# Kresge Library Services WRDS Database Subscriptions
**as of Jan. 29, 2018**

**Bank Regulatory:** Database contains five databases for regulated depository financial institutions. These databases provide accounting data for bank holding companies, commercial banks, savings banks, and savings and loans institutions. The source of the data comes from the required regulatory forms filed for supervising purposes.

**Beta Suite by WRDS:** is a powerful web based tool allowing researchers to calculate stocks' loading on various risk factors in a timely way. The tool is designed with flexibly in mind, capable of handling monthly, weekly and daily rolling regression on common set of market risk factors.

**Blockholders:** This dataset contains standardized data for blockholders of 1,913 companies. The data was cleaned from biases and mistakes usually observed in the standard source for this particular type of data. Blockholders' data is reported by firm for the period 1996-2001. The data cleaning procedure is explained in detail by Jennifer Dlugosz, Rudiger Fahlenbrach, Paul A. Gompers, and Andrew Metrick in their study "Large Blocks of Stocks: Prevalance, Size, and Measurement".

**BoardEx:** Access extensive data on the boards of publicly listed and notable private companies of North America.

**Bureau van Dijk:** It is widely recognized as a specialist provider of both public and hard to reach private company information within the academic community. The major data products from Bureau van Dijk that we are subscribed through WRDS are:

- *Amadeus* - It contains comprehensive information on around 21 million companies across Europe
- *ISIS* – ISIS is a comprehensive database of detailed reports on 11,700 public and private insurance companies around the world.
- *Orbis Bank Focus* - Detailed information on 38,000 banks (28,000 US and 10,000 Non-US)
- *Osiris* - Listed and major unlisted/delisted companies globally

**CBOE Indexes:** The CBOE (Chicago Board Options Exchange) Volatility Index® (VIX®) is a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices. The Vix Index was introduced in 1993 by Professor Robert E. Whaley of Duke University in his paper "Derivatives on Market Volatility: Hedging Tools Long Overdue," Journal of Derivatives 1 (Fall 1993), pp. 71-84. Since then, VIX has been considered by many to be the world's premier barometer of investor sentiment and market volatility.

The New VIX still measures the market's expectation of 30-day volatility, but in a way that conforms to the latest thinking and research among industry practitioners. The New VIX is based on S&P 500 index option prices and incorporates information from the volatility "skew" by using a wider range of strike prices rather than just at-the-money series.

**Compustat**: It is a database of financial, statistical and market information on active and inactive global companies throughout the world. The annual company data history available back to 1950 and quarterly data available back to 1962

**CRSP:** The Center for Research in Security Prices maintains the most comprehensive collection of security price, return, and volume data for the NYSE, AMEX and Nasdaq stock markets.
Additional CRSP files provide stock indices, beta- and cap-based portfolio, treasury bond and risk-free rates, and mutual fund databases.

**DMEF Academic Data:** Four individual data sets, each containing customer buying history for about 100,000 customers of nationally known catalog and non-profit database marketing businesses are available through DMEF to approved academic researchers for use within academic situations.

**Dow Jones:** The Dow Jones Averages are comprised of The Daily and Monthly Dow Jones Composite (DJA), as well as The Dow Jones Industrial (DJI), The Dow Jones Transportation (DJT), The Dow Jones Utility (DJU), The Dow 10, and The Dow 5. The Dow Jones Industrial Average, the best known U.S. stock index, and the Dow Jones Transportation Average, the oldest U.S. stock index were created by Charles Henry Dow, co-founder of Dow Jones & Company, and maintained and reviewed by the editors of The Wall Street Journal. Dow Jones Indexes is the source of Dow Jones information and the provider of this data.

The Dow Jones Total Return Indexes are introduced by Dow Jones Indexes as part of the Dow Jones Total Market Index Series. The Total Return Indexes account for reinvested dividends. Data for the Total Return Indexes is available after 1987.

**Efficient Frontier by WRDS:** This is an interactive tool to learn how risk and return characteristics change as stocks are added and removed from a hypothetical portfolio. The application is designed to help you visualize key concepts in diversification and portfolio optimization as you manipulate portfolio parameters and observe the results.

**Event Study by WRDS:** The event studies are widely used by empirical researchers in finance, economics, accounting, law, and other business disciplines to analyze the market reaction to firm specific and market-wide events using either returns or volume around the time when event occurred.

Some examples include: earnings announcements, M&As, new capital issues, and announcements of macroeconomic variables (unemployment or trade deficit), measure impact on the value of a firm resulting from a change in the regulatory environment, or to assess the damages.

**Eventus:** Eventus performs event studies using data read directly from CRSP stock databases or pre-extracted from any source. The Eventus system includes utility programs to convert calendar dates to CRSP trading day numbers, convert CUSIP identifiers to CRSP permanent identification numbers, and extract event study cumulative or compounded abnormal returns for cross-sectional analysis.

Eventus provides user control over estimation periods and cumulative return windows, a choice of raw, comparison period mean adjusted, market adjusted or market model abnormal returns. Simple statements allow the researcher to run a complete event study, from reading the CRSP stock database to print results, with a program as short of as four lines.

WRDS has created several Eventus web queries that allow the user to execute different Eventus programs without the need of knowing the details about Eventus syntax. Below is a short description of the web queries that are available:

- Basic Event Study includes four of the most common event Studies:
    - Basic Event Study (Daily and Monthly) executes an event study with daily or monthly data centered on a single date for each firm. It is the most common and simple event study.
        - Fama French Basic (Daily and Monthly) executes an event study that uses the Fama French factors as benchmark.
- Eventus Alternative runs an event study using either the "Calendar-time Portfolio" or the "Ibbotson Rats" Approach both for the market model and the Fama-French Approach.
- Output for Cross-sectional Analysis web query produces a SAS dataset containing the cumulative abnormal return for each firm and specified window for further cross-sectional analysis.
- Event Parameter Approach web query performs a joint estimation of the parameters And the abnormal returns.

**Fama French & Liquidity Factors:** The Fama-French Portfolios are constructed from the intersections of two portfolios formed on size, as measured by market equity (ME), and three portfolios using the ratio of book equity to market equity (BE/ME) as a proxy for value. Returns from these portfolios are used to construct the Fama-French Factors. Eugene Fama and Kenneth French showed that their factors capture a statistically significant fraction of the variation in stock returns (see "Common Risk Factors in the Returns on Stocks and Bonds", Journal of Financial Economics 33, 1993). The Fama-French data source is [Kenneth French's website](#) at Dartmouth .

The Pastor-Stambaugh Liquidity series are described by L. Pastor and R. F. Stambaugh in "[Liquidity risk and expected stock returns](#)" (2003, Journal of Political Economy 111, 642-685). This set includes 'non-traded' and 'traded' liquidity factors, with the latter series derived from dividing common stocks (in the CRSP monthly stocks file data) into 10 groups based on each stock's sensitivity to the 'non-traded' liquidity innovation factor (as described in the paper).

The Sadka Liquidity measures are described in R. Sadka in "[Momentum and Post-Earnings-Announcement Drift Anomailes: The Role of Liquidity Risk](#)" (2006, Journal of Financial

Economics 80, 309-349). The measures are non-traded, market-wide, undiversifiable risk factors. Price impact is separated into permanent (variable) and transitory (fixed) price effects.

**Federal Reserve Bank:** The Federal Reserve Bank Reports in WRDS contain three databases collected from Federal Reserve Banks: two of them come from Reports published from the Federal Reserve Board; the other one comes from the Federal Reserve Bank of Philadelphia.

Foreign Exchange Rates (Federal Reserve Board's H.10 Report). The WRDS FX database is based upon the Federal Reserve Board's H.10 release and contains Foreign Exchange rates for over 30 world currencies and trade-weighted indices. WRDS carries all of these FX rates in currency units per U.S. dollar (e.g. yen/$ and a few are also available in "inverted form" (e.g. $/pound).

Interest Rates (Federal Reserve Board's H.15 Report). The WRDS RATES database is based upon the Federal Reserve Board's H.15 release that contains selected interest rates for U.S. Treasuries and private money market and capital market instruments. All rates are reported in annual terms. Daily figures are for Business days and Monthly figures are averages of Business days unless otherwise noted.

FRB-Philadelphia State Indexes. A set of coincident indexes for the 50 states has been developed at the Federal Reserve Bank of Philadelphia, based on a national coincident index methodology developed by James Stock and Mark Watson. For details and documentation on the development of the state indexes, see Theodore Crone, "Consistent Economic Indexes for the 50 States " Federal Reserve Bank of Philadelphia, Working Paper 02-7, May 2002.

**Financial Ratios Suite by WRDS:** WRDS Financial Ratio is a latest addition to the WRDS analytics platform. It's a web based engine that delivers over 70 pre-calculated financial ratios for all U.S. companies across eight different categories (Valuation, Liquidity, Profitability, and etc). Researchers can easily obtain both firm-level and industry-level ratios through point-and-click on the web query. This product can be used by researchers as a convenient tool to obtain firm-level and/or industry-level ratios as characteristics for controls in empirical research.

**IBES:** The Institutional Brokers Estimates System provides consensus and detail forecasts from security analysts, including earnings per share (EPS), revenue, cash flow, long-term growth projections and stock recommendations. IBES also provides management forecast (guidance) estimates for a variety of measures including EPS.

**IHS Global Insight:** IHS Global Insight offers the most comprehensive economic coverage of countries, regions and industries available from any source. Their collection of U.S. and international financial, economic and industry data is complimented by more than 225 analysts, researchers and economists whose expertise covers over 120 industries and 200 countries.

**Institutional Shareholder Services (ISS):** ISS' special focus and commitment to meeting the needs of academics involves several key extra-financial datasets, delivering insights to help

researchers examine governance risk and understand key issues or trends in the areas of board, compensation, shareholder proposals, institutional voting records and shareholder meeting results. ISS' key delivery platform for academics is provided through Wharton Research Data Services (WRDS).

**ISSM:** The Institute for the Study of Security Markets (ISSM) database contains tick-by-tick data covering the NYSE and AMEX between 1983 and 1992, and NASDAQ between 1987 and 1992. Each year of data is divided into two files, one for trades and one for quotes.

**Linking Suite by WRDS:** The WRDS Linking Suite allows our users to easily download link table between various heavily used databases on WRDS platform:

- Bond CRSP Link allows users to directly link fixed income data at the individual bond level to
  the equity data from the CRSP database.
- IBES CRSP Link provides the historical matching of IBES TICKER with CRSP PERMNO.
- Option Metrics CRSP Link provides the link between OptionMetrics SECID and CRSP PERMNO

**MFLINKS:** The MFLINKS tables provide a reliable means to link CRSP Mutual Fund (MFDB) data that covers mutual fund performance, expenses, and related information to equity holdings data in the Thomson Reuters Mutual Fund Ownership data (formerly known as the CDA S12 data). Using MFLINKS allows a researcher to gather detail on holdings either for particular funds or fund families and groups of funds at specific points in time.

**MSRB:** The Municipal Securities Rulemaking Board's (MSRB) municipal market trade data are available to support the study of recent and historical municipal securities price trends, trade frequency and other characteristics of municipal bond transactions.

**Option Metrics:** OptionMetrics is the premier provider of historical options data for use in empirical research and econometric studies. Quantitative researchers and financial professionals leverage OptionMetrics data for purposes such as analyzing market movement before mergers and acquisitions; exploring the relationship between option prices and daily stock return serial correlation; and investigating possible cases of insider trading.

**Option Suite by WRDS:** Option and equity level indicators derived from underlying option pricing data.

**OTC Markets:** Access the most comprehensive closing quote, trade and security reference data for securities trading on the OTCQX, OTCQB, and OTC Pink Marketplaces

**Penn World Tables:** The Penn World Tables provides national income accounts-type of variables converted to international prices. The homogenization of national accounts to a common numeraire allows valid comparisons of income among countries. Data comes from

Alan Heston, Robert Summers and Bettina Aten, Penn World Table Version 6.1, Center for International Comparisons at the University of Pennsylvania, October 2002.

**Peters and Taylor Total Q:** Extract data on firms' "Total q" ratio and the replacement cost of firms' intangible capital.
Researchers must currently have access to Compustat.
• Total q = improved Tobin's q proxy that includes intangible capital in the denominator

• Compustat firms, 1950 – 2015

**PHLX:** The [Philadelphia Stock Exchange](#) founded in 1790 is the oldest organized stock exchange in the nation. As one of North America's primary marketplaces for the trading of stocks, equity options, index options and currency options, the PHLX continues to be a market leader in the development and introduction of innovative new products and services.

The PHLX trades more than 2,800 stocks, 740 equity options, 12 sector index options and 100 currency pairs. On the equity floor, PHLX's PACE (Philadelphia Automated Communication and Execution) system was one of the first automated equity trading systems on any exchange. The PHLX's Semiconductor Sector (SOX) Index Option has become one of the most actively traded sector index options offered by any exchange and serves as a widely quoted benchmark of the high-tech industry. Additionally, the Oil Service Sector (OSX) is the industry's most successful new sector index option. Furthermore, the PHLX's Gold/Silver Sector (XAU), KBW Bank Sector (BKX) and Utility Sector (UTY) are established in a highly competitive environment of other indices as leading industry indicators.

In perhaps one of the most important innovations since listed currency options themselves, the PHLX has created a unique market structure for the trading of currency options. Titled the United Currency Options Market (UCOM), it provides unprecedented flexibility and the availability of both standardized and customized currency options. Customized currency options offer choice of expiration date, strike (exercise) price, premium payment and any combination of 10 currencies currently available for a total of 100 possible currency pairs.

**Public:** Public data on WRDS comes from a variety of sources in the public domain. WRDS converts the data into a consistent format and updates it on a regular basis. The databases are organized into content areas. Our growing collection currently includes:

● Macro Economics
  ○ BEA - Bureau of Economic Analysis. [www.bea.gov](http://www.bea.gov) . WRDS publishes the top series on GDP, Consumer Spending, and other national accounts.
  ○ BLS - Bureau of Labor Statistics. [www.bls.gov](http://www.bls.gov) . WRDS publishes the top series from each of the main surveys, including the CPI, PPI, CES, and others.

● Healthcare

- ○ HCUP - Healthcare Cost and Utilization Project. www.ahrq.gov/research/data/hcup . WRDS publishes data from the National Inpatient Sample. It examines individuals as patients, covering information about procedures and diagnoses during hospital inpatient stays and emergency department visits.
- ○ MEPS - Medical Expenditure Panel Survey. www.ahrq.gov/research/data/meps .WRDS publishes selected Household tables which examine individuals as consumers, covering insurance coverage, and the use and cost of health services. WRDS also publishes Insurance tables, covering employers in the private sector and state and local governments on the health insurance coverage offered to their employees.

**RavenPack News Analytics:** RavenPack analyzes unstructured content from thousands of publications to extract information on named entities and financially relevant events in the public eye.

**Research Quotient:** Research Quotient = percentage increase in revenue from a 1% increase in R&D. RQ is the output elasticity of R&D. RQ offers a universal, uniform, and reliable measure of a firm's R&D productivity.

**SAS Visual Analytics:** provides a complete platform for analytics visualization, enabling you to identify patterns and relationships in data that weren't initially evident. Interactive, self-service business intelligence and reporting capabilities are combined with out-of-the-box advanced analytics so everyone can discover insights from any size and type of data, including text. Using source data from CRSP, WRDS has prepared a demonstration visualization with SAS Visual Analytics, detailing the Beta and R Squared of selected S&P 500 stocks. Please take a look by clicking on the 'SAS Visual Analytics - Beta Suite Visualization' link below.
Your institution must subscribe to CRSP Annual Stock in order to have access to this demonstration.

**SEC Order Execution:** On November 15, 2000, the SEC adopted new rules aimed at improving public disclosure of order execution and routing practices. As a result of Rule 11Ac1-5, market centers that trade national market system securities must make monthly, electronic disclosures of basic information concerning their quality of executions on a stock-by-stock basis, including how market orders of various sizes are executed relative to the public quotes and information about effective spreads - the spreads actually paid by investors whose orders are routed to a particular market center. In addition, market centers must disclose the extent to which they provide executions at prices better than the public quotes to investors using limit orders.

Data is available on WRDS through 2005, and is no longer updated.

**Thomson Reuters:** Michigan is subscribed to the following 4 databases from Thomson Reuters company:

- *Mutual Fund Holdings (s12)*
- *Institutional Holdings (s34)*
- *Insiders Data*: The Thomson Reuters Insider Filing Data Files are designed to capture all insider activity as reported on SEC (U.S. Securities and Exchange Commission) forms 3, 4, 5, and 144.
- *DealScan*: This database contains information on global commercial loan market. It also provides contract information for high yield bonds, private placements and hybrid financial structures.

**TRACE:** Trade Reporting and Compliance Engine is FINRA's over-the-counter (OTC) corporate bond market real-time price dissemination service. Bringing transparency to the corporate bond market, it helps create a level playing field for all market participants by providing comprehensive, real-time access to corporate bond price information.

Introduced in July of 2002, TRACE consolidates transaction data for all eligible corporate bonds - investment grade, high yield and convertible debt. As a result, individual investors and market professionals can access information on 100 percent of OTC activity representing over 99 percent of total U.S. corporate bond market activity in over 30,000 securities.

The TRACE Historical Time and Sales data is available through WRDS. The information collected and disseminated for all publicly traded corporate bonds by TRACE includes the time of execution, price, yield, and volume.

For more information regarding TRACE, visit the FINRA TRACE homepage.

**World Indices by WRDS:** Country total return indices (with dividends). 40+ countries. Daily and monthly frequencies.