

FISC

Financial Infrastructure Stability and Cybersecurity Center



FISC Objectives

- Provide measures to identify systemic threats to economic infrastructure and financial stability
- Promote cross-disciplinary research
- Assist research teams with big data analytics
- Apply for relevant government and industry grants

Why join FISC?

- ✚ Publish in top tier Interdisciplinary journals
- ✚ Summer funding opportunity for graduate students through grant applications
- ✚ Dataset Training and BMC Certification (free for UM faculty & graduate students)

Type	Frequency	Dataset Name	Coverage
Economic & financial Market Data for all 70000 gobal stocks from 1983 to 2019	Intraday/Daily	Bloomberg Terminal	Global
	Intraday (nanosecond)	DTAQ	US
		ITCH	US (NASDAQ)
	Daily/Monthly	CRSP	US
	Daily/Monthly	Datastream	Global
Accounting Data	Quarterly/Annual	Compustat	Global
Currency Data	Daily	Federal Reserve Bank (WRDS)	Global
	Daily	Datastream	Global
Bond Market Data	Daily	TRACE	US

Dataset Name	How to access?	Data Storage Location	Notes
Bloomberg Terminal	Cook Lab, FCBE	Bloomberg Server	Can't be accessed remotely
DTAQ	Remotely logging to Server 72	Server 72, UofM. Backup: yes	VPN needed if UofM IP not used
ITCH	Remotely logging to Server 72	Server 72, UofM. Backup: yes	VPN needed if UofM IP not used
CRSP	WRDS website	WRDS Server, UPenn	-
Datastream	Remotely logging to Server 72	Datastream Server	-
Compustat	WRDS website	WRDS Server, UPenn	-
Federal Reserve	WRDS website	WRDS Server, UPenn	-
TRACE	WRDS website	WRDS Server, UPenn	-

- Training materials/manuals are available:
<https://www.memphis.edu/finance/research/fisc.php>

DTAQ dataset size:

Location	Year	Months	Size(TB)
Server 72 D:\DTAQ_RAW & G:\DTAQ_RAW	2010	2	0.34
	2012	8	1.20
	2013	12	2.27
	2014	12	2.81
	2015	12	3.22
	2016	12	4.76
	2017	12	2.52
	2018	7	2.11
	Total	77	19.23

Daily files (zipped)	Trade	NBBO	Quote
Size (GB)	0.2 - 0.7	1 - 6	4 - 20

To summarize one day's DTAQ on server 72, including the calculation of daily and minute-by-minute liquidity measures, it takes 1.5 – 2.5 hours depending on the size of the data.

Server 72 configuration: Intel Xeon Processor, 128 GB RAM, Windows Server 2012, 100+ TB HDD

The FISC center has access to the high-speed linux cluster located at the High Performance Computing (HPC) center. <http://www.memphis.edu/hpc/>, which uses parallel processing to run advanced programs efficiently, reliably and quickly.

We are currently running our TAQ summarization code on **HPC** and backing up our data to **Softgrid**.