CRSP/COMPUSTAT RELEASE NOTES

APRIL 2020 MONTHLY UPDATE

NEW! CRSP/COMPUSTAT SAS, ASCII, AND R FILES

CRSP is providing new access to our subscribers for the CRSP\Compustat Merged Database (CCM) in SAS, ASCII, and R file formats. These files are intended for use with the CRSP SAS and ASCII stock files and Compustat data files that contain GVKEYs and IIDs.

While a full subscription is required for either, for convenience and efficiency for some users, two packages are available:

- CFZ Complete set of all files
- CLZ Link package a subset of the full CRSP/ Compustat SAS, ASCII and R data files. The set consists only of files used for linking the CRSP and Compustat data. These files are intended for use with the CRSP SAS, ASCII and R stock files and Compustat data files that contain GVKEYs and IIDs.

These files are covered in existing CCM license agreements. To request them for download through CRSP's MOVEit site, please email support@crsp.org or call 312-263-6400, Option 2.

ABOUT THE APRIL 2020 CRSP/COMPUSTAT MERGED DATABASE

The cut date for these release notes is 20200411.

CALENDARS

The CCM database utilizes the CRSP stock calendars to align properly with CRSP data. Data in the CRSP daily Stock (and Indexes) file use daily and annual calendars. Data in the monthly files use monthly, quarterly and annual calendars.

| CALENDAR | DATE RANGE | DATE INDEX RANGE |
|------------------------------|-------------------|---------------------|
| DAILY TRADING CALENDAR | 19251231-20200409 | 1-24862 |
| MONTHLY TRADING CALENDAR | 19251231-20231231 | 1-1189 |
| ANNUAL TRADING CALENDAR | 19251231-20201231 | 1-97 |
| QUARTERLY TRADING CALENDAR | 19251231-20201231 | 1-385 |
| SEMI-ANNUAL TRADING CALENDAR | 19251231-20201231 | 1-193 |
| WEEKLY TRADING CALENDAR | 19260102-20200409 | 1-4919 |

DATABASE CHARACTERISTICS

The following table summarizes general characteristics of the CCM database:

| ATTRIBUTE | CCM FORMAT DATABASE |
|------------------------------------|--|
| SOURCE | COMPUSTAT XPRESSFEED |
| VOLUME LABELS | CMZ20200409 - CRSPACCESS CFZ20200409 - SAS/ASCII/R CLZ20200409 (LINK ONLY) - SAS/ASCII/R |
| DELIVERY | MOVEIT CLOUD |
| CRSPACCESS VERSION | 3.22 AND HIGHER — TS_PRINT CCM_PRINT |
| CRSPSIFT VERSION (WINDOWS ONLY) | YES — ALL CURRENTLY SUPPORTED VERSIONS |
| SASEXCCM ENGINE | VERSION 9.4 |
| С | YES — CA3.22 AND HIGHER |
| NUMBER OF DATA ITEMS | OVER 4,000 QUARTERLY & ANNUAL DATA ITEMS |

| DATABASE PARAMETERS | |
|--|---------------------------------|
| TOTAL COMPUSTAT RECORDS | 50,331 |
| TOTAL GVKEY COMPANIES | 48,133 |
| TOTAL GVKEYX INDEXES | 2,198 |
| TOTAL GVKEY/IID SECURITIES | 62,193 |
| TOTAL CRSP SECURITIES LINKED | 30,086 |
| TOTAL GVKEYS IN LINK | 48,083 |
| TOTAL LINK RECORDS | 105,932 |
| TOTAL LINK RECORDS WITH A LINK TO CRSP | 34,913 |
| DATABASE SIZES | |
| CMZ | 11.70 GB |
| CFZ - ASCII CFZ - SAS CFZ - R | 10.61 GB 29.16 GB 1.42 GB |
| CLZ - ASCII CLZ - SAS CLZ - R | 1.09 GB 1.77 GB 44.69 MB |

APRIL 2020 NEW DATA ITEMS

Listed in the tables below are new data items and new keysets for existing data items that have been added this month.

| ITEM MNEMONIC | ITEM NAME | KEYSET | KEYSET_TAG | DESCRIPTION |
|---------------|---|--------|------------|--|
| RDIPEPSSA_DC | IN PROCESS R&D EXPENSE BASIC EPS EFFECT DATA CODE | 1 | STD | INDUSTRIAL FORMAT, CONSOLIDATED INFORMATION. STANDARDIZED PRESENTATION |

APRIL 2020 LINK EDITS

GVKEY 186607 NEWLINK GENETICS CORP

OLD:

| LINKDT | LINKENDDT | LPERMNO | LPERMCO | LIID | LINKTYPE | LINKPRIM |
|----------|-----------|---------|---------|------|----------|----------|
| 20060101 | 20111110 | 0 | 0 | 00X | NR | С |
| 20111111 | 99999999 | 13111 | 53935 | 01 | LC | Р |

NEW:

| LINKDT | LINKENDDT | LPERMNO | LPERMCO | LIID | LINKTYPE | LINKPRIM |
|----------|-----------|---------|---------|------|----------|----------|
| 20060101 | 20111110 | 0 | 0 | 00X | NR | С |
| 20111111 | 20200318 | 13111 | 53935 | 01 | LC | P |

GVKEY 32889 MENLO THERAPEUTICS INC -OLD

OLD:

| LINKDT | LINKENDDT | LPERMNO | LPERMCO | LIID | LINKTYPE | LINKPRIM |
|----------|-----------|---------|---------|------|----------|----------|
| 20150101 | 20180124 | 0 | 0 | 00X | NR | С |
| 20180125 | 99999999 | 17266 | 56233 | 01 | LC | Р |

NEW:

| LINKDT | LINKENDDT | LPERMNO | LPERMCO | LIID | LINKTYPE | LINKPRIM |
|----------|-----------|---------|---------|------|----------|----------|
| 20150101 | 20180124 | 0 | 0 | 00X | NR | С |
| 20180125 | 20200306 | 17266 | 56233 | 01 | LC | Р |

GVKEY 33137 TIBERIUS ACQU CORP

OLD:

| LINKDT | LINKENDDT | LPERMNO | LPERMCO | LIID | LINKTYPE | LINKPRIM |
|----------|-----------|---------|---------|------|----------|----------|
| 20160101 | 20180328 | 0 | 0 | 00X | NR | С |
| 20180329 | 20180331 | 0 | 0 | 01 | NR | Р |
| 20180401 | 20180409 | 0 | 0 | 01 | NR | С |
| 20180410 | 99999999 | 0 | 0 | 01 | NR | N |
| 20180410 | 99999999 | 17696 | 56304 | 02 | LC | Р |

NEW:

| LINKDT | LINKENDDT | LPERMN0 | LPERMCO | LIID | LINKTYPE | LINKPRIM |
|----------|-----------|---------|---------|------|----------|----------|
| 20160101 | 20180328 | 0 | 0 | 00X | NR | С |
| 20180329 | 20180331 | 0 | 0 | 01 | NR | Р |
| 20180401 | 20180409 | 0 | 0 | 01 | NR | С |
| 20180410 | 20200331 | 0 | 0 | 01 | NR | N |
| 20180410 | 20200317 | 17696 | 56304 | 02 | LC | Р |

GVKEY 34136 CHASERG TECHNOLOGY ACQ

OLD:

| LINKDT | LINKENDDT | LPERMNO | LPERMCO | LIID | LINKTYPE | LINKPRIM |
|----------|-----------|---------|---------|------|----------|----------|
| 20181031 | 20200229 | 0 | 0 | 01 | NR | J |
| 20181030 | 20200331 | 18192 | 56558 | 02 | LC | Р |

NEW:

| LINKDT | LINKENDDT | LPERMNO | LPERMCO | LIID | LINKTYPE | LINKPRIM |
|----------|-----------|---------|---------|------|----------|----------|
| 20181031 | 20200306 | 0 | 0 | 01 | NR | J |
| 20181030 | 20200305 | 18192 | 56558 | 02 | LC | Р |

CHANGES

For subscribers of the existing CCM database, changes to organization of the data has been kept to a minimum. Reviewing the data at the level of detail required to create these files benefits all subscribers through data corrections and cleanup.

CRSP AND COMPUSTAT LINKING

Files include PERMNO and PERMCO fields already associated with GVKEYs and IIDs. Linking information is available for details, but the work is done!

METADATA FILES

Metadata files are included with the SAS, ASCII and R formats:

- D ItemInfo
- D FileInfo
- D_ItemRelationship
- D ItemDensity
- D_KeysetInfo
- D CommonItems
- D FiscalPeriod

DATA ITEM NAMES & DESCRIPTIONS

Item Names have been cleaned. Names exceeding field width have been shortened using conventions. Names are no longer truncated. Typographical errors have been corrected. CRSP has made every effort to make item names match those that are provided by Compustat.

MNEMONICS

CRSP database structure requires that no itemids or mnemonics are duplicated. In cases where there are duplicates, CRSP has modified the mnemonic used to identify the item.

• idx_ Prefixes - all quarterly and annual index items mnemonics have been prepended with "idx_"

- sec_ Prefixes Three items in the SecurityTimeSeriesData table have had prefixes added in order to retain uniqueness:
 - o sec_curcdq ISO Currency Code
 - o sec nisa Net Income (Loss)
 - o sec nisa dc Net Income (Loss) Data Code

TABLE ORGANIZATION

- Annual Balance Sheet data is split into two files:
 - Bal Ann Indl (Industrial)
 - o Bal Ann Fin (Financial Services)
- Income Statement Annual is split into two files:
 - IS Ann Indl (Industrial)
 - o IS Ann Fin (Financial Services)
- New groups
 - Annual Data group Index Annual is new. All items are prefixed with IDX_*
 - Quarterly Data group Index Quarterly is new. All items are prefixed with IDX*_

REFERENCE FILES

Most Compustat reference codes have been consolidated into three files, and eight remained as stand-alone files.

- ReferenceCodes Reference Codes
 - Accounting Standard
 - Acquisition Method
 - Bal Sheet Presentation
 - o Company Status
 - Comparability Status
 - Country
 - o Data Code
 - Data Format
 - Dividend Tax Marker

- Exchange Rate Type
- Footnote
- IC Auditor Opinion
- o Income Statement Model
- Industry Format
- Industry Presentation
- o Issue Status Alert
- Issue Type
- Level of Consolidation
- MIC Reference
- Note Type
- Officer Certification
- Officer Title
- o Oil & Gas Method
- Reason for Deletion
- Sec Fin Ann Footnote
- State/Province
- Status Alert
- Stock Ownership
- Reference Numbers Reference Numbers
 - Auditor
 - Auditor Opinion
 - Cash Flow Format
 - Inventory Valuation
 - Price Status
 - S&P Economic Sector
 - S&P Industry Sector
 - Source Document
 - Stock Exchange
 - Update
- ReferenceNumberswithStatus Reference Numbers with Status
 - Fortune Industry
 - NAICS
 - S&P Industry Index
 - S&P Major Index
 - o SIC
- ReferenceConstituents Constituents
- ReferenceExchchangeTier Exchange Tier

- ReferenceFootnote Footnote
- ReferenceGICS GICS
- ReferenceIndex Index
- ReferenceMajorIndexes Major Index
- ReferenceMarketHoliday Market Holidays
- ReferenceNoteSubtype Note Subtype

FISCAL PERIOD DATE CONVENTIONS

Format of date items used to access fiscal data has changed. YYYY.Q, where Q identifies quarter 1-4, is now presented as and integer YYYYQ. This change allows for this to be a more efficient relational database key for joining tables.

STEPS TO INSTALL:

- From the directory containing your downloaded zip file, right click (in Windows) or run File Roller (in Red Hat)
- Set the extract destination to the current higher level directory where data is normally stored and unzip will add the rest of the path (default is C:\ in Windows or / home in Red Hat)
- For example, in Windows, extracting to C:\ will install the data under C:\crspdata

Contact CRSP Client Services for assistance at: support@crsp.org or call 312-263-6400, Option 2.

SETTING ENVIRONMENT VARIABLES

The zip process will not automatically set environment variables for use with command line tools. The following steps will do so.

NOTE: CRSPSift does not use and therefore does not require environment variables.

LINUX

NOTE: The new zip installs are now saving to directories with lower case letters – for example, ~/crspdata/diz201308

Check the current state of the environment variables by entering this command: env | grep crsp

- If you have admin privileges on your machine, open the .profile file, and make updates to the following lines to update the paths for the new data installed:
 - CRSP_CCM=<full path name>/<compustat directory>
 (example: CRSP_CCM=~/crspdata/cmz201309)
- If you are using the bash shell (or any Bourne-style shell), enter the same commands above and export each one. This will make changes for your current session only and does not save to the .profile file.
- · A shell script is available to make changes that can be

reused for each update done. Note that this will only make changes to your current session and does not save to the .profile file.

- Navigate to where the CUPL tools are loaded and then enter: cd accbin
- o Start the script by entering: ./crsp setup.sh
- The script will prompt for the following:
 - File name (will be appended with .kshrc)
 - Top level directory (this should be where CUPL tools are located (example: ~/crsp)
 - Scratch directory for error messages name can be anything
 - Enter path for daily stock directory (example: ~/crspdata/diz201308)
 - Enter path for monthly stock directory (example: ~/crspdata/miz201308)
 - Enter path for index directory (example: ~/crspdata/ifz201308)
 - Enter path for CCM directory enter to leave blank
 (example: CRSP_CCM=~/crspdata/cmz201309)
 - Enter path for CST directory enter to leave blank
 - Execute script by running: ../<file name created above>.kshrc (note there is a space between the two dots)

WINDOWS:

The CRSP Client Environment utility provides users a way to check the location of the software and to set environment variables. The utility can be started by locating it under installed programs CRSPAccess/CRSP Client Environment, or by navigating to the /accbin folder where the CUPL tools are installed and running: Client_Environment.exe. After making any changes, be sure to log off and back into Windows for the settings to be saved.

Click here to view a copy of the CRSP/Compustat Merged Database Guide.