



WRDS Research Webinar - CRSP CIZ Data

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Preview of Changes

Legacy SIZ code:

```
1 data old;  
2 set crsp.msf;  
3 where shrcd in (10,11);  
4 run;
```



New CIZ code:

```
1 data new;  
2 set crsp.stkmthsecuritydata;  
3 where (sharetype = 'NS' and  
4         securitytype = 'EQTY' and  
5         securitysubtype = 'COM' and  
6         usincflg = 'Y' and  
7         issuertype in ('ACOR', 'CORP'));  
8 run;
```

CIZ data transition is more than simple variable/dataset renaming.

Overview

- What has changed?
- What has not changed?
- Accessing CIZ data
- Meta dictionary tables and support documentation
- Walk through common examples coding using CIZ data

CRSP CIZ vs SIZ

Some Jargon Before Diving In:

- CIZ (version 2.0) – new data format
- SIZ (version 1.0) – legacy data format

Note:

- Legacy SIZ data is updated through December 2024
- Only new CIZ data will be updated going forward

What has **NOT** changed?

Let's start with the most important question!

- Data coverage – **same**
 - The number of companies
 - The length of history
- Data values – ***predominately* the same**
 - The vast majority match up exactly (minus tiny rounding difference)
 - Some known differences, such as monthly stock returns

Bottom line: researchers should be able to replicate old results using new data

What has changed?

Names of variables and datasets:

- Separate naming convention for daily and monthly:
 - variable: **prc** → **dlyprc**, **mthprc**
ret → **dlyret**, **mthret**
 - dataset: **stk****dly****securitydata**, **stk****mth****securitydata**

Implies that all old programs will need to be updated

meta* tables

- **crsp.meta*** - support tables to look up definition
- **crsp.meta****size****to****ciz** particularly important for new adopters of CIZ data

Dsf_v2	30.6GB
Inddlyseriesdata	9.4MB
Indfamilyinfohdr	192.0KB
Indmthseriesdata	640.0KB
Indseriesinfohdr	192.0KB
Metacalendarperiod	3.0MB
Metacolumncoverage	192.0KB
Metacolumninfo	256.0KB
Metaexchangealendar	1.3MB
Metafileinfo	192.0KB
Metaflagcoverage	384.0KB
Metaflaginfo	448.0KB
Metaflagtype	192.0KB
Metaiteminfo	320.0KB
Metasiztociz	320.0KB
IVISI_V2	1.4GB
Other securities data	22.5MB

Example 1: Month End Price

Legacy SIZ			New CIZ	
permno	date	prc	mthprc	mthprcflg
10001	08/29/1986	-6.5000	6.5000	BA
10001	09/30/1986	6.3750	6.3750	TR

Segment from **crsp.metasiztociz** table

SIZColMapSeq	SIZItemName	SIZItemDesc	CIZFileName	CIZItemName	CIZItemDesc
1	MPRC	Month-End Price	StkMthSecurityData	MthPrc	Monthly Price
2	MPRC	Month-End Price	StkMthSecurityData	MthPrcFlg	Monthly Price Flag

Example 2: DISTCD vs Distribution Flags

Legacy SIZ		New CIZ						
permno	distcd	disordinaryflg	distype	disfreqtype	dispaymenttype	disdetailtype	distaxtype	disorigcurtype
10001	1232	Y	CD	Q	USD	CDIV	D	USD
11618	5523	N	FRS	N/A	SS	STKSPL	N	N/A

Segment from **crsp.metasiztociz** table

SIZColMapSeq	SIZItemName	CIZFileName	CIZItemName	CIZItemDesc
1	DISTCD	StkDistributions	DisOrdinaryFlg	Distribution Ordinary Dividend Flag
2	DISTCD	StkDistributions	DisType	Distribution Type
3	DISTCD	StkDistributions	DisFreqType	Distribution Frequency Type
4	DISTCD	StkDistributions	DisPaymentType	Distribution Payment Method Type
5	DISTCD	StkDistributions	DisDetailType	Distribution Detail Type
6	DISTCD	StkDistributions	DisTaxType	Distribution Tax Status Type
7	DISTCD	StkDistributions	DisOrigCurType	Distribution Original Currency Type

Where to look up definition of flags?

Now you might wonder, how can one find the definition of these variables? For instance, what does a **DisType = CD or FRS** mean?

We can utilize the other CIZ meta tables to look up the answers.

New CIZ						
disordinaryflg	distype	disfreqtype	dispaymenttype	disdetailtype	distaxtype	disorigcurtype
Y	CD	Q	USD	CDIV	D	USD
N	FRS	N/A	SS	STKSPL	N	N/A

crsp.metaflagcoverage – look up flag definition

FileName	ItemName	FlagValue	FlagDesc
StkDistributions	DisType	CD	Cash Dividend
StkDistributions	DisType	CG	Capital Gains
StkDistributions	DisType	CP	Cash Payment
StkDistributions	DisType	FRS	Forward or Reverse Split
StkDistributions	DisType	IN	Issuer Notification
StkDistributions	DisType	N/A	Not Applicable
StkDistributions	DisType	ROC	Return of Capital
StkDistributions	DisType	SD	Special Dividends
StkDistributions	DisType	SP	Security Payment
StkDistributions	DisType	TSOO	Total Shares Outstanding Observation

What has changed - Delisting Returns

Delisting Returns

- Delisting returns used to be stored in separate table (dsedelist | msedelist)
- Lehman Brother's Case - Daily

PERMNO	DATE	PRC	RET
80599	20080916	0.3	0.428572
80599	20080917	0.13	-0.566667

← SIZ dsf

PERMNO	DLSTDT	DLSTCD	NEXTDT	DLAMT	DLPRC	DLPDT	DLRET
80599	20080917	574	20080918	0.052	0.052	20080918	-0.6

← SIZ dsedelist

- Now part of the main time series tables

CIZ
stkDlySecurityData

PERMNO	DlyCalDt	DlyDelFlg	DlyPrc	DlyPrcFlg	DlyRet
80599	9/16/2008	N	0.3	TR	0.428571
80599	9/17/2008	N	0.13	TR	-0.566667
80599	9/18/2008	Y	0.052	DP	-0.6

Delisting Returns

- Lehman Brother's Case - Monthly

PERMNO	DATE	PRC	RET
80599	20080829	16.09	-0.062284
80599	20080930	.	.

← SIZ msf

PERMNO	DLSTDT	DLSTCD	DLPRC	DLPDT	DLRET
80599	20080917	574	0.052	20080918	-0.996768

← SIZ msedelist

CIZ
stkMthSecurityData →

PERMNO	MthCalDt	MthPrc	MthPrcFlg	MthPrcDt	MthRet	MthRetFlg
80599	8/29/2008	16.09	TR	8/29/2008	-0.06316	CR
80599	9/30/2008	0.13	TR	9/17/2008	-0.996768	DE

What has changed: Monthly Returns Methodology

Methodology Change on Monthly Returns

CRSP Executive Summary:

“... MRet is a month to month holding period return with dividends reinvested at month-end. MthRet is a compound daily return with dividends reinvested on their ex-dates. These two methods will yield different results, in most cases small but they can be significant...”

Methodology Change on Monthly Returns

Absolute Return Difference	NOBS	Median	Mean	Max
All Sample	5,154,097	0.00%	0.03%	657.78%
Non-Distribution Months w/o Trading Gaps	3,950,717	0.00%	0.00%	0.00%

Sample period: 1926-2024

1. Difference in reinvestment timing of distribution:

- SIZ at month-end
- CIZ at ex dividend date

2. Potential use of stable pricing data:

- SIZ could use “stale” past price
- CIZ uses only current month data

See [“Comment on CRSP CIZ Monthly Returns”](#) for complete analysis

Monthly Return Flag

MthRetFlg: nature of monthly returns

FlagValue	FlagDesc
CR	Compounded Return
DE	Compounded Return - Delists
GP	Gap Between Prices is too Large
IP	Compounded Return – Incomplete Period
MP	Compounded Return – Missing Price(s)
NS	New Security
NT	Not Tracked

Cases of Return Difference – Trading Gaps

Case of Trading Gaps (PERMNO=15017)

SIZ		CIZ			Abs
DATE	RET	MthCalDt	MthRet	MthRetFlg	Diff
20171229	7.695652	12/29/2017	1.117896	GP	6.577756

Monthly Records from SIZ crsp.msf

PERMNO	DATE	PRC	RET	CFACPR	CFACSHR
15017	20170531	20.7	-0.548429	1	1
15017	20170630	.	.	1	1
15017	20170731	.	.	1	1
15017	20170831	.	.	1	1
15017	20170929	.	.	1	1
15017	20171031	.	.	1	1
15017	20171130	.	.	1	1
15017	20171229	180	7.695652	1	1

SIZ uses month-to-month approach:
 $\rightarrow (180 - 20.7) / 20.7 = 7.695652$

Cases of Return Difference – Trading Gaps

Daily Records from crsp.stkdlysecuritydata

PERMNO	DlyCalDt	DlyPrc	DlyPrcFlg	DlyRet
15017	12/1/2017	.	SU	.
15017	12/4/2017	84.99	TR	.
15017	12/5/2017	82.94	TR	-0.02412
15017	12/6/2017	53.82	TR	-0.351097
15017	12/7/2017	58	TR	0.077666
15017	12/8/2017	57.81	TR	-0.003276
15017	12/11/2017	48.01	TR	-0.169521
15017	12/12/2017	51.26	TR	0.067694
15017	12/13/2017	76.6242	TR	0.494815
15017	12/14/2017	122.5	TR	0.598712
15017	12/15/2017	147.01	TR	0.200082
15017	12/18/2017	218	TR	0.482892
15017	12/19/2017	323.99	TR	0.486193
15017	12/20/2017	360	TR	0.111145
15017	12/21/2017	187	TR	-0.480556
15017	12/22/2017	179.02	TR	-0.042674
15017	12/26/2017	241	TR	0.346218
15017	12/27/2017	211.345	TR	-0.12305
15017	12/28/2017	192	TR	-0.091533
15017	12/29/2017	180	TR	-0.0625

**CIZ uses only current month:
→ Compound (DlyRet) = 1.117896**

Absolute Return Difference

MthRetFlg	NOBS	Median	Mean	Max
GP	3,648	15.07%	25.92%	657.78%

Cases of Return Difference – Distribution Reinvestment Timing

Case of Distribution (PERMNO=92528)

SIZ		CIZ		Abs Diff
DATE	RET	MthCalDt	MthRet	
20220930	-0.232500	09/30/2022	-0.283422	0.050922

Distribution Record from *crsp.stkdistributions*

PERMNO	DisExDt	DisOrdinaryFlg	DisDivAmt
92528	9/8/2022	Y	1.5

Monthly Records from SIZ crsp.msf for Distribution Case

PERMNO	DATE	PRC	RET	RETX
92528	20220831	8	0.23824	0.213961
92528	20220930	4.64	-0.2325	-0.42

SIZ reinvest div at month-end:

→ $(4.64 + 1.5 - 8) / 8 = -0.2325$

Cases of Return Difference – Distribution Timing

Daily Records from *crsp.stkdlysecuritydata* for Distribution Case

PERMNO	DlyCalDt	DlyPrc	DlyPrcFlg	DlyRet	DlyRetx	DlyOrdDivAmt
92528	9/1/2022	7.88	TR	-0.015	-0.015	0
92528	9/2/2022	7.82	TR	-0.007614	-0.007614	0
92528	9/6/2022	8.19	TR	0.047315	0.047315	0
92528	9/7/2022	8.35	TR	0.019536	0.019536	0
92528	9/8/2022	6.37	TR	-0.057485	-0.237126	1.5
92528	9/9/2022	6.43	TR	0.009419	0.009419	0
92528	9/12/2022	6.08	TR	-0.054432	-0.054432	0
92528	9/13/2022	5.93	TR	-0.024671	-0.024671	0
92528	9/14/2022	5.37	TR	-0.094435	-0.094435	0
92528	9/15/2022	5.01	TR	-0.067039	-0.067039	0
92528	9/16/2022	5.01	TR	0	0	0
92528	9/19/2022	4.93	TR	-0.015968	-0.015968	0
92528	9/20/2022	4.87	TR	-0.01217	-0.01217	
92528	9/21/2022	4.86	TR	-0.002053	-0.002053	
92528	9/22/2022	4.6606	TR	-0.041029	-0.041029	
92528	9/23/2022	4.62	TR	-0.008711	-0.008711	
92528	9/26/2022	4.54	TR	-0.017316	-0.017316	
92528	9/27/2022	4.63	TR	0.019824	0.019824	0
92528	9/28/2022	4.82	TR	0.041037	0.041037	0
92528	9/29/2022	4.62	TR	-0.041494	-0.041494	0
92528	9/30/2022	4.64	TR	0.004329	0.004329	0

CIZ reinvests div at ex-date:
→ compound (DlyRet) = -0.283422

Absolute Return Difference

Distribution Month (Y/N)	NOBS	Median	Mean	Max	Contribution
N	4,116,503	0.00%	0.02%	657.78%	61%
Y	1,037,594	0.01%	0.05%	288.00%	39%

Using CIZ Data

How to access CIZ data?

Familiar WRDS Query Page:

- Same layout as legacy data

[Home](#) / [Get Data](#) / [CRSP](#) / [Annual Update](#) / [Stock - Version 2 \(CIZ\)](#) / [Monthly Stock File](#)

Monthly Stock File [Queries (Failed)]

Query Form

Variable Descriptions

Manuals and Overviews

Knowledge Base

Data Preview

Stock Monthly Aggregate Security Data contains the prices, capitalization, compounded returns, total volumes, and identifying information and is accessed by the CRSP unique security identifier, PERMNO and the monthly calendar date, MthCalDt.

Step 1: Choose your date range.

Monthly Calendar Date (MthCalDt)

2020-01-01

to

2024-12-31

Step 2: Apply your company codes.

What format are your company codes?

Autocomplete

☒ PERMNO (permno) ☐ PERMCO (permco) ☐ Ticker (ticker) ☐ Full header CUSIP

☐ Sic Code (siccd) ☐ Header CUSIP

Select an option for entering your company codes:

☒ Search Name or Ticker

☐ Code List Name

Save this code list to Saved Codes

Please enter company codes separated by a space.
Example:
PERMNO: 10107 12490 14593
PERMCO: 8048 20990 7
TICKER: IBM MSFT AAPL

Other Accessing Methods

PC-SAS / SAS Studio:

```
1 data crsp_m;  
2 set crsp.stkmthsecuritydata;  
3 where mthcaldt = '31DEC2024'd  
4 and sharetype = 'NS'  
5 and securitytype = 'EQTY'  
6 and securitysubtype = 'COM'  
7 and usincflg = 'Y'  
8 and issuertype in ('ACOR', 'CORP');  
9 run;
```

Python JupyterLab:

```
import wrds  
conn = wrds.Connection()
```

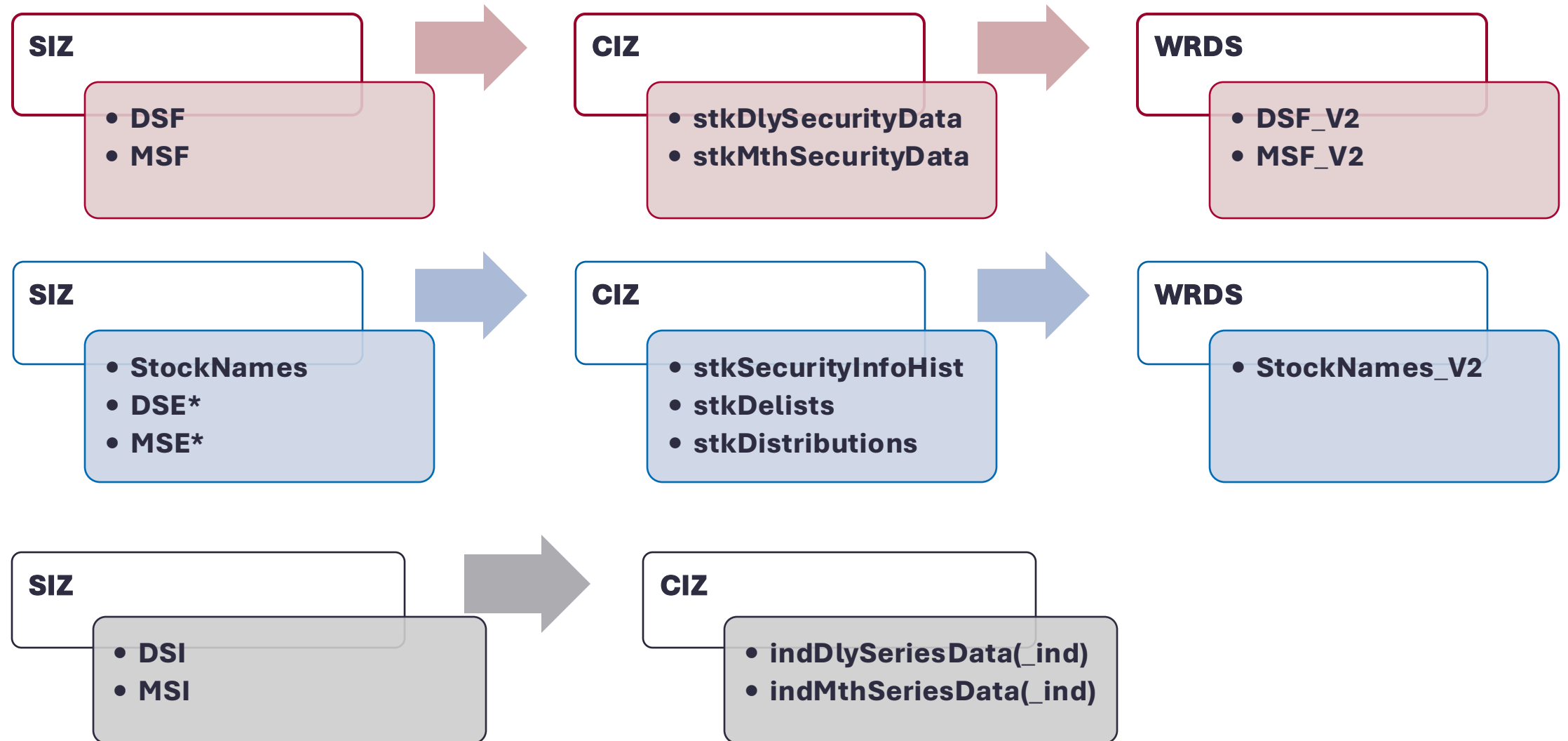
Loading library list...
Done

```
crsp_m = conn.raw_sql("""  
    select *  
    from crsp.stkmthsecuritydata  
    where mthcaldt = '12/31/2024'  
    and sharetype = 'NS'  
    and securitytype = 'EQTY'  
    and securitysubtype = 'COM'  
    and usincflg = 'Y'  
    and (issuertype = 'ACOR' or issuertype = 'CORP')  
""", date_cols=['mthcaldt'])
```

```
crsp_m.shape
```

```
(3839, 37)
```

Useful Dataset Mapping



Useful Documentation

Wharton wrds WHARTON RESEARCH DATA SERVICES

Search WRDS

Get Data ▾ Analytics ▾ Classroom ▾

Home / Support / Manuals and Overviews / CRSP / Stocks and Indices / CRSP Stock and Indexes Version 2

CRSP Stock and Indexes Version 2

Introduced in Summer 2022, CRSP CIZ files are newly formatted flat files covering the Stock, Stock62, and Indexes products. These replace the SIZ and older formats, which will be published in parallel for about two years as researchers become accustomed to the new format.

- » SIZ to CIZ: WRDS Overview of Stock
- » SIZ to CIZ: WRDS Transition FAQ - Stock
- » SIZ to CIZ: WRDS Sample Code
- » SIZ to CIZ: WRDS Overview of Index

SIZ to CIZ: CRSP Executive summary of differences

- SIZ to CIZ: CRSP Cross Reference Guide
- » SIZ to CIZ: Recreate Legacy MSE Style Tables
- CRSP Metadata Tables Guide for Stock and Indic...
- U.S. Stock and Indices Guide (Version 2)

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Common task 1 – Common Stocks

- SIZ version: **shrcd** in (10, 11)
- CIZ version: look up in PDF “**SIZ to CIZ Cross Reference Guide**”

LEGACY ITEM ID (SIZ)	LEGACY NAME (SIZ)	NEW ITEM NAME (CIZ)	NEW ITEM DESCRIPTION (CIZ)
kypermno	PERMNO	PERMNO	PERMNO (Security-Only)
namedt	Name History Begin Date	SecInfoStartDt	Security Information Start Date (Security-Only)
nameenddt	Name History End Date	SecInfoEndDt	Security Information End Date (Security-Only)
ncusip	CUSIP	CUSIP	CUSIP (Security-Only)
ncusip9	CUSIP9	CUSIP9	CUSIP9 (Security-Only)
ticker	Ticker	Ticker	Ticker (Security-Only)
comnam	Company Name	IssuerNm (see also SecurityNm)	Company Name (Both tables)
shrcls	Share Class	ShareClass	Share Class (Security-Only)
shrcd	Share Code (Click here for Share Code mapping)	ShareType	Share Type (Com, ADRs, SBIs, etc.) (Security-Only)
		SecurityType	Security Type (Fund, Equity, Unit, etc.) (Security-Only)
		SecuritySubType	Security Sub-Type (Com, ETN, ETF, etc.) (Security-Only)
		USIncFlg	US Incorporation Flag
		IssuerType	Issuer Type (Corp, LTD, REIT, etc.) (Both tables)

Common task 1 – Common Stocks, Cont'd

ticker

Ticker

Ticker

Ticker (Security-Only)

comnam

shrcls

shrcd

exchcd

siccd

tsymbol

snaics

primexch

trdstat

Open Web Page

Do you want to open this link: <https://www.crsp.org/wp-content/uploads/ShareCode.html>?

Cancel

Open Link

Obs	HSHRCD	SecurityType	SecurityType_Description	SecuritySubType	SecuritySubType_Description	ShareType	ShareType_Description	IssuerType	IssuerType_Description	USIncFlg	USIncFlg_De
1	10	EQTY	Equity	COM	Common	NS	No special share type specified	ACOR	Assumed Corporation	Y	Yes
2	11	EQTY	Equity	COM	Common	NS	No special share type specified	CORP	Corporation	Y	Yes
3	12	EQTY	Equity	COM	Common	NS	No special share type specified	CORP	Corporation	N	No
4	14	FUND	Fund	CEF	Closed End Fund	NS	No special share type specified	ACOR	Assumed Corporation	Y	Yes
5	15	FUND	Fund	CEF	Closed End Fund	NS	No special share type specified	ACOR	Assumed Corporation	N	No

Common task 1 – Common Stocks, Cont'd

Legacy SIZ code:

```
1 data old;  
2 set crsp.msf;  
3 where shrcd in (10,11);  
4 run;
```



New CIZ code:

```
1 data new;  
2 set crsp.stkmthsecuritydata;  
3 where (sharetype = 'NS' and  
4         securitytype = 'EQTY' and  
5         securitysubtype = 'COM' and  
6         usincflg = 'Y' and  
7         issuertype in ('ACOR', 'CORP'));  
8 run;
```

Common task 2 – Three Major Exchanges

- SIZ version: **exchcd** in (1, 2, 3)
- Unfortunately, conversion is not included in in PDF “**SIZ to CIZ Cross Reference Guide**”

LEGACY ITEM ID (SIZ)	LEGACY NAME (SIZ)	NEW ITEM NAME (CIZ)	NEW ITEM DESCRIPTION (CIZ)
kypermno	PERMNO	PERMNO	PERMNO (Security-Only)
namedt	Name History Begin Date	SecInfoStartDt	Security Information Start Date (Security-Only)
nameenddt	Name History End Date	SecInfoEndDt	Security Information End Date (Security-Only)
ncusip	CUSIP	CUSIP	CUSIP (Security-Only)
ncusip9	CUSIP9	CUSIP9	CUSIP9 (Security-Only)
ticker	Ticker	Ticker	Ticker (Security-Only)
comnam	Company Name	IssuerNm (see also SecurityNm)	Company Name (Both tables)
shrcls	Share Class	ShareClass	Share Class (Security-Only)
shrcd	Share Code (Click here for Share Code mapping)	ShareType	Share Type (Com, ADRs, SBIs, etc.) (Security-Only)
		SecurityType	Security Type (Fund, Equity, Unit, etc.) (Security-Only)
		SecuritySubType	Security Sub-Type (Com, ETN, ETF, etc.) (Security-Only)
		USIncFlg	US Incorporation Flag
		IssuerType	Issuer Type (Corp. LTD. REIT, etc.) (Both tables)
exchcd	Exchange Code	Not Present (see PrimaryExch & ConditionalType)	Data not present in new files

Common task 2 – Three Major Exchanges, Cont'd

- **crsp.metasiztociz** table to look up translation of **exchcd** in CIZ

SIZColMapSeq	SIZItemName	SIZItemDesc	CIZFileName	CIZItemName	CIZItemDesc
1	EXCHCD	Exchange Code	StkSecurityInfoHist	PrimaryExch	Primary Exchange
2	EXCHCD	Exchange Code	StkSecurityInfoHist	ConditionalType	Conditional Type

- Then use PDF “U.S. Stock and Indices Guide (Version 2)” to look up new variable definition

FLAG TYPE	LIST OF ITEM NAMES	FLAG TYPE DESCRIPTION	FLAG TYPE DEFINITION
CU	DisOrigCurType	Distribution Original Currency Type	This flag provides information on what currency a distribution was paid and is used for the DisOrigCurType column in the StkDistributions file. Almost all cash payments in the CRSP files are USD (US Dollar), but some are NUS (Non-US)
CY	ItemCategory	Item Category	This flag is used in the ItemCategory column of the MetaItemInfo file to provide high level characteristics (e.g. FLAG, DATE) often needed for implementation of loading the data. Additional granularity for this code can be found in the Item Class column
DE	AnnDelFlg; MthDelFlg; QtrDelFlg	Aggregate Delisting Flag	This flag provides information whether the aggregate return includes a delisting return, and if so what type of delisting return is included in the aggregate
DR	DelReasonType	Delisting Reason Type	This flag is used only for the DelReasonType item in multiple files and provides additional information, if available, on why a security delisted. There are about three dozen values, but the majority of the time, an additional reason is UNAV
EC	PrimaryExch	Primary Exchange	This flag is used only for the PrimaryExch item in multiple tables and has one character value (e.g. N - NYSE, Q - NASDAQ, R - ARCA, ...)

Obs	FlagType	FlagValue	FlagTypeDesc	FlagDesc	FlagDef
1	EC	A	Primary Exchange	NYSE American	A NYSE American
2	EC	B	Primary Exchange	BATS	B BATS
3	EC	I	Primary Exchange	IEX	I IEX
4	EC	N	Primary Exchange	NYSE	N NYSE
5	EC	Q	Primary Exchange	NASDAQ	Q NASDAQ
6	EC	R	Primary Exchange	NYSE ARCA	R NYSE ARCA
7	EC	X	Primary Exchange	Unknown	X Unknown

Common task 2 – Three Major Exchanges, Cont'd

The legacy code:

```
1 data old;  
2 set crsp.msf;  
3 where exchcd in (1,2,3);  
4 run;
```

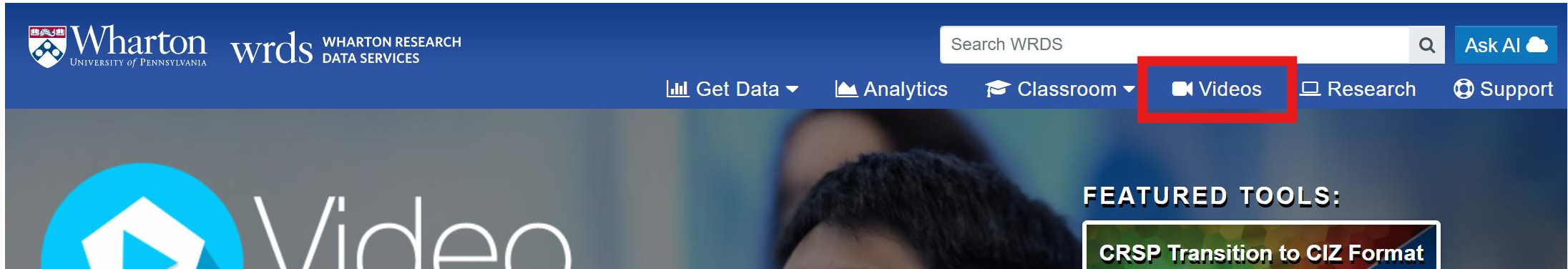


New CIZ code:

```
1 data new;  
2 set crsp.stkmthsecuritydata;  
3 where (primaryexch in ('N','A','Q')  
4 and conditionaltype = 'RW');  
5 run;
```

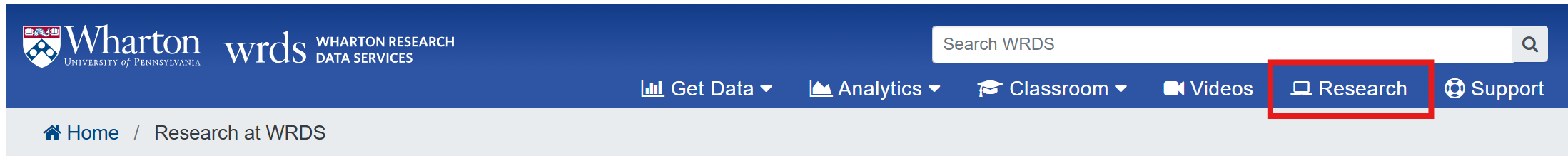
One Last Bit

Additional Resources



- Video tutorials on the CIZ transition

Additional Resources



Research at WRDS

Research at WRDS is intended to help you get started with your research while using our platform. The 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 original research.

- Sample programs
- Research applications and macros
- SAS and Python



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DATA SERVICES