



The Global Standard for Business Research

# wrds

WHARTON RESEARCH DATA SERVICES

## WRDS使用培训

安徽财经大学

May 17, 2023 by Erica Zhang

# 主要内容

1. WRDS介绍
2. WRDS平台注册及已开通数据介绍
3. 数据检索方式及提取示范
4. WRDS科研支持
5. 联系我们

# 关于WRDS

- ✓ Wharton Research Data Services
- ✓ 宾夕法尼亚大学沃顿商学院
- ✓ 云端数据研究平台



# WRDS的主要功能

- **丰富的数据选择**：WRDS 让用户能从单一平台和入口获取超过 350 TB的数据，且数据已进行清洗并以标准化格式呈现给用户，其中涵盖金融、会计、经济、银行、保险、营销、统计和医疗等领域，包含科研领域常用的标普 Compustat、CRSP、路孚特等数据；
- **灵活的访问形式**：实现随时随地远程访问，访问形式包括网页形式下载（无需任何编程基础）和基于SAS/Python/R/Stata/Matlab的API接口；
- **强大的数据管理平台**：WRDS 提供用户大批量下载及处理数据的空间储存和运算能力，可以避免大批量下载的限制，并且实现使用机器语言代替手工反复操作，极大的提高研究效率；
- **科研后备支持**：提供经典论文的复制性研究，及丰富的模板和范例程序套件；
- **教学支撑**：教师可利用WRDS平台进行数据模型实操演示，并可开通班级账号以供全班学生使用和进行课后练习。

# WRDS全球用户



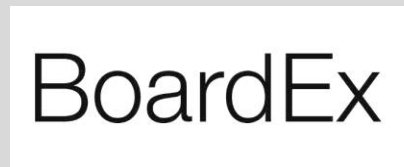
38 国家和地区  
500+ 客户，涵盖高等院校、政府监管机构、  
公司企业和非营利机构  
75,000+ 注册用户

# WRDS中国大陆用户

|            |            |
|------------|------------|
| 北京大学       | 上海交通大学     |
| 清华大学       | 上海高级金融学院   |
| 长江商学院      | 上海财经大学     |
| 人民大学       | 对外经贸大学     |
| 南开大学       | 中欧商学院      |
| 哈尔滨工业大学    | 宁波诺丁汉大学    |
| 南方科技大学     | 西交利物浦大学    |
| 香港中文大学（深圳） | 浙江大学       |
| 北大汇丰商学院    | 南京大学       |
| 厦门大学       | 西南财经大学     |
| 中国科学技术大学   | 闽江学院新华都商学院 |
| 中央财经大学     | 广西大学       |
| 安徽财经大学     | 深圳大学       |
| 温州肯恩大学     | 复旦大学管理学院   |

# WRDS数据合作商

以下为WRDS部分合作商



# WRDS金融领域相关常用数据库

## Financial Statements

Bureau van Dijk: Amadeus, Bankscope, ISIS, and OSIRIS  
Capital IQ Compustat Fundamental  
Capital IQ Compustat North America Annual & Quarterly  
Capital IQ Compustat Global Fundamentals  
Capital IQ Compustat Segments  
Capital IQ Compustat Point-in-Time Fundamental  
CRSP CRSP Compustat Merged (CCM)  
Factset

## Stock Market Data

CRSP Stock Monthly & Daily  
Capital IQ Compustat EMDB  
Capital IQ Compustat North American Prices  
Capital IQ Compustat Global Prices  
London Share Price Data (LSPD)  
NYSE Euronext TAQ  
OptionMetrics  
Market Factors & Indices

## Earnings Forecast & Ratings

Thomson Reuters IBES  
S&P Ratings Express  
Zacks

## Fixed Income & Loan Data

CRSP Treasuries  
GOVPX  
Mergent FISD and NAIC  
Thomson Reuters DealScan  
TRACE  
Markit CDS

## Corporate Governance

Capital IQ Compustat Execucomp  
Corporate Library  
RiskMetrics  
KLD

## Ownership Data

CRSP Mutual Funds  
HFR  
Thomson Reuters Insiders  
Thomson Reuters 13F  
Thomson Reuters Mutual Funds  
WRDS MFLINKS

## WRDS SEC Analytics Suite

WRDS SEC Filing  
WRDS CIK Linking Tables  
WRDS Filing Exhibits  
WRDS 8-K Items

## Other Databases

Global Insight Economics  
Global Insight Commodities  
Global Insight Market Indices  
Call Reports  
Bank Holding Company Reports

更多数据请访问 [Browse Data by Concept](#)



# WRDS最近上线数据



Datastream & ESG



Pitchbook Private Equity Data



Preqin Private Equity and Venture Capital Data

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**S&P Global**

Market Intelligence

Trucost ESG

WRDS平台注册

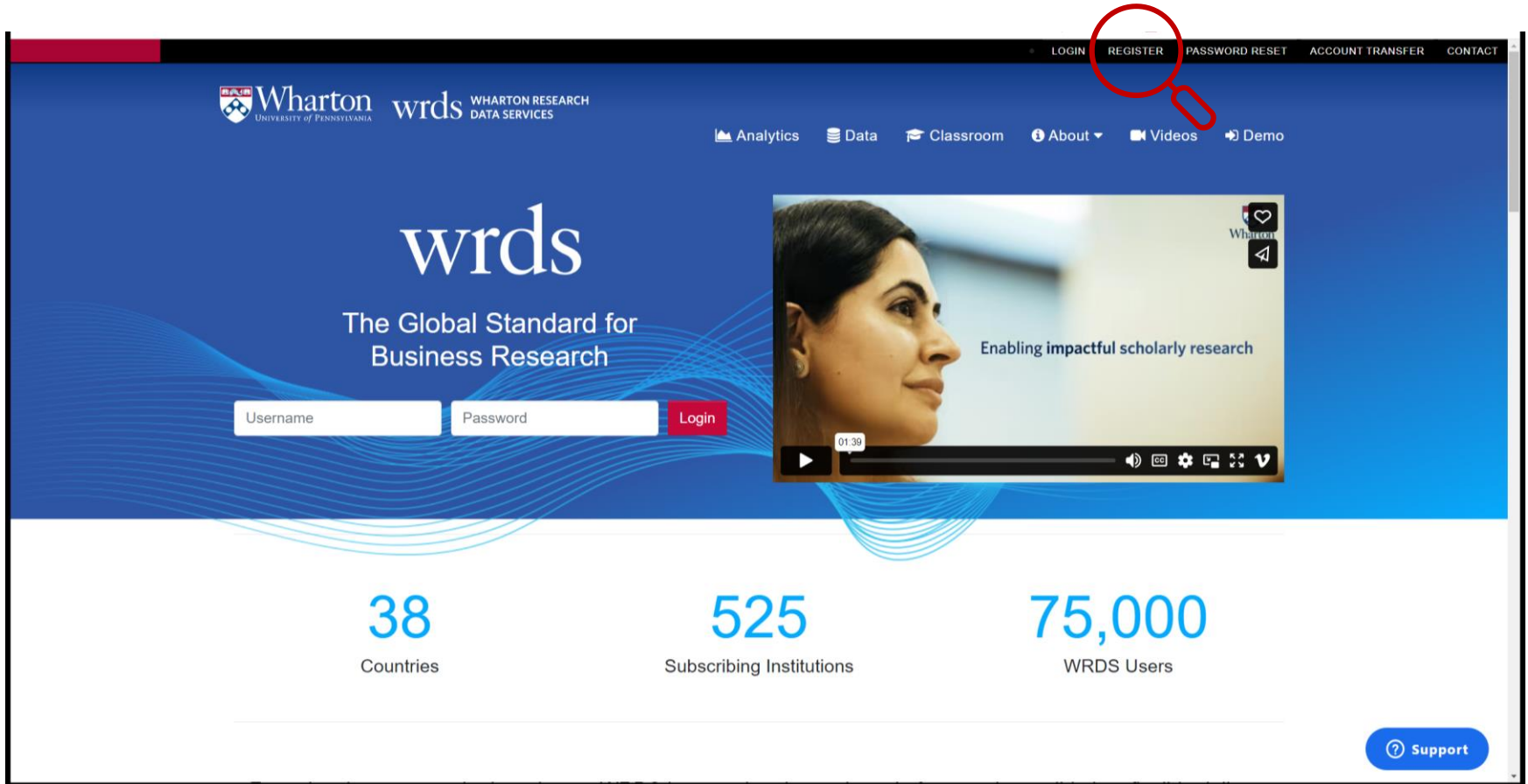
&

安徽财经大学已开通数据介绍

# WRDS账号注册

<https://wrds-www.wharton.upenn.edu/>

点击 REGISTER



The screenshot shows the WRDS website homepage. At the top right, the navigation menu includes LOGIN, REGISTER, PASSWORD RESET, ACCOUNT TRANSFER, and CONTACT. The REGISTER button is circled in red. Below the navigation, there are links for Analytics, Data, Classroom, About, Videos, and Demo. The main content area features the WRDS logo and the tagline "The Global Standard for Business Research". There is a login form with fields for Username and Password, and a Login button. A video player is embedded on the right side of the main content area, showing a woman's profile and the text "Enabling impactful scholarly research". At the bottom, there are three statistics: 38 Countries, 525 Subscribing Institutions, and 75,000 WRDS Users. A Support button is located in the bottom right corner.

Wharton UNIVERSITY OF PENNSYLVANIA wrds WHARTON RESEARCH DATA SERVICES

Analytics Data Classroom About Videos Demo

wrds

The Global Standard for Business Research

Username Password Login

Enabling impactful scholarly research

38 Countries

525 Subscribing Institutions

75,000 WRDS Users

Support

# WRDS账号注册

## Register for WRDS

Username

Please choose a username.

Required. Usernames must be 4 to 15 characters long; begin with a letter; contain only lowercase ASCII letters, numbers, and/or underscores; and must not begin with pg\_.

Password

Please choose a password.

- Your password must contain at least 12 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.
- Passwords may contain only ASCII letters, numbers, spaces, and punctuation characters: `~!@#\$%^&\*()=-\_+[]{}|:;'.<>?

Password confirmation

Please choose a password.

Enter the same password as before, for verification.

First name

Last name

Email address

Please enter your institutional email address.

Subscriber

User type

The account type of this user.

Expiration date

Department

Captcha

I'm not a robot

reCAPTCHA  
Privacy - Terms

By submitting this form, you accept the Terms of Use .

### User Type:

按照个人身份选择相应选项

- Faculty
- Ph.D
- Research Assistant
- Staff
- Masters/Undergraduate
- Class



提交申请后将由WRDS管理员审批账号申请，并在审批通过后邮件告知。



# WRDS双因子认证 (2FA)

首次登陆时，用户需根据提示进行双因子认证 (2FA)。双因子认证增加了第二层安全，即使密码泄露，也能保证您的账户安全。用户可通过Duo App（苹果用户）或短信验证方式进行双因子验证。

如果您使用相同的电脑、相同的浏览器和相同的IP地址登录WRDS，并且不清除您的cookies，系统将记住您**30天**。30天后，将提示您重新认证。

## WRDS launches Two-Factor Authentication (2FA) ✕

WRDS Two-Factor Authentication (2FA) by Duo Security will launch for all SSH connections in the coming weeks. Duo is recognized as an industry standard and is designed to be a simple and secure method for enhancing security.

- Users who use SSH with a username and password will continue to use the same hostname for logins wrds-cloud.wharton.upenn.edu. After entering your username and password you will be prompted for a Two-Factor Authentication method.
- Users who wish to use SSH Keys will need to first authenticate with username, password, and 2FA as above and will then be able to use keys from the same client IP.

WRDS invites you to register your device ahead of the launch date to streamline your login process. Please see [WRDS 2FA by Duo - Enrollment Status](#) to enroll your phone, tablet, or another device.

To learn more about Duo authentication, please visit the following links:

- [How to Log In to WRDS Using WRDS 2FA by Duo](#)
- [WRDS 2FA by Duo FAQ](#)
- [Duo Security's Enrollment Guide](#)

Posted February 28th, 2023

Don't show this again

# WRDS主页面

Wharton UNIVERSITY OF PENNSYLVANIA wrds WHARTON RESEARCH DATA SERVICES

Search WRDS

Get Data Analytics Classroom Videos Research Support

Home

主要功能

## Subscriptions

Data Dashboard »

</> Coding Tool Kit (+)

- » 2iQ 2
- » American Hospital As... 9
- » Audit Analytics 56
- » B Impact Assessment 2
- » Bank Regulatory 12
- » Beta Suite by WRDS 2
- » Blockholders 1
- » BoardEx 68
- » Bond Returns by WRDS 1
- » Bureau van Dijk 42
- » Fama-French Portfoli... 7
- » Federal Judicial Center 7
- » Federal Reserve Ban... 4
- » Financial Ratios Suite... 4
- » FTSE/Russell 3
- » GovPX 2
- » Healthbase 13
- » Hedge Fund Researc... 18
- » Historical SPDJI 2
- » IBES 113
- » Option Suite by WRDS 2
- » OptionMetrics 25
- » OTC Markets 1
- » PACAP: Pacific-Basin... 38
- » Pastor-Stambaugh an... 3
- » Penn World Tables 2
- » Peters and Taylor Tot... 1
- » Philadelphia Stock Ex... 2
- » PitchBook 114
- » Preqin 11

## WRDS News

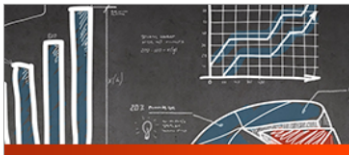
- 16 FEB Vienna University of Economics and Business named winner of ... February 16th, 2023
- 21 DEC 2022 Year In Review December 21st, 2022

## Events

- 02 MAR AACSB Middle East and North Africa Conference
- 16 MAR Midwest Finance Association

## Analytics by WRDS

All Topics »



SEC Analytics Suite



U.S. Daily Event Study



Intraday Indicators

## New Data

- 17 MAY NEW Estimate Institutional-Grade Earnings Estimates Data May 17th, 2022

# 公开数据库

以下数据库为WRDS免费提供。具体内容请从WRDS主页面Subscriptions中查看。

|                                    |                                   |
|------------------------------------|-----------------------------------|
| Bank Regulatory Database           | IRI Marketing Factbook            |
| Blockholders                       | Penn World Tables                 |
| CBOE Indexes                       | Philadelphia Stock Exchange       |
| DMEF                               | SEC Disclosure of Order Execution |
| Dow Jones                          | TRACE                             |
| Fama-French Portfolios and Factors | MSRB                              |
| FDIC Database Files                | OTC Markets                       |
| Federal Reserve Bank Reports       | Federal Judicial Center           |

# 安徽财经大学 – 其他已订阅数据库

## S&P Compustat & Capital IQ (标普资本智商)

- 全面的财务数据库，收录公司的营运及财务状况信息。数据库覆盖130个国家，超过104,000个上市/退市公司；超过130,000个证券，几乎涵盖超过99%的市值。财务数据回溯到1950年。
- 子库：Compustat North America & Global, Bank, Segments



# 如何在WRDS平台上检索数据

1. [网页检索](#)
2. [云服务](#)
3. [客户端互动应用](#)

# 网页检索：最简便的检索方式



WRDS

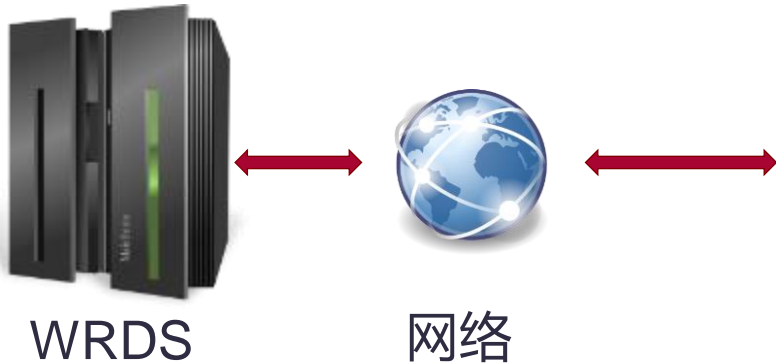


网络

The screenshot displays the Wharton WRDS website interface. At the top, there is a navigation bar with the Wharton University of Pennsylvania logo, the text 'wrds WHARTON RESEARCH DATA SERVICES', and a search bar labeled 'Search WRDS'. Below the navigation bar, the page is organized into several sections:

- Subscriptions:** A list of various data services and datasets, including:
  - WRDS Internal
  - 2iQ
  - American Hospital Association
  - AuditAnalytics
  - B Impact Assessment
  - Bank Regulatory
  - Beta Suite by WRDS
  - Blockholders
  - BoardEx
  - Fama French & Liquidity Factors
  - Federal Judicial Center
  - Federal Reserve Bank
  - Financial Ratios Suite by WRDS
  - FTSE/Russell
  - GovPX
  - GSIOline
  - Healthbase
  - Hedge Fund Research
  - Option Metrics
  - Option Suite by WRDS
  - OTC Markets
  - PACAP
  - Penn World Tables
  - Peters and Taylor Total Q
  - PHLX
  - Preqin
  - ProPublica
- Analytics by WRDS:** A section featuring three main analytics tools:
  - SEC Analytics Suite:** Researchers will gain an overview of WRDS' powerful SEC research.
  - U.S. Daily Event Study:** Investigate abnormal stock returns/volumes around event dates.
  - Intraday Indicators:** Stock specific daily and intraday (5 min, 15 min and 30 min) indicators.
- WRDS News:** A section with a 'Data Dashboard' and a list of news items with dates and brief descriptions, such as 'Are healthcare wraparound services effective in reducing costly hospital ...' (January 21st, 2020) and 'What is the Impact of Machine Learning on Mortgage ...' (December 2nd, 2019).
- Events:** A section listing upcoming conferences, including 'ICAL (International Conference of Asian Libraries)' (February 26th) and 'SOUACBL (Southern University and College Academic Business Librarians Conference)' (March 11th).

# 云存储：大型数据操控



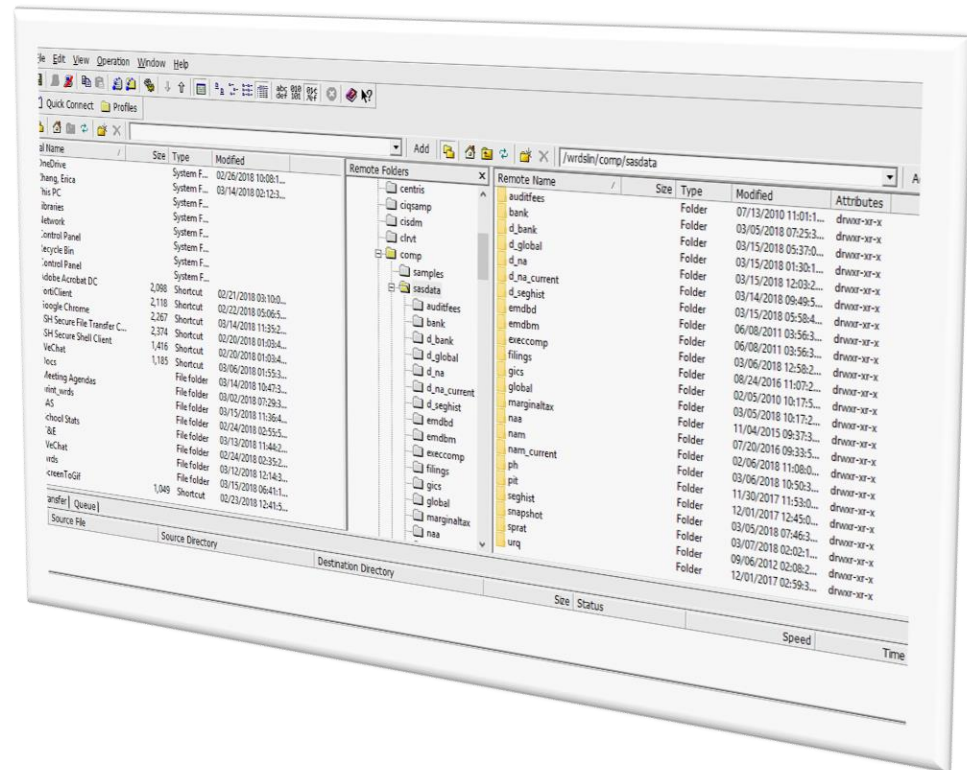
```
ruidai — ssh — 84x31
Last login: Sat Nov 19 12:55:02 on ttys000
van163:~ ruidai$ ssh -Y rdai@wrds.wharton.upenn.edu
Password:
Password:
Last login: Sat Nov 19 22:59:18 2011 from sentinel.wharto

*****
* The WRDS Unix server will be undergoing maintenance from *
* 7:00am - 10:00am EST on Tuesday, November 22. We will be *
* patching the system to provide the most up-to-date computing *
* environment for your research programming needs. The WRDS *
* website will not be affected by the maintenance. *
*
* Users will not be able to access WRDS through UNIX or PC SAS *
* Connect while the maintenance is in progress. Jobs and user *
* sessions that are active when it begins will be interrupted *
* and they will have to be restarted and run again when the *
* system is back online. *
*
* We understand how important access to data through the WRDS *
* system is to your research and we appreciate your patience *
* during this time. If you have any questions or concerns, *
* please contact the WRDS support team at *
* wrds-support@wharton.upenn.edu. *
*
*****

tcsh: using dumb terminal settings.
wrds(~)%
```

# SSH/SFTP

- 任意的SSH/SFTP的用户端
  - Server: wrds-cloud.Wharton.upenn.edu
  - Username: 网页登陆用户名
  - Password: 网页登陆密码
- 用途
  - 上传和下载任何格式的文档
  - 删除和建立文件和目录
- 详细操作步骤请点击[此处](#)



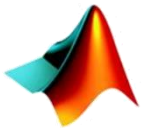
# 客户端互动应用



WRDS

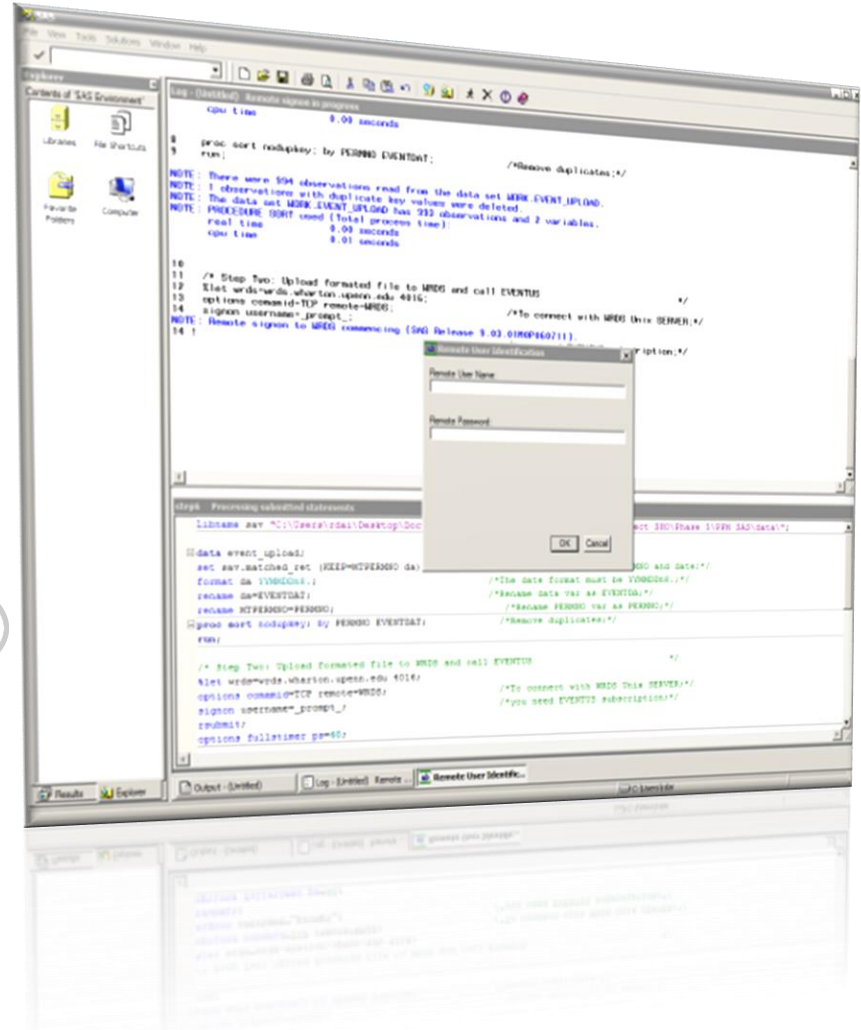


网络



MATLAB

STATA



# 使用客户端连接

详细操作步骤请访问Support → [Programming](#)

[Home](#) / [Support](#) / [Programming](#)

## Programming

WRDS Data is easily accessible in your favorite programming language. Find out how to access WRDS through SAS, Python, R, MATLAB, and Stata. The connection methods available are listed under each language.

### SAS

» SAS: From the Web (SAS/Studio)

» SAS: From Your Computer (SAS/Connect)

» SAS: On the WRDS Cloud

### R

» R: From Your Computer (RStudio)

» R: On the WRDS Cloud

» R: From the Web (RStudio Server)

### Stata

» STATA: From Your Computer

» STATA: On the WRDS Cloud

### Python

» PYTHON: From Your Computer (Jupyter/S...

» PYTHON: On the WRDS Cloud

» Python: From the Web (JupyterHub)

### MATLAB

» MATLAB: From Your Computer

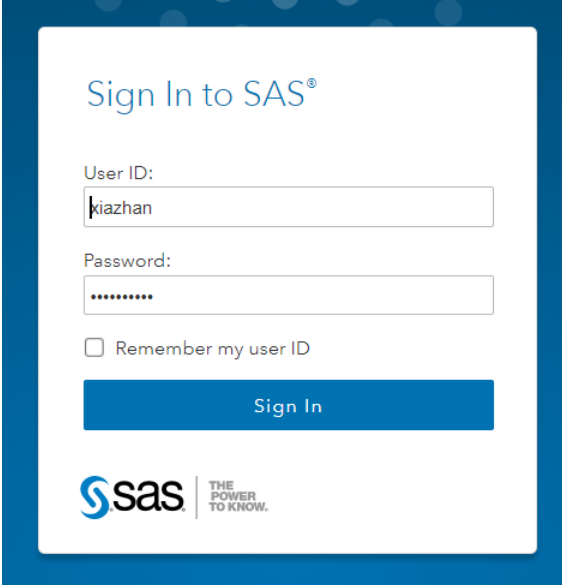
### WRDS Data in PostgreSQL

» WRDS Data in PostgreSQL: Tutorial

# SAS Studio

- 无需购买安装PC-SAS也可以实现WRDS的互动式程序设计和检索
- 硬件需求：任何配备全面功能浏览器的设备（PC、MAC、Ipad）

点击[此处](#)打开SAS Studio  
输入WRDS用户名和密码



Sign In to SAS®

User ID:  
kiazhan

Password:  
.....

Remember my user ID

Sign In

sas | THE POWER TO KNOW.

# WRDS科研支持

1. WRDS Analytics
2. WRDS Classroom
3. WRDS Videos
4. WRDS Research



# WRDS Analytics – WRDS分析工具

WRDS分析工具旨在提高效率，使研究人员能够利用不同的数据源和研究领域，而无需创建复杂的程序。结果以图形方式呈现，并包括基础数据，以便进一步分析和探索。

Wharton wrds WHARTON RESEARCH DATA SERVICES

Search WRDS

Get Data Analytics Classroom Videos Research Support

ANALYTICS by wrds

WRDS has developed a variety of powerful analytical tools to support you in your research. Get more out of your data with less effort.

FEATURED TOOLS:

- Bag of Words
- Factors by WRDS

Grid View List View

All Topics Efficient Frontier Event Study Financial Ratios Instructors Other Research Tools Programming Tools SEC

**U.S. Daily Event Study**

Investigate abnormal stock returns/volumes around event dates by uploading your own "events" file, or analyzing reaction to firm-specific events from Capital IQ's Key Development database.

- Instant visualization of the effect of events on U.S. equities

**SEC Filings Search**

Use this powerful research platform to search the contents of the most commonly used SEC filings—over 3.4 million reports—filed by more than 94 thousand companies.

- Easy-to-use web queries
- Daily updates
- Links to original HTML and text files

**Intraday Indicators**

Stock specific daily and intraday (5 min, 15 min and 30 min) indicators created from the TAQ intraday dataset.

- Stock specific daily and intraday (5 min, 15 min and 30 min) indicators.
- Requires subscription to TAQ dataset.

**Financial Ratios: Firm Level**

With the Financial Ratios: Firm Level tool you can access over 70 pre-calculated financial ratios for all U.S. companies across eight different categories.

- Calculates ratios most commonly used

- Event Studies
- Intra-day Indicators
- Financial Ratios
- Bond Returns
- Beta Suite
- SEC Filings
- Linking Suite
- And etc...

# WRDS Classroom – WRDS课堂

WRDS的课堂工具是专门为在课堂上介绍金融和商业概念的教师设计的教学工具箱。

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**Classroom Tools** by wrds

Classroom Tools by WRDS is a teaching and learning toolkit designed specifically for faculty who are introducing finance and business concepts in the classroom.

**FEATURED TOOLS:**

- Options: Binomial Pricing Model
- Monte Carlo Simulation for Option Pricing

Grid View List View

All Topics Accounting Fixed Income Introduction to WRDS Investments Macroeconomics SEC Text Analytics

**Updated!**

### Getting Started

This teaching tool guides your students through their first use of the WRDS website. With it, you can:

- Introduce new users to WRDS
- Provide an overview of how queries are organized
- Demonstrate a sample query to retrieve

### What Data is in WRDS?

Learn about WRDS' data offerings and how to navigate them effectively. Acquaint students with the breadth of financial datasets in WRDS, including coverage of:

- Pricing and returns
- Company fundamentals
- Earnings and estimates

### Finding the Data You Want

WRDS contains a tremendous variety of data. This exercise covers the following:

- How data is categorized
- Techniques to locate data
- Resources that index WRDS' data

### Understanding Identifiers

This exercise describes the major descriptors used to identify both companies and securities in WRDS, along with examples of each. Students will be introduced to the following:

- Difference between header and historical identifiers

- Introduction to WRDS
- Introduction to Financial Statements
- Time Value of Money
- Using the CRSP/Compustat Merged (CCM)
- SAS Studio
- And etc...

# WRDS Videos – [WRDS在线视频学习](#)

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Search WRDS

Get Data Analytics Classroom **Videos** Research Support

## Video by wrds

Now, more than ever, access to data, analytics, research and technology is critical to your mission. From the classroom, boardroom, or home, for 25+ years WRDS has supported users with targeted solutions that underpin **research**, **reinforce learning**, and enable **discovery**.

Grid View List View

FEATURED TOOLS:

- CRSP Basics Video
- SAS Studio - Part 1 Video

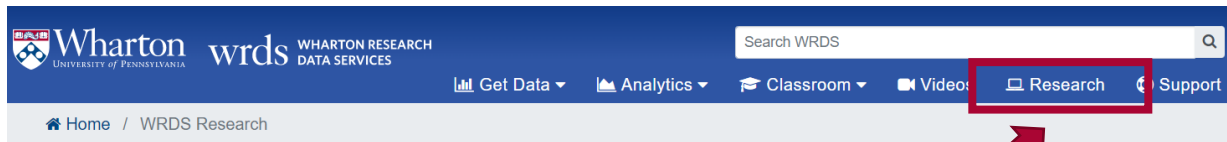
All Topics Information Professionals Instructors Researchers

|  |  |   |   |
|--|--|---|---|
| <br><b>SAS Studio - Part 1</b><br>This is WRDS' introduction to accessing data through SAS/Studio. This tutorial is intended for first time users or experienced users looking to refresh their knowledge of how to access and explore data in SAS/Studio. | <br><b>Rep Usage Reports</b><br>An overview of the WRDS representative's usage reports in the Wharton Research Data Services system. This report is only available to WRDS Reps. | <br><b>Research Data Overview of WRDS</b><br>This overview organizes the databases available in WRDS into five main categories: <ul style="list-style-type: none"><li>• Pricing data</li><li>• Fundamental data</li><li>• Earnings and estimates data</li></ul> | <br><b>Introduction to Compustat   Part 1</b><br>View the scope of data, extensive use-cases and breadth support documentation for Compustat on WRDS. |
|--|--|---|---|



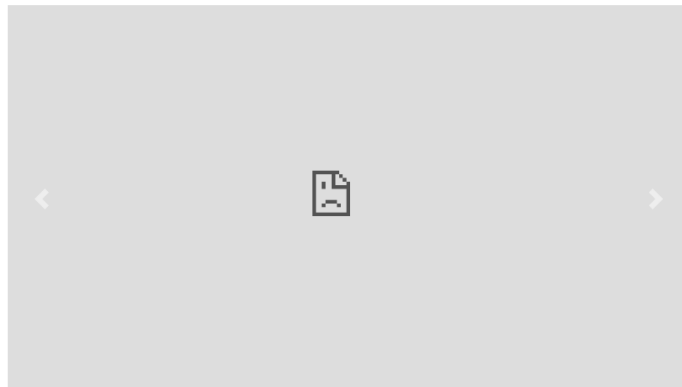
# WRDS Research – WRDS科研

WRDS研究页面旨在帮助您开始使用WRDS数据进行研究。WRDS研究应用、SAS宏、研究指南和样本程序将帮助您复制著名的经验论文，并可作为您自己原创研究的起点。





## WRDS Research

The WRDS Research page is intended to help you get started with your research using WRDS data. The WRDS Research Applications, SAS macros, research guides, and sample programs will assist you in replicating well-known empirical papers and can serve as a starting point in your own original research.



### Highlighted Research

|  |   |
|--|---|
|                                |    |
| <b>Merging CRSP and Compustat Data</b>   | <b>Fama-French Factors (Python)</b>   |
| <p>This paper provides a guide to merging data from the CRSP and Compustat datasets at the securities level.</p> | <p>Based on the SAS based research application, this Python code replicates Fama and French's (1993) methodology to construct size and value factors.</p> |
| <a href="#">More →</a>   | <a href="#">More →</a>  |

## Ways to Research

» [Linking Databases](#)

A summary of all the resources at WRDS that help link a company or person in one database with the same company or person in another database.


» [Research Data Overview](#)

Introductions to databases written by WRDS. Overviews complement vendor manuals by discussing WRDS-specific aspects and research concerns.

» [Sample Programs](#)

Short programs in multiple languages that illustrate common tasks for each database.

# WRDS支持

- 在线支持：
  - [Video by WRDS](#)  Bilibili: WhartonWRDS
  - [Data Overviews](#)
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  - [Sample Programs](#)
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  - [FAQs](#)

# WRDS支持

- 联系WRDS：发送邮件至 [wrd-support@wharton.upenn.edu](mailto:wrd-support@wharton.upenn.edu) 或通过Contact WRDS Support提交问题。

The screenshot shows the Wharton WRDS website dashboard. The top navigation bar includes links for DJ ADMIN, ADMIN, DOCS, VENDOR TOOLS, WRDS REP TOOLS, CONTACT (highlighted with a red magnifying glass), ERICA'S ACCOUNT, and LOGOUT. Below the navigation bar is a search bar and a menu with options like Get Data, Analytics, Classroom, Videos, Research, and Support. The main content area is divided into three columns: Subscriptions (listing various data services with article counts), WRDS News (showing recent news items with dates and months), and Events (listing upcoming events with dates and months).

| Subscription              | Count |
|---------------------------|-------|
| 2iQ                       | 2     |
| American Hospital As...   | 9     |
| Audit Analytics           | 59    |
| B Impact Assessment       | 2     |
| Bank Regulatory           | 12    |
| Beta Suite by WRDS        | 2     |
| Blockholders              | 1     |
| BoardEx                   | 68    |
| Bond Returns by WRDS      | 1     |
| Bureau van Dijk           | 42    |
| Fama-French Portfoli...   | 7     |
| Federal Judicial Center   | 7     |
| Federal Reserve Ban...    | 4     |
| Financial Ratios Suite... | 4     |
| FTSE/Russell              | 3     |
| GovPX                     | 2     |
| Healthbase                | 13    |
| Hedge Fund Researc...     | 18    |
| Historical SPDJI          | 2     |
| IBES                      | 113   |
| Option Suite by WRDS      | 2     |
| OptionMetrics             | 25    |
| OTC Markets               | 1     |
| PACAP: Pacific-Basin...   | 38    |
| Pastor-Stambaugh an...    | 3     |
| Penn World Tables         | 2     |
| Peters and Taylor Tot...  | 1     |
| Philadelphia Stock Ex...  | 2     |
| PitchBook                 | 114   |
| Preqin                    | 11    |

| News Item   | Date                | Month |
|---|---------------------|-------|
| WRDS launches Two-Factor Authentication (2FA)                   | February 28th, 2023 | FEB   |
| Vienna University of Economics and Business named winner of ... | February 16th, 2023 | FEB   |

| Event                       | Date     | Month |
|-----------------------------|----------|-------|
| Midwest Finance Association | March 16 | MAR   |
| Eastern Finance             | March 16 | MAR   |

# 联系WRDS

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