WRDS E-Learning Session

Tutorial of Financial Datasets on WRDS – I

Major Financial Databases

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November 6, 2009
Welcome to WRDS E-Learning. Please use the following Webex guidelines:

• Ask Questions via the “Chat” Window.

• Audio problems? Disconnect and call in using one of the toll free numbers listed in the reminder email.
Agenda

• What is WRDS?

• Sources of Financial Data

• Overview of Compustat, CRSP, and IBES Data

• WRDS Tools and Support: How to Get the Help You Need?

• How Can Researchers Use WRDS More Efficiently?
WRDS Overview

• Single and flexible source to extract data from leading research databases
  – Variety of disciplines: Accounting, Finance, Economics, Banking, Insurance, Marketing, Statistics, +
  – Standardized web queries: Every database webpage has the same format: query + variable documentation + list of manuals, overviews, & research applications
  – Ideal for Data linking: e.g. CRSP (stock prices, dividends, splits), Matching CRSP and COMPUSTAT, Linking IBES and CRSP Data, + Merging sample programs

• Extensive research and technical support
  – Online help (variable definitions, data sources, equations, manuals, tutorials, sample programs, FAQs), & email support
  – Data Overviews, Research Applications, Knowledge Base, and Forums@WRDS
Financial Information by Source

**Accounting Data**
*Compustat & others*
- BS, IS, and CF numbers from 10-K, 10-Q filings
- Quarterly and Annual Freqs (observed with lags)
- Financial, Accounting, and Industry Specific Data (e.g. SSS, Verified Oil Reserves), Financial Services Data
- Executive Compensation Data

**Market Data**
*CRSP, OptionMetrics, & others*
- Prices and Returns of equities and bonds
- Shares Outstanding, Volume, and Market Capitalization
- Historical Data, no selection or survival biases
- Prices (NAVs) and Returns of REITS and Closed end funds
- Prices, Volumes, and Implied Volatilities of traded Options
- Bond Prices, Returns, and Ratings (S&P Ratings, FISD, Trace)

**Sell-Side Analysts (brokers)**
*IBES, FirstCall, & others*
- Analyst expectations about companies future Earnings (future EPS, g(sales), or SSS)
- Valuation assessments: Recommendations, Price Target (and management guidance *(FirstCall))*
- Revisions and new estimates on daily frequency

**Ownership Data**
*Thomson Reuters’ Ownership Data*
- Ownership by companies’ insiders and large blockholders
- Aggregate Ownership by institutions with >$100million in discretionary assets , at the security level (e.g. hedge funds, mutual funds – Vanguard Group)
- Ownership by mutual fund management companies, at the fund level (e.g. Vanguard S&P500 Index Fund, etc...)

**Exchanges, &...**
*SEC EDGAR, IAPD,...*

*Sell-Side Analysts (brokers)*
*Accounting Data*
Data on WRDS – Easy and Flexible Extracts
S&P’s Compustat
Accounting and Financial Data

- Compustat North-America: U.S. and Canadian fundamental and market information on around 31,000 active and inactive publicly held companies, from 1950-present.

- Compustat Global: fundamental, market, and currency data for more than 30,000 publicly traded companies in global markets (>80 countries), from 1988-present.

- Fundamental data available on an annual and quarterly frequencies with thousands of Income Statement, Balance Sheet, Statement of Cash Flows, and supplemental & industry-specific data items.

- Market data available on a monthly and daily frequencies with Prices, Dividends, Returns, Trading Volume, Shares Outstanding and Short-Interest Information.

- Information on Indices, Segments, Banks, Incentive plans, Pension Data Items, as well as: Executive Compensation and S&P Credit Ratings Xpress.

- In the summer of 2007, WRDS adopted the Xpressfeed format of Compustat North America, containing more details on a wider array of companies.
Compustat Example – Live Demo

- Get Current Assets, Inventories, and Long-Term Debt for Microsoft, Dell, and IBM between Jan 2000 and April 2009

http://wrds-web.wharton.upenn.edu/wrds/ds/comp/funda/index.cfm
WRDS Support: Compustat

• Overview to Compustat XPressfeed Database, FAQs, and WRDS Reference Materials
  http://wrds-web.wharton.upenn.edu/wrds/support/Data/_001Manuals%20and%20Overviews/_001Compustat/index.cfm

  For more about this dataset, see the Variable Descriptions, Dataset List, Manuals and Overviews or FAQs.

• Comprehensive Dataset and Variable List
  http://wrds-web.wharton.upenn.edu/wrds/support/Data/_002Dataset%20List.cfm?dataVendor=comp

• Financial Statements, S&P 500 Index Constituents, and other Tools:
  http://wrds-web.wharton.upenn.edu/wrds/aux_/finstate/indexqtr.cfm
  http://wrds-web.wharton.upenn.edu/wrds/ds/comp/spindex/index.cfm

• Sample Programs: extracts, filing dates, portfolios, earnings surprises, # of segments, etc.
  http://wrds-web.wharton.upenn.edu/wrds/support/Data/_003Sample%20Programs/Compustat/index.cfm

• Research Applications: book-to-market, linking, etc.
  http://wrds-web.wharton.upenn.edu/wrds/support/Data/_004Research%20Applications/index.cfm
CRSP

Stock Market Data

- Center for Research in Security Prices (CRSP) is a research center at the Booth School of Business of the University of Chicago

- Comprehensive collection of daily and monthly security price, return, and volume data for the NYSE, AMEX and NASDAQ stock markets

- Daily and Monthly data for roughly 28,000 securities of Domestic companies and ADRs traded on major exchanges (no OTC), from 1925–present

- Complete historical information (bias-free):
  - Accurate accounting of special distributions and stock splits in return calculation
  - Keep delisting companies (pre-M&A or bankruptcies), and delisting returns

- Additionally provide stock indices, beta- and cap-based portfolios, treasury bond and risk-free rates, CRSP/Compustat Merged Database, REITs, and mutual fund databases
1. Get monthly prices, return and volume information for Microsoft and Ford from 1925 to 2008

2. Find all stocks that were trading in NYSE at the end of November 1929, and get their month-end prices, return and volume information

Basic CRSP Structure

Monthly Security Data

CRSP

Security Data
- Stock Data
- Event Files

Other Market Data
- CRSP-Compustat Merged Product (CCM)
- CRSP Mutual Fund Database
- CRSP Ziman REITs Database

Other Products:
- Indices and Decile Portfolios
- Treasuries and Inflation
WRDS Support: CRSP

- Comprehensive Dataset and Variable Lists, FAQs, Manuals & Data Guides
  - [Link](http://wrds-web.wharton.upenn.edu/wrds/support/Data/_002Dataset%20List.cfm?dataVendor=crsp)
  - [Link](http://wrds-web.wharton.upenn.edu/wrds/support/Data/_001Manuals%20and%20Overviews/_002CRSP/index.cfm)

- Linking CRSP-Compustat Data (with and without CCM Product)
  - [Link](http://wrds-web.wharton.upenn.edu/wrds/support/Data/_001Manuals%20and%20Overviews/_002CRSP/index.cfm)

- Tools: Returns + Decile Assignments, Translate to PERMNO/PERMCO, Mutual Fund Returns & Fama-French, Market Indices, Events and Names
  - [Link](http://wrds.wharton.upenn.edu/home/tools.shtml)

- Sample Programs: Data Extracts, CCM and merging by CUSIP, Calculate CAPM beta, Excess returns, Portfolio formations, plots, Event studies, Mutual fund data
  - [Link](http://wrds-web.wharton.upenn.edu/wrds/support/Data/_003Sample%20Programs/CRSP/index.cfm)

- Research Applications: Compounded returns, Momentum and Governance Portfolios, Rolling Regressions, Beta Estimation, Event Studies etc.
  - [Link](http://wrds-web.wharton.upenn.edu/wrds/support/Data/_004Research%20Applications/index.cfm)
Thomson Reuters’ IBES
Analyst Forecast Data

• Analysts earnings and sales forecasts (+), consensus estimates, and Buy/Hold/Sell Recommendations

• Comprehensive Global Coverage: Domestic and International public companies from 1980–present

• Features up to 26 forecast measures including GAAP and pro-forma EPS, revenue/sales, net income, ROA, ROE, pre-tax profit and operating profit, EBIDTA, etc.

• Company identifying information and exchange rates

• NEW data on price targets, company level footnotes and restated actuals (all in detailed and summary formats)
IBES Example – Live Demo

- Get price target data for Lehman Brothers between July - Sep 2008 (e.g., value, horizon, announcement date, analyst name)

http://wrds-web.wharton.upenn.edu/wrds/ds/ibes/ptgdet/index.cfm
Basic IBES Structure

IBES

Adjusted
- Detail
- Summary

Unadjusted
- Detail
- Summary

Recommendations
WRDS Support: IBES

• Detailed overview of IBES and empirical issues

• Linking IBES and CRSP
  http://wrds-web.wharton.upenn.edu/wrds/support/Data/_005Linking%20Databases/_000Linking%20IBES%20and%20CRSP%20Data.cfm

• Important updates on data quality and changes to IBES vintages

• Sample programs and Research Applications: Calculate earnings surprises, work with unadjusted data, link recommendations and estimates, and many more
  http://wrds-web.wharton.upenn.edu/wrds/support/Data/_003Sample%20Programs/I-B-E-S/index.cfm
Other Popular Databases on WRDS

• NYSE’s Trades And Quotes (TAQ) Database: High-frequency data 1993-2009
  – Intraday trades and quotes for all securities on US Exchanges
  – How to work with TAQ: [WRDS TAQ Research Applications](#)

• Thomson Reuters Ownership Databases: 13F, Mutual Funds, Insiders
  – Institutional Ownership
  – Research Notes: Computing Institutional Ownership Ratios and Concentration.

• RiskMetrics’ Governance, and KLD Social Rating datasets:
  – Governance Provisions: Dual Class, Poison Pills, and other antitakeover provisions
  – Board of Directors information
  – Shareholder Proposals and voting records
  – KLD Social and Environmental Records

• S&P Credit Ratings Xpress, TRACE and FISD Bond Data

• Free Datasets (CBOE Indexes, DJ Averages, Fama-French, Liquidity factors)
WRDS Tools: Company & Variable Search

Company search tool
http://wrds.wharton.upenn.edu/cgi-bin/tools/lookupcomp.cgi

Allows users to search for a company by CUSIP, Ticker or company name across a host of different databases on WRDS (CRSP, Compustat, Thomson, TAQ, Insiders, etc)

Variable search tool
http://wrds.wharton.upenn.edu/cgi-bin/tools/lookupvar.cgi

Allows users to search for a given variable within either variable name or label or both across a wide range of various databases on WRDS (CRSP, Compustat, IBES, TAQ, Global Insight, etc)
How to Get Support
Research and Technical Support

- Online Help (24/7)
  - Database Manuals plus additional support documentation
  - Data Overviews: http://wrds.wharton.upenn.edu/support/dataoverview.shtml
    e.g. OptionMetrics Overview
  - Research Applications: http://wrds.wharton.upenn.edu/support/researchapp.shtml
    e.g. Portfolio Construction, Event Studies
  - Sample Programs: http://wrds.wharton.upenn.edu/support/dslist/dsl.shtml
    e.g. Merging CRSP and Compustat
  - Variable Search: http://wrds.wharton.upenn.edu/cgi-bin/tools/lookupvar.cgi
    e.g. Compensation
  - Company Search: http://wrds.wharton.upenn.edu/cgi-bin/tools/lookupcomp.cgi
    e.g. Microsoft

- WRDS Knowledge Base: FAQ archive of answers to common user questions
  http://wrds.wharton.upenn.edu/cgi-bin/mywrds/knowledgebase.cgi
  e.g. How to find IPO data

- FORUMS@WRDS: Interactive users’ questions and suggestions
  http://forum.wharton.upenn.edu/forums/
  e.g. Fama and MacBeth Regressions

- Email support at wrds-support@wharton.upenn.edu (Monday-Friday, 9a-5p EST)
Researchers and Technical Experts ready to assist with:
  - Data extraction, merging, and management.
  - Programming and technical problems
  - Other research concerns
Thank you for attending this WRDS E-Learning session. Please look for an email from us with a link to the course materials used in this session.

If you have any questions about the material covered in this session, please email wrds-support@wharton.upenn.edu

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