlySeriesData(where=(INDNO=1000200))
   compare=replicated_market_indexes(rename=(CalDt=DlyCalDt))
   method=absolute criterion=0.000001 outnoequal out=differences_vw noprint;
 id DlyCalDt;
 var DlyTotRet;
 with VWRetD;
run;

proc sql;
 select count(*) as ndif_ew
   label='Number of EW Differences > 10^-6' from differences_ew;
 select count(*) as ndif_vw
   label='Number of VW Differences > 10^-6' from differences_vw;
quit;
```

Automatic Index Building: Eventus Statement and Request Statement Options

Eventus allows you to select from several index building options when running an event study (which also includes computing abnormal returns, CARs, or buy-and-hold abnormal returns for use elsewhere).

Eventus and Request Statement Options

Eventus Statement Options for Index Storage

The following options can appear on the Eventus statement in an event-study run if you want to store the files that Eventus Index Builder creates in a custom location for later use or replicability assurance. The same options are used to access the indexes in a later run It is not necessary to use these options when building indexes; if none is specified, Eventus on WRDS will save the files in the SAS work library to speed up further runs in the same SAS session.. Eventus for Windows will use the EvData library, which persists between SAS sessions but could be overwritten by later runs or if Eventus is uninstalled or upgraded.

Eventus Statement Option	Data Stored)
MyCompanionIndex=libref.data_set_name	Time series of index returns or volumes
Port1DS=libref.data_set_name	Mapping of PERMNOs to deciles or industries

Request Statement Options for Index Customization

The Request statement accepts four index building options equivalent to Specialty_index_build statement options documented above.

Request Statement Option
Index1011
KeepADRs
XL=*bbbbb*
NoCSTIndustry

Examples

Looking for something else? We're happy to show authorized users of Eventus how to do what they need.

You can use any output file name SAS allows. Eventus for Windows users should remove "home.".

Build equal and value weighted indexes similar to the main CRSP indexes, except 1) using only NYSE, American, and Nasdaq stocks of U.S. operating companies (legacy CRSP types 10 and 11 only; no ADRs, ETFs, REITs, closed-end funds, direct listings of foreign issuers, etc.), and 2) including the desilting returns when available.

```
Eventus;
  Specialty_index_build
   marketwide xl=11100
   Index1011
   UseDelist
   out=work.usindexes;
```

Build separate Fama-French 49 industry indexes using all available U.S. operating companies .

```
Eventus;
  Specialty_index_build
   FF49
   Index1011
   out=home.ff49_portfolio_returns;
```

Build a set of size-decile indexes using only NYSE stocks of U.S. operating companies.

```
Eventus;
  Specialty_index_build
   xl=10000
   Index1011
   out=work.NYSE_decile_returns;
```

Build a set of size-decile indexes using only NYSE, American, and Nasdaq stocks of U.S. operating companies , excluding those that are within two years of their first appearance in the CRSP database, and allowing CRSP-reported multiday returns.

```
Eventus;
  Specialty_index_build
   xl=11100
   Index1011
   NewListPurge=2Y
   KeepMD
   out=work.decile_returns_custom;
```

Use the size-decile indexes built above as the benchmark returns for computing three-day buy-and-hold abnormal returns. The (where=(_index_weight_='V')) data set option tells SAS to give Eventus only the rows containing the value-weighted version of the decile returns when running the CARs.

```
/* This is a tiny demo request file. You can but probably   */
/* don't want to load your own big one this way. There are  */
/* many more convenient ways to build a larger request file */
/* in SAS data set or text file format.                     */
data work.my_request_file;
 infile datalines truncover;
 input cusip:$8. EventDat:mmddyy10. EventNum:4.;
datalines;
02493710        3/23/2004
02493710        5/26/2005
04004710        8/31/2006
04621X10        1/10/2005
75281A10        6/21/2006
81685110        2/4/2003
84761M10        1/23/2004
88023U10        11/9/2004
92240G10        7/31/2003
96638710        8/16/2004
59491810        12/30/2022
;
run;

Eventus

      MyCompanionIndex=

                 work.decile_returns_custom(where=(_index_weight_='V'))

      Port1DS=work.decile_returns_custom_portnum;

  Request AutoDate insas=work.my_request_file

   Companion;

  Windows (-1,+1);

  EvtStudy BuyHold NoPrint OutWin=work.demo_bhars;
```

Compute three-day size-decile-adjusted CARs using decile returns built by Eventus Index Builder, without having to run the index builder separately first. NF XL=11100 tells Eventus to use only U.S. operating corporations listed on NYSE, American, or Nasdaq. The =Value tells Eventus to select the value-weighted version of the decile returns when running the CARs.

```
/* This example assumes you have a request file. For a demo */
/* run you could use the one shown in one of the examples   */
/* above.                                                   */

Eventus;

  Request AutoDate insas=work.my_request_file

   SizeDecile=Value

   NF XL=11100;

  Windows (-1,+1);

  EvtStudy NoSinglePeriod OutWin=work.demo_cars;
```

Appendix

This appendix discusses more specialized details.

Why Eventus Index Builder and CRSP size-decile portfolio-assignment universes may differ

A stock listed only for a mid-year period

If a stock starts a calendar year not being listed on any CRSP-covered stock exchange, then becomes listed, then delists later in the same calendar year, so that it is no longer listed on a covered exchange, Eventus Index Builder includes the stock's return during any mid-year period that it is listed on an exchange included in the index being built. We are unable to discern from CRSP documentation, as of early 2024, CRSP LLC's official position on the matter, but our research suggests that CRSP never includes such a stock in its index portfolios. This variation in inclusion makes no material difference to broad market indexes (see the quality assurance section below). It could have a more measurable, though still very small, effect on a size-decile portfolio return.

A stock that becomes listed late in the calendar year

Another situation where Eventus Index Builder may infrequently default to a different inclusion criterion from CRSP is a late in the year listing. If a stock lists on an included exchange effective on the last trading day of the year, Eventus Index Builder never includes it in a size decile portfolio return for that calendar year, but does use its market cap that day to determine its portfolio assignment for the following year. If the effective date of listing is on or before the next-to-the-last trading day of the year, Eventus Index Builder includes the stock in size-decile portfolios for the available trading days that year, with its assignment based on its closing market cap on the listing date.

CRSP appears to handle late in the year listings inconsistently when they involve a switch from an exchange that is covered by CRSP, but not included in the CRSP index group in question. CRSP appears to sometimes include and sometimes exclude a stock that makes such a listing change. For example, some of the available CRSP size-decile indexes cover only the NYSE, American, and Nasdaq stock exchanges, while the CRSP Stock database also includes stocks listed on the Arca and Cboe BZX exchanges in applicable years. Our research to date has not discovered a rule that CRSP LLC appears to use to determine whether a stock that changes its listing late in the year from Arca to Nasdaq, for example, is included in the computation of NYSE-American-Nasdaq size-decile returns for the stock's few Nasdaq trading days that year. Eventus Index Builder would include the stock, provided it was otherwise eligible, for those few days.

CRSP legacy share type codes

This document refers to two-digit share type codes that were used in the CRSP Stock database, in Flat File 1.0 format and earlier formats, and that have received frequent mention in academic research papers, as legacy share type codes. CRSP Stock in Flat File 2.0 format uses several new data items to unpack the information conveyed by the legacy codes, which are no longer included in the database. Eventus internally maps the appropriate combinations of the new data items to the legacy share type codes.

Additional options to specify output dataset locations and names

These older options are still available as alternatives to the Out= option.

Type of Output Dataset	Option
Size decile portfolio returns	Outsas_decile_ts=libref.data_set_name
Size decile portfolio assignment table	Outsas_decile_assign=libref.data_set_name
Industry portfolio returns	Outsas_industry_ts=libref.data_set_name
Industry portfolio assignment table	Outsas_industry_assign=libref.data_set_name
Market-wide return or volume indexes	Outsas_overall=libref.data_set_name